HSBC UK Bank plc

Pillar 3 Disclosures at 31 December 2022

HSBC

Contents

	Page
Introduction	**3**
Pillar 3 Governance and disclosures	**3**
Highlights	**4**
Key metrics	**5**
Regulatory developments	**6**
Risk management	**7**
Treasury risk management	**11**
Capital and RWAs	**12**
Own funds	**12**
Leverage ratio	**13**
Pillar 1 minimum capital requirements and RWA flow	**15**
Pillar 2 and ICAAP	**17**
Credit risk	**17**
Counterparty credit risk	**42**
Securitisation	**45**
Market risk	**47**
Non-financial risk	**49**
Liquidity	**51**
Other risks	**53**
Remuneration	**53**
Appendices	
Appendix I – Countercyclical capital buffer	**56**
Appendix II – Asset encumbrance	**57**
Other Information	
Abbreviations	**58**

Presentation of information

This document comprises the 2022 Pillar 3 disclosures for HSBC UK Bank plc (‘the bank’) and its subsidiaries (together ‘HSBC UK’ or ‘the group’). ‘We’, ‘us’ and ‘our’ refer to HSBC UK Bank plc together with its subsidiaries.

‘HSBC Group’ or ‘the Group’ within this document refer to HSBC Holdings plc together with its subsidiaries.

When used in the terms ‘shareholders’equity’ and ‘total shareholders’ equity’ ‘shareholders’ means holders of HSBC UK ordinary shares and capital securities issued by HSBC UK classified as equity.

The abbreviations ‘£m’ and ‘£bn’ represent millions and billions (thousands of millions) of GB pounds respectively.

A full list of abbreviations is provided on page 58.

This document contains certain forward-looking statements with respect to the financial condition, result of operations and business of the group.

Statements that are not historical facts, including statements about the group’s beliefs and expectations, are forward-looking statements. Words such as ‘expects’, 'will', ‘targets’, ‘anticipates’, ‘intends’, ‘plans’, ‘believes’, ‘seeks’, ‘estimates’, ‘potential’ and ‘reasonably possible’, variations of these words and similar expressions are intended to identify forward-looking statements. These statements are based on current plans, estimates and projections, and therefore undue reliance should not be placed on them. Forward-looking statements speak only as of the date they are made. HSBC UK makes no commitment to revise or update any forward-looking statements to reflect events or circumstances occurring or existing after the date of any forward-looking statements.

Forward-looking statements involve inherent risks and uncertainties. Readers are cautioned that a number of factors could cause actual results to differ, in some instances materially, from those anticipated or implied in any forward-looking statement.

This document should be read in conjunction with our *Annual Report and Accounts 2022*, which has been published on the HSBC Group website at www.hsbc.com/investors.

Tables

		Ref	Page
1	Key metrics (KM1/IFRS9-FL)	a	5
2	Reconciliation of balance sheets – financial accounting to regulatory scope of consolidation (UK CC2)		9
3	Principal entities with a different regulatory and accounting scope of consolidation (LI3)		9
4	Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories (LI1)		10
5	Main sources of differences between regulatory exposure amounts and carrying values in financial statements (LI2)		10
6	Composition of Regulatory own funds (UK CC1)	b	12
7	Summary reconciliation of accounting assets and leverage ratio exposures (UK LR1-LRSum)	b	13
8	Leverage ratio common disclosure (UK LR2-LRCom)	b	13
9	Leverage ratio – split of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures) (UK LR3-LRSpl)	a	14
10	Overview of risk-weighted exposure amounts (OV1)	b	16
11	RWA flow statements of credit risk exposures under the IRB approach (CR8)		16
12	Performing and non-performing exposures and related provisions (CR1)		18
13	Maturity of exposure (CR1-A)		19
14	Changes in the stock of non-performing loans and advances (CR2)		20
15	Credit quality of forborne exposures (CQ1)		21
16	Credit quality of performing and non-performing exposures by past due days (CQ3)		21
17	Collateral obtained by taking possession and execution processes (CQ7)		22
18	Quality of non-performing exposures by geography (CQ4)		22
19	Credit quality of loans and advances to non-financial corporations by industry (CQ5)		23
20	Credit risk mitigation techniques – overview (CR3)		24
21	Standardised approach – credit conversion factor ('CCF') and credit risk mitigation ('CRM') effects (CR4)	b	25
22	IRB approach – Disclosure of the extent of the use of CRM techniques (CR7-A)		25
23	Standardised approach – exposures by asset classes and risk weights (CR5)	b	27
24	Specialised lending and equity exposures under the simple risk-weight approach (CR10)		29
25	IRB – Credit risk exposures by portfolio and PD range (CR6)	a	29
26	Scope of the use of IRB and SA approaches (UK CR6-A)		36
27	Wholesale IRB credit risk models		37
28	Retail IRB risk rating systems		38
29	Wholesale IRB exposure – back-testing of probability of default (PD) per portfolio[1] (CR9)		40
30	Retail IRB exposure – back-testing of probability of default ('PD') per portfolio (CR9)		40
31	Analysis of counterparty credit risk exposure by approach (excluding centrally cleared exposures) (CCR1)		42
32	Credit valuation adjustment capital charge (CCR2)		42
33	Standardised approach – CCR exposures by regulatory exposure class and risk weights (CCR3)		42
34	Composition of collateral for CCR exposure (CCR5)		43
35	Exposures to central counterparties (CCR8)		43
36	IRB – CCR exposures by portfolio and PD scale (CCR4)		44
37	Securitisation exposures in the non-trading book (SEC1)		46
38	Securitisation exposures in the non-trading book and associated regulatory capital requirements – bank acting as originator or as sponsor (SEC3)		46
39	Securitisation exposures in the non-trading book and associated capital requirements – bank acting as investor (SEC4)		47
40	Exposures securitised by the institution – Institution acts as originator or as sponsor (SEC5)		47
41	Market risk under standardised approach (MR1)		47
42	Prudential valuation adjustments (PV1)		48
43	Quantitative information on IRRBB (UK IRRBB1)		49
44	Operational risk own funds requirements and risk-weighted exposure amounts (OR1)		50
45	Quantitative information of LCR (UK LIQ1)		51
46	Net stable funding ratio (UK LIQ2)		52
47	Remuneration awarded for the financial year (REM1)		53
48	Special payments to staff whose professional activities have a material impact on institutions' risk profile (REM2)		54
49	Deferred remuneration at 31 December1 (REM3)		54
50	Identified staff – Remuneration by band1 (REM4)		55
51	Remuneration of staff whose professional activities have a material impact on institutions' risk profile (REM5)		55
52	Geographical distribution of credit exposures relevant for the calculation of the countercyclical buffer (UK CCyB1)		56
53	Amount of institution-specific countercyclical capital buffer (UK CCyB2)		56
54	Encumbered and unencumbered assets (UK AE1)		57
55	Collateral received and own debt securities issued (UK AE2)		57
56	Sources of encumbrance (UK AE3)		57

HSBC UK has adopted the European Union's ('EU') regulatory transitional arrangements for International Financial Reporting Standard ('IFRS') 9 Financial instruments. The application of the transitional arrangements to the disclosures is indicated in the table of contents as follows:

a. Some figures (indicated with ^) within the table have been prepared on an IFRS 9 transitional basis.

b. All figures within the table have been prepared on an IFRS 9 transitional basis.

All other tables report numbers on the basis of full adoption of IFRS 9.

Introduction

Pillar 3 Governance and disclosures

Regulatory framework for disclosure

We are supervised on a consolidated basis in the United Kingdom ('UK') by the Prudential Regulation Authority ('PRA').

We have calculated capital for prudential regulatory reporting purposes using the Basel III framework of the Basel Committee ('Basel') as implemented in the UK. Any references to EU regulations and directives (including technical standards) should, as applicable, be read as references to the UK's version of such regulation and/or directive, as onshored into UK law under the European Union (Withdrawal) Act 2018, and as may be subsequently amended under UK law.

The Basel III framework is structured around three 'pillars': the Pillar 1 minimum capital requirements and Pillar 2 supervisory review process are complemented by the requirements in Pillar 3 on market discipline. The aim of Pillar 3 is to produce disclosures that allow market participants to assess the scope of application by banks of the Basel III framework and the rules in their jurisdiction, their capital condition, risk exposures and risk management processes, and hence their capital adequacy.

Our *Pillar 3 Disclosures at 31 December 2022* comprises both quantitative and qualitative information required under Pillar 3. These disclosures are made in accordance with part Eight of the Capital Requirements Regulation and Directive, as implemented ('CRR II') and the PRA Rulebook, and use the PRA's disclosure templates and instructions which came into force on 1 January 2022. They are supplemented by specific additional requirements of the PRA and discretionary disclosures on our part.

Frequency and location

We publish our Pillar 3 disclosures quarterly on the Group website www.hsbc.com.

Comparatives and references

To give insight into movements during the year, we provide comparative figures, commentary on variances and flow tables for capital requirements. In all tables where the term 'capital requirements' is used, this represents the minimum total capital charge set at 8% of RWAs by article 92 of the Capital Requirements Regulation.

Regulatory numbers and ratios are as presented at the date of reporting. Small changes may exist between these numbers and ratios and those subsequently submitted in regulatory filings. Where differences are significant, we will restate comparatives.

Where disclosures have been enhanced, or are new, we do not generally restate or provide comparatives. Wherever specific rows and columns in the tables prescribed are not applicable or immaterial to our activities, we omit them and follow the same approach for comparatives.

Pillar 3 requirements may be met by inclusion in other disclosure media. Where we adopt this approach, references are provided to the relevant pages of the *Annual Report and Accounts 2022* or other locations.

Material risks

Pillar 3 requires all material risks to be disclosed to provide a comprehensive view of a bank's risk profile. In addition to the disclosure in this document, other information on material risks can be found on page 19 to 28 of the *Annual Report and Accounts 2022*. This includes:

- Credit risk (refer to page 26 of the *Annual Report and Accounts 2022*).
- Treasury risk (refer to page 55 of the *Annual Report and Accounts 2022*).
- Market risk (refer to page 61 of the *Annual Report and Accounts 2022*).
- Resilience risk (refer to page 62 of the *Annual Report and Accounts 2022*).
- Regulatory compliance risk (refer to page 63 of the *Annual Report and Accounts 2022*).
- Financial crime risk (refer to page 64 of the *Annual Report and Accounts 2022*).
- Model risk (refer to page 64 of the *Annual Report and Accounts 2022*).
- Climate Risk (refer to page 62 of the *Annual Report and Accounts 2022*).

Board Recruitment and Diversity Policy

Pillar 3 requires information relating to the number of directorships held by the Board, the recruitment policy for the selection of members of the management body and their actual skills knowledge and experience to be disclosed. This can be found in the Corporate Governance section on pages 65 to 68 of the *Annual Report and Accounts 2022*.Information on the Diversity Policy with regard to the management body can be found under the Chairman's Nominations and Remuneration Committee section on page 68 of the *Annual Report and Accounts 2022.*

Pillar 3 Governance

HSBC UK Bank Pillar 3 disclosures at 31 December 2022 are approved by the HSBC UK Bank plc Board of Directors ('HBUK Board'). The Pillar 3 disclosures are governed by the group's disclosure policy framework as approved by the Audit Committee ('AC').

This Pillar 3 Disclosure Report was approved by the HSBC UK Bank plc Board on 20 February 2023 and signed on its behalf by:

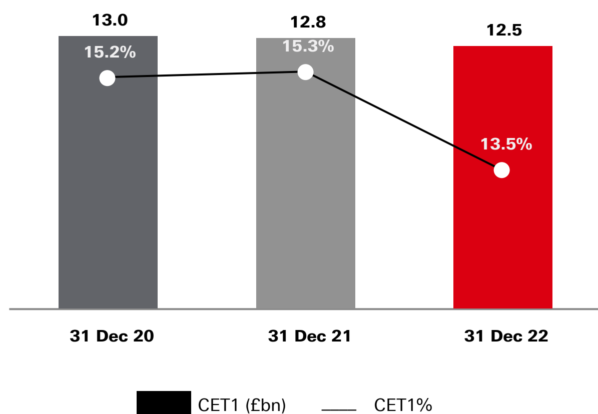
Claire Baird

Chief Financial Officer

Highlights

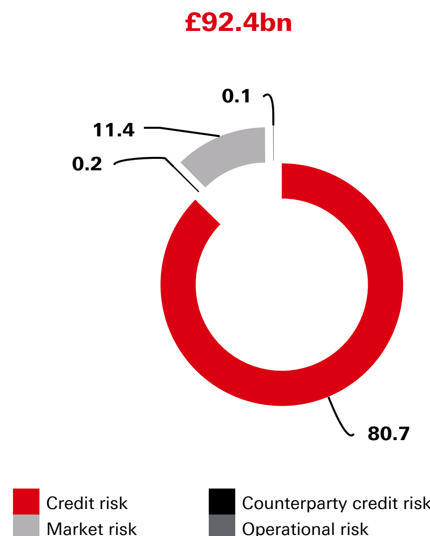
Common equity tier 1 ('CET1') ratio decreased to 13.5% from 15.3% at December 2021. We had built up capital in anticipation of regulatory changes which reduced our CET1 ratio by 1.7%, due to an increase in risk weighted assets ('RWA's) from revised internal Ratings based ('IRB') modelling requirements coupled with 10% floor on mortgage risk weights (1.2%), and a decrease in CET1 capital due to the reversal of the beneficial treatment of software assets (0.5%). During the year we generated capital from profits net of dividends which was offset by a decrease in Fair Value through other comprehensive income ('FVOCI') and RWA growth from increased lending.

Common equity tier 1: £bn and %[1]

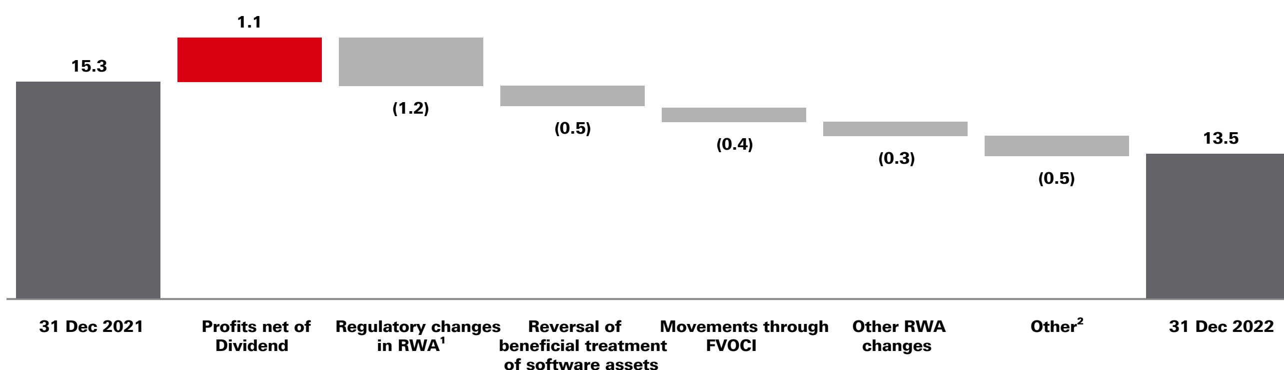


1 *Capital figures and ratios are reported on a CRR II transitional basis for capital instruments.*

Risk-weighted assets by risk type at 31 December 2022 (£bn)



Common equity tier 1 ratio movement, %



1 *Regulatory changes include IRB modelling, the UK's implementation of Capital Requirements Regulation and Directive ('CRR II') rules, the 10% floor on mortgage risk weights, and the RWA impact of the reversal of the beneficial treatment of software assets.*
2 *Other includes the offset of the income statement impact of the deferred tax rate change related to defined benefit pension (0.3%).*

Key metrics

Table 1: Key metrics (KM1/IFRS9-FL)

Ref*		At				
		31 Dec 2022	30 Sep 2022	30 Jun 2022	31 Mar 2022	31 Dec 2021
	Available capital (£m)[1]					
1	Common equity tier 1 ('CET1') capital^	**12,519**	12,338	12,346	12,244	12,813
	CET1 capital as if IFRS 9 transitional arrangements had not been applied	**12,484**	12,301	12,313	12,230	12,797
2	Tier 1 capital^	**14,771**	14,586	14,599	14,490	15,067
	Tier 1 capital as if IFRS 9 transitional arrangements had not been applied	**14,736**	14,549	14,566	14,477	15,051
3	Total capital^	**17,847**	17,721	17,668	17,509	18,067
	Total capital as if IFRS 9 transitional arrangements had not been applied	**17,812**	17,684	17,635	17,495	18,051
	Risk-weighted assets (£m)					
4	Total RWAs^	**92,413**	91,917	90,209	89,803	83,723
	Total RWAs as if IFRS 9 transitional arrangements had not been applied	**92,384**	91,887	90,183	89,793	83,710
	Capital ratios (%)[1]					
5	CET1^	**13.5**	13.4	13.7	13.6	15.3
	CET1 as if IFRS 9 transitional arrangements had not been applied	**13.5**	13.4	13.7	13.6	15.3
6	Tier 1^	**16.0**	15.9	16.2	16.1	18.0
	Tier 1 as if IFRS 9 transitional arrangements had not been applied	**16.0**	15.9	16.2	16.1	18.0
7	Total capital^	**19.3**	19.3	19.6	19.5	21.6
	Total capital as if IFRS 9 transitional arrangements had not been applied	**19.3**	19.3	19.6	19.5	21.6
	Additional own funds requirements based on Supervisory Review and Evaluation Process ('SREP') as a percentage of RWAs (%)[2]					
UK-7a	Additional CET1 SREP requirements	**2.2**	2.4	2.4	2.4	N/A
UK-7b	Additional additional tier 1 ('AT1') SREP requirements	**0.8**	0.8	0.8	0.8	N/A
UK-7c	Additional tier 2 ('T2') SREP requirements	**1.0**	1.0	1.0	1.1	N/A
UK-7d	Total SREP own funds requirements	**12.0**	12.2	12.2	12.3	N/A
	Combined buffer requirement as a percentage of RWAs (%)					
8	Capital conservation buffer requirement	**2.5**	2.5	2.5	2.5	2.5
9	Institution-specific countercyclical capital buffer (%)	**1.0**	0.0	—	—	—
UK-10a	Other systemically important institution buffer	**1.0**	1.0	1.0	1.0	1.0
11	Combined buffer requirement	**4.5**	3.5	3.5	3.5	3.5
UK-11a	Overall capital requirements	**16.5**	15.7	15.7	15.8	16.1
12	CET1 available after meeting the total SREP own funds requirements	**6.8**	6.5	6.8	6.8	8.2
	Leverage ratio^,2,3					
13	Total exposure measure excluding claims on central banks	**251,500**	261,410	253,401	249,331	N/A
14	Leverage ratio excluding claims on central banks (%)	**5.9**	5.6	5.8	5.8	N/A
	Average exposure measure excluding claims on central banks (£m)	**252,024**	255,863	248,946	243,720	N/A
	Additional own funds requirements to address risks of excessive leverage (as a percentage of leverage ratio total exposure amount)[2,3]					
14a	Fully loaded ECL accounting model leverage ratio excluding claims on central banks (%)	**5.9**	5.6	5.8	5.8	N/A
14b	Leverage ratio including claims on central banks (%)^	**4.2**	4.1	4.1	4.1	N/A
14c	Average leverage ratio excluding claims on central banks (%)^	**5.9**	5.7	5.8	6.0	N/A
14d	Average leverage ratio including claims on central banks (%)^	**4.2**	4.2	4.2	4.2	N/A
14e	Countercyclical leverage ratio buffer (%)	**0.3**	—	—	—	—
EU-14d	Leverage ratio buffer requirement (%)	**0.7**	0.4	0.4	0.4	N/A
EU-14e	Overall leverage ratio requirements (%)	**3.9**	3.6	3.6	3.3	N/A
	Leverage ratio (under the Capital Requirements Regulation)^,3					
	Total leverage ratio exposure measure (£m)		N/A	N/A	N/A	358,237
	Leverage ratio (%)		N/A	N/A	N/A	4.2
	Liquidity coverage ratio ('LCR')[2,4]					
15	Total high-quality liquid assets (HQLA) (Weighted value -average)	**110,722**	114,008	112,761	110,060	N/A
UK-16a	Cash outflows – total weighted value (£m)	**53,740**	53,710	53,058	52,179	N/A
UK-16b	Cash inflows – total weighted value (£m)	**4,793**	4,638	4,527	4,377	N/A
16	Total net cash outflow (£m)	**48,946**	49,072	48,531	47,802	N/A
17	LCR (%)	**226**	232	232	230	N/A
	Net stable funding ratio ('NSFR')[2,4]					
18	Total available stable funding (£m)	**273,802**	274,870	274,912	274,320	N/A
19	Total required stable funding (£m)	**166,551**	166,921	165,936	164,546	N/A
20	NSFR (%)	**164**	165	166	167	N/A

* *The references in this and subsequent tables identify lines prescribed in the relevant PRA template where applicable and where there is a value.*

^ *Figures have been prepared on an IFRS 9 transitional basis.*

1 *Capital figures and ratios are reported on a CRR II transitional basis for capital instruments.*

2 *These disclosures have been implemented from 1 January 2022, and are based on the PRA's disclosure templates and instructions which came into force at that time. N/A in prior periods indicated that the disclosure is new or changed and no comparatives are being provided.*

3 *Leverage ratio is calculated using the CRR II end point basis for capital. The comparative leverage exposures and ratios are separately reported based on the Capital Requirements Regulation rules in force at that time and include claims on central banks.*

4 *From 30 September 2022, the LCR and NSFR ratios presented in this table are based on average value. The LCR is the average of the preceding 12 months for each each quarter. The NSFR is the average of preceding quarters. Prior period numbers have been restated for consistency.*

IFRS9 transitional arrangements

We have adopted the regulatory transitional arrangements in the amendments to the Capital Requirements Regulation ('CRR II') for IFRS 9, including paragraph 4 of article 473a. These allow banks to add back to their capital base a proportion of the impact that IFRS 9 has upon their loan loss allowance. The impact is defined as:

- the increase in loan loss allowances on day one of IFRS 9 adoption; and
- any subsequent increase in expected credit losses ('ECL') in the non-credit-impaired book thereafter.

Any add-back must be tax affected and accompanied by a recalculation of exposure and RWAs. The impact is calculated separately for portfolios using the standardised ('STD') and internal ratings based ('IRB') approaches.

For IRB portfolios, there is no add-back to capital unless loan loss allowances exceed regulatory 12-month expected losses.

The EU's CRR 'Quick Fix' relief package increased the 2022 scalar relief that banks may take for loan loss allowances recognised since 1 January 2020 on the non-credit-impaired book from 25% to 75%.

At 31 December 2022, the add-back to CET1 capital amounted to £35m under the STD approach. At 31 December 2021, the add-back to the capital base was £16m.

Capital buffers

Our geographical breakdown and institution-specific countercyclical capital buffer ('CCyB') disclosure is provided in Appendix II. The HSBC Group G-SIB Indicators disclosure is published annually on our website, www.hsbc.com.

Regulatory developments

Basel III Reforms

The Basel Committee on Banking Supervision ('Basel') completed the Basel III Reforms in July 2020. The reforms make significant changes to the way firms calculate risk-weighted assets ('RWAs') across all risk types and include the implementation of an RWA floor for banks that use internal models to calculate RWAs. Basel scheduled the implementation of its requirements for 1 January 2023.

In November 2022, the Prudential Regulation Authority ('PRA') issued a consultation on the implementation of the reforms with a proposed implementation date of 1 January 2025. While the PRA's proposals are generally consistent with Basel, it has proposed some limited adjustments to Basel's final rules, such as the treatment of unrated corporates under the standardised approach to credit risk, the removal of modelled approaches for sovereign exposures and the calibration of the exposure measure for counterparty risk. It has also proposed to remove certain of the EU's concessions under the current framework, such as the SME and infrastructure supporting factors.

Alongside the PRA's consultation, His Majesty's Treasury ('HMT') published its own consultation on the implementation of the Basel III Reforms. HMT's consultation primarily focuses on the technical and legislative changes necessary to facilitate the implementation of the reforms by the PRA, including the proposed revocation of certain rules under the current regime that would be replaced by the new rules being proposed by the PRA. It is also consulting on the costs and benefits of improving ratings coverage in the UK.

PRA's future approach to policy-making

In September 2022, the PRA published a discussion paper on its post-Brexit approach to policy-making. In the paper, the PRA committed to maintain strong prudential standards to support the stability of regulated firms. Furthermore, the PRA outlined that, while it would be proactive in its approach to facilitating the international competitiveness of the UK economy, it remained committed to the faithful implementation of international standards.

Capital Buffers

In December 2022, the UK's countercyclical buffer ('CCyB') rate increased to 1%. A further increase to 2% is planned for July 2023.

Cryptoassets

In December 2022, Basel finalised its rules on the capital treatments for banks' exposures to cryptoassets, which are scheduled for implementation by 1 January 2025. The PRA has yet to consult on its implementation in the UK.

Environmental, Social and Governance ('ESG') risk

Globally, regulators and standard setters continue to publish multiple proposals and discussion papers on ESG topics. In 2022 this included multiple consultations on sustainability-related disclosure across jurisdictions including the UK, EU, US, and globally through the IFRS foundation.

In March 2022, the International Sustainability Standards Board ('ISSB') published a consultation on its first two sustainability related disclosure standards. The proposal is an important step towards the establishment of a global baseline standard and the ISSB is expected to finalise the standards in early 2023.

In November 2022, the Taskforce on Nature-related Financial Disclosures released its latest framework for nature-related risk management and disclosures with final recommendations expected in September 2023.

Also in November 2022, the UK Transition Plan Taskforce published a consultation on a draft disclosure framework and accompanying guidance which makes recommendations for companies and financial institutions to develop and disclose gold-standard transition plans.

In 2022, there has been growing interest and work underway by regulators and standard setters on the extent to which climate risks are captured and dealt with in the prudential framework. The initial work by Basel concluded that climate risk drivers, including physical and transition risks, can be captured in traditional financial risk categories such as credit, market, operational and liquidity risks. Basel's work on this is ongoing and as part its wider efforts to improve ESG risk coverage, in December 2022, Basel published responses to Frequently Asked Questions which clarify how climate-related financial risks may be addressed in existing Pillar 1 requirements. The Bank of England is also considering how the regulatory capital framework can be adjusted to take account of climate-related risks and facilitated a climate and capital conference in October 2022 with the aim of providing more guidance on its approach.

Risk management

Our Risk Management Framework

We aim to use a comprehensive risk management approach across the organisation and across all risk types, underpinned by our culture and values. This is outlined in our Risk Management Framework, including the key principles and practices that we employ in managing material risks, both financial and non-financial.

The framework fosters continuous monitoring of the risk environment, and promotes risk awareness and a sound operational and strategic decision making and escalation process. It also ensures we have a consistent approach to monitoring, managing and mitigating the risks we accept and incur in our activities, with clear accountabilities. We continue to actively review and develop our Risk Management Framework and enhance our approach to managing risk, through our activities with regard to: people and capabilities; governance; reporting and management information; credit risk management models; and data.

Further information on our Risk Management Framework, and the management and mitigation of our top and emerging risks is set out from page 17 of our Annual Report and Accounts 2022.

Culture

We understand the importance of a strong culture. Our culture refers to our shared attitudes, values and standards that shape behaviours related to risk awareness, risk taking and risk management. It is instrumental in aligning the behaviours of individuals with our attitude to assuming and managing risk, which helps to ensure that our risk profile remains in line with our risk appetite. The fostering of a strong culture is a key responsibility of our senior executives.

Remuneration

Our culture is also reinforced by our approach to remuneration. Individual awards, including those for senior executives, are based on compliance with our values and the achievement of financial and non-financial objectives, which are aligned to our risk appetite and global strategy.

Information about the HSBC UK Chairman's Nominations and Remuneration Committee membership and activities is available on page 68 of the HSBC UK *Annual Report and Accounts 2022*.

Risk governance

Our Board has ultimate responsibility for the effective management of risk and approves HSBC UK's risk appetite. It is advised on risk-related matters by the Risk Committee ('RC').

Executive accountability for the ongoing monitoring, assessment and management of the enterprise-wide risk environment, and the effectiveness of the Risk Management Framework resides with HSBC UK's Chief Risk Officer ('CRO'). The CRO is supported by the Risk Management Meeting ('RMM') of HSBC UK's Executive Committee.

Further information is available on page 17 of the Annual Report and Accounts 2022.

Day-to-day responsibility for risk management is delegated to senior managers with individual accountability for decision making. These senior managers are supported by global functions. All our people have a role to play in risk management. These roles are defined using the three lines of defence model, which takes into account our business and functional structures.

We use a defined executive risk governance structure to ensure appropriate oversight and accountability for risk, which facilitates the reporting and escalation to the RMM.

Further information about our three lines of defence model and executive risk governance structures is available on page 17 of our Annual Report and Accounts 2022.

Risk appetite

Risk appetite is a key component of our management of risk. It describes the type and quantum of risk that the group is willing to accept in achieving its strategic goals. At HSBC, risk appetite is managed through a global risk appetite framework and articulated in a risk appetite statement ('RAS'), which is reviewed and approved by the Board twice per year to make sure it remains fit for purpose.

Our risk appetite informs our strategic and financial planning process, defining the desired forward-looking risk profile of the group. It is also integrated within other risk management tools, such as stress testing, to ensure consistency in risk management.

Further information about our risk appetite is set out from page 17 of our Annual Report and Accounts 2022.

Stress testing

HSBC UK operates a wide-ranging stress testing programme that supports our risk management and capital planning. It includes execution of stress tests mandated by our regulators and those to meet our own internal requirements. Our stress testing is supported by dedicated teams and infrastructure.

Our testing programme assesses our capital and liquidity strength through a rigorous examination of our resilience to external shocks. Both the internal and regulatory driven stress tests help us to understand and mitigate risks, and informs our decision about capital and liquidity levels.

Our stress testing programme is overseen by the Risk Committee, and results are reported, where appropriate, to the RMM and Risk Committee.

Further information about stress testing is set out on page 18 of our Annual Report and Accounts 2022.

HSBC UK Risk function

We have a dedicated Risk function, headed by the HSBC UK Chief Risk Officer, which is responsible for our Risk Management Framework. This includes establishing policy, monitoring risk profiles, and providing forward-looking risk identification and management capabilities. HSBC UK Risk is made up of sub-functions covering both Financial and Non-financial risks. It is independent from the global businesses in order to provide challenge, appropriate oversight and balance in risk versus return decisions. Our Risk function operates in line with the three lines of defence model.

Risk management and internal control systems

The Board of Directors are responsible for maintaining and reviewing the effectiveness of risk management and internal control systems, and for determining the aggregate level and risk types they are willing to accept in achieving HSBC UK's business objectives. On behalf of the Board, the Risk Committee has responsibility for the oversight of risk management and internal controls other than for financial reporting, and the Audit Committee has responsibility for oversight of risk management and internal controls over financial reporting.

The Board of Directors, through the Risk Committee and the Audit Committee receive regular updates and confirmation that management has taken, or was taking, the necessary actions to remediate any failings or weaknesses identified through the operation of our framework of controls.

HSBC UK's key risk management and internal control procedures are described on page 18 of the Annual Report and Accounts 2022.

Regulatory reporting processes and controls

The quality of regulatory reporting remains a key priority for management and regulators. We are progressing with a comprehensive programme to strengthen our processes, improve consistency, and enhance controls across our prudential regulatory reporting. We commissioned a number of independent external reviews, some at the request of our regulators, including one on our credit risk RWA reporting process which concluded in December 2022. These reviews have so far resulted in enhancements to our RWAs and the LCR through improvements in reporting accuracy, which have been reflected in our year-end regulatory reported ratios. Our prudential regulatory reporting programme is being phased over a number of years, prioritising RWA, capital and liquidity reporting in the early stages of the programme. While this programme continues there may be further impacts on some of our regulatory ratios, such as the CET1, LCR and NSFR, as we implement recommended changes and continue to enhance the controls across the process.

Risk measurement and reporting systems

The risk measurement and reporting systems used within HSBC UK are designed to help ensure that risks are comprehensively captured with all the attributes necessary to support well-founded decisions, that those attributes are accurately assessed, and that information is delivered in a timely manner for those risks to be successfully managed and mitigated.

Risk measurement and reporting systems used within HSBC UK are also subject to a governance framework designed to ensure that their build and implementation are fit for purpose and functioning appropriately. Risk information system development is a key responsibility of the Group's Global Risk and Compliance function, while the development and operation of risk rating and management systems and processes are ultimately subject to the oversight of the Group's Board.

The ongoing programme to strengthen our regulatory reporting also considers the efficacy of our systems. Potential enhancements identified through this programme will be assessed and, where appropriate, implemented under the governance framework.

We continue to invest significant resources in IT systems and processes in order to maintain and improve our risk management capabilities.

Risk measurement and reporting structures deployed at Group level are applied throughout global businesses and major operating subsidiaries including HSBC UK through a common operating model for integrated risk management and control. This model sets out the respective responsibilities of Group, global business, region and entity level risk and compliance functions in respect of risk governance and oversight, approval authorities and lending guidelines, global and local scorecards, management information and reporting, and relations with third parties such as regulators, rating agencies and auditors.

Risk analytics and model governance

HSBC UK Risk, in conjunction with HSBC Global Risk, manages a number of analytics disciplines supporting the development and management of models, including those for risk rating, scoring, economic capital and stress testing; covering different risk types and business segments.

The analytics functions formulate technical responses to industry developments and regulatory policy in the field of risk analytics, and develop HSBC UK's risk models. The HSBC UK Model Risk Committee ('MRC') is the primary committee responsible for the oversight of Model Risk within HSBC UK. It serves an important role in providing strategic direction on the management of models and their associated risks to HSBC UK's businesses and is an essential element of the governance structure for model risk management. MRC is supported by Model Oversight Forums ('MOFs') which are responsible for model risk management within their functional areas, including Wholesale credit risk, Wealth and personal banking risk, and finance.

The MRC meets regularly and reports to HSBC UK RMM. It is chaired by the HSBC UK CRO and membership includes senior executives from Risk, Finance, Compliance and the UK Businesses. Through its oversight of the ('MOFs'), it identifies emerging risks for all aspects of the risk rating system, ensuring that model risk is managed within our risk appetite statement, and formally advises the HSBC UK RMM on any material model-related issues.

Material models are also subject to an independent validation process and governance oversight by the Model Risk Management team within Risk. The team provides robust challenge to the modelling approaches used across HSBC UK. It also ensures that the performance of those models is transparent and that their limitations are visible to key stakeholders. The development and use of data and models to meet local requirements are the responsibility of our businesses or functions, as well as regional and/or local entities under the governance of our own management, subject to overall Group policy and oversight.

Regulatory and other expectations continue to evolve with regards to our capability and practice of model risk management. We have significantly enhanced our model risk management practices over the last two years and continue to invest in developing and embedding these capabilities.

Further information is available on page 64 of the Annual Report and Accounts 2022.

Linkage to the Annual Report and Accounts 2022

This section demonstrates the links between the Group's audited financial balance sheet and its regulatory counterpart. In addition to this reconciliation, presented here in Table 2, our Pillar 3 Disclosures at 31 December 2022 also provide:

- an analysis of the regulatory reporting balance sheet by risk type; and
- a reconciliation between accounting valuation and the regulatory measure of exposure.

Structure of the regulatory group

The regulatory consolidation is consistent with the accounting consolidation, with the following exceptions:

The regulatory consolidation excludes special purpose entities ('SPEs') where significant risk has been transferred to third parties. Exposures to these SPEs are risk weighted as securitisation positions for regulatory purposes.

Participating interests in banking associates are proportionally consolidated for regulatory purposes by including our share of assets, liabilities, profit and loss, and risk-weighted assets in accordance with the PRA's application of EU legislation.

Table 2: Reconciliation of balance sheets – financial accounting to regulatory scope of consolidation (UK CC2)

	Ref †	Accounting balance sheet £m	Deconsolidation of insurance/ other entities £m	Consolidation of banking associates £m	Regulatory balance sheet £m
Assets					
Cash and balances at central banks		94,407	—	64	94,471
Items in the course of collection from other banks		353	—	—	353
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss		108	—	—	108
Derivatives		546	—	—	546
Loans and advances to banks	l	6,357	—	—	6,357
Loans and advances to customers	l	204,143	—	—	204,143
– of which: expected credit losses on IRB portfolios	h	*(1,836)*	—	—	*(1,836)*
Reverse repurchase agreements – non-trading		7,406	—	—	7,406
Financial investments		16,092	—	—	16,092
Capital invested in insurance and other entities		—	—	—	—
Prepayments, accrued income and other assets		8,764	11	21	8,796
– of which: retirement benefit assets	j	*5,257*	—	—	*5,257*
Interests in associates and joint ventures		9	—	(9)	—
Goodwill and intangible assets	e	4,257	—	—	4,257
Total assets at 31 Dec 2022		**342,442**	**11**	**76**	**342,529**
Liabilities and equity					
Deposits by banks		10,721	—	63	10,784
Customer accounts		281,095	219	—	281,314
Repurchase agreements – non-trading		9,333	—	—	9,333
Items in course of transmission to other banks		308	—	—	308
Derivatives		304	—	—	304
– of which: debit valuation adjustment	i	*39*			*39*
Debt securities in issue		1,299	(208)	—	1,091
Accruals, deferred income and other liabilities		3,543	—	12	3,555
Current tax liabilities		173	—	—	173
Provisions		424	—	—	424
– of which: credit-related contingent liabilities and contractual commitments on IRB portfolios	h	*105*	—	—	*105*
Deferred tax liabilities		666	—	—	666
Subordinated liabilities		12,349	—	—	12,349
– of which: included in tier 2	p, r	*3,076*	—	—	*3,076*
Total liabilities at 31 Dec 2022		**320,215**	**11**	**75**	**320,301**
Equity					
Called up share capital	a	—	—	—	—
Share premium account	a	9,015	—	—	9,015
Other equity instruments	m	2,196	—	—	2,196
Other reserves	c, g	6,122	—	1	6,123
Retained earnings	b, c	4,834	—	—	4,834
Total shareholders' equity		**22,167**	**—**	**1**	**22,168**
Non-controlling interests	n	60	—	—	60
Total equity at 31 Dec 2022		**22,227**	**—**	**1**	**22,228**
Total liabilities and equity at 31 Dec 2022		**342,442**	**11**	**76**	**342,529**

† *The references (a)–(o) identify balance sheet components that are used in the calculation of regulatory capital in 'Table 6: Composition of regulatory own funds (UK CC1)'. This table shows such items at their accounting values, which may be subject to analysis or adjustment in the calculation of regulatory capital shown in Table 6.*

Table 3: Principal entities with a different regulatory and accounting scope of consolidation (LI3)

			At 31 Dec 2022			
			Method of regulatory consolidation			
	Principal activities	Method of accounting consolidation	Fully consolidated	Proportional consolidation	Neither consolidated nor deducted	Deducted from capital subject to thresholds
Associates						
Vaultex UK Limited	Cash	Equity		●		
SPEs excluded from the regulatory consolidation[1]						
Neon Portfolio Distribution DAC	Securitisation	Fully consolidated			●	

1 *These SPEs issued no or* de minimis *share capital.*

Measurement of regulatory exposures

This section sets out the main reasons why the measurement of regulatory exposures is not directly comparable with the financial information presented in the *Annual Report and Accounts 2022.*

The Pillar 3 Disclosures at 31 December 2022 are prepared in accordance with regulatory capital and liquidity adequacy concepts and rules, while the *Annual Report and Accounts 2022* are prepared in accordance with International Financial Reporting Standards ('IFRSs').

The regulatory exposure value includes an estimation of risk, and is expressed as the amount expected to be outstanding were the counterparty to default. Moreover, regulatory exposure classes are

based on different criteria from accounting asset types and are therefore not comparable on a line by line basis.

The following two tables show how the accounting values in the regulatory balance sheet link to regulatory exposure value.

Table 4 shows the difference between the accounting and regulatory scope of consolidation, and breaks the accounting balance down into the risk types that form the basis for regulatory capital requirements.

Table 5 then shows the main differences between the accounting balances and regulatory exposures by risk type.

Table 4: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories (LI1)

			Carrying value of items				
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation[1]	Subject to the credit risk framework	Subject to the counter-party credit risk framework	Subject to the securitisation framework	Subject to the market risk framework	Not subject to own funds requirements or subject to deduction from own funds
	£m	£m	£m	£m	£m	£m	£m
Assets							
Cash and balances at central banks	**94,407**	**94,471**	**94,471**	**–**	**–**	**–**	**–**
Items in the course of collection from other banks	**353**	**353**	**353**	**–**	**–**	**–**	**–**
Financial assets designated and otherwise mandatorily measured at fair value	**108**	**108**	**36**	**72**	**–**	**–**	**–**
Derivatives	**546**	**546**	**–**	**546**	**–**	**546**	**–**
Loans and advances to banks	**6,357**	**6,357**	**6,357**	**–**	**–**	**–**	**–**
Loans and advances to customers	**204,143**	**204,143**	**201,640**	**–**	**2,503**	**–**	**–**
Reverse repurchase agreements – non-trading	**7,406**	**7,406**	**–**	**7,406**	**–**	**–**	**–**
Financial investments	**16,092**	**16,092**	**16,092**	**–**	**–**	**–**	**–**
Assets held for sale	**5**	**5**	**5**	**–**	**–**	**–**	**–**
Prepayments, accrued income and other assets	**8,759**	**8,791**	**2,961**	**218**	**–**	**–**	**5,613**
Interests in associates and joint ventures	**9**	**–**	**–**	**–**	**–**	**–**	**–**
Goodwill and intangible assets	**4,257**	**4,257**	**–**	**–**	**–**	**–**	**4,257**
Deferred tax assets	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Total assets at 31 Dec 2022	**342,442**	**342,529**	**321,915**	**8,242**	**2,503**	**546**	**9,870**
Liabilities							
Deposits by banks	**10,721**	**10,784**	**–**		**–**	**–**	**10,784**
Customer accounts	**281,095**	**281,314**	**–**		**–**	**–**	**281,314**
Repurchase agreements – non-trading	**9,333**	**9,333**	**–**	**9,333**	**–**	**–**	**–**
Items in course of transmission to other banks	**308**	**308**	**–**	**–**	**–**	**–**	**308**
Derivatives	**304**	**304**	**–**	**304**	**–**	**304**	**–**
Debt securities in issue	**1,299**	**1,091**	**–**	**–**	**–**	**–**	**1,091**
Accruals, deferred income, and other liabilities	**3,543**	**3,555**	**–**	**234**	**–**	**–**	**3,321**
Current tax liabilities	**173**	**173**	**–**	**–**	**–**	**–**	**173**
Provisions	**424**	**424**	**105**	**–**	**–**	**–**	**319**
Deferred tax liabilities	**666**	**666**	**(290)**				**956**
Subordinated liabilities	**12,349**	**12,349**	**–**	**–**	**–**	**–**	**12,349**
Total liabilities at 31 Dec 2022	**320,215**	**320,301**	**(185)**	**9,871**	**–**	**304**	**310,615**

1 *The amounts shown in the column 'Carrying values under scope of regulatory consolidation' do not equal the sum of the amounts shown in the remaining columns of this table for line items 'Derivatives', as some of the assets in this column are subject to regulatory capital charges for counterparty credit risk ('CCR') and market risk.*

Table 5: Main sources of differences between regulatory exposure amounts and carrying values in financial statements (LI2)

			of which items subject to:			
		Total	*Credit risk framework*	*CCR framework*	*Securitisation framework*	*Market risk framework*
		£m	*£m*	*£m*	*£m*	*£m*
1	Assets carrying value amount under the scope of regulatory consolidation (as per template EU LI1)[1]	**332,660**	***321,915***	***8,242***	***2,503***	***546***
2	Liabilities carrying value amount under the regulatory scope of consolidation (as per template EU LI1)[1]	**9,686**	***(185)***	***9,871***	***–***	***–***
3	**Total net amount under the regulatory scope of consolidation**	**322,974**	***322,100***	***(1,629)***	***2,503***	***546***
4	Off-balance-sheet amounts	**73,682**	***72,763***	***291***	***628***	***–***
5	Differences in valuations	**0**	***0***	***–***	***–***	***–***
6	Differences due to different netting rules, other than those already included in row 2	**6,723**	***2,175***	***4,548***	***–***	***–***
7	Differences due to consideration of provisions	**1,798**	***1,798***	***–***	***–***	***–***
8	Differences due to the use of credit risk mitigation techniques ('CRMs')	**(31)**	***(31)***	***–***	***–***	***–***
9	Differences due to credit conversion factors	**(22,729)**	***(22,729)***	***–***	***–***	***–***
10	Differences due to Securitisation with risk transfer	**–**	***–***	***–***	***–***	***–***
11	Other differences	**(146)**	***(146)***	***–***	***–***	***–***
12	**Exposure amounts considered for regulatory purposes**	**382,271**	***375,930***	***3,210***	***3,131***	***546***

1 *Excludes amounts subject to deduction from capital or not subject to regulatory capital requirements.*

Explanations of differences between accounting and regulatory exposure amounts

Off-balance sheet amounts

Off-balance sheet amounts include undrawn portions of committed facilities, various trade finance commitments and guarantees.

Differences in netting rules

The increase from carrying value due to differences in netting rules is the reversal of amounts deducted from gross loans and advances to customers in the published financial statements in accordance with the offsetting criteria of IAS 32 'Financial instruments: presentation'.

Differences due to consideration of provisions

The carrying value of assets is net of credit risk adjustments. The regulatory exposure value under IRB approaches is before deducting credit risk adjustments.

Differences due to the use of credit risk mitigation techniques (CRM)

Exposure value under the standardised approach is calculated after deducting credit risk mitigation whereas the accounting value is before such deductions.

Differences due to credit conversion factors

Exposure value of off balance sheet items are calculated after the application of the relevant conversion factors as defined in the CRR.

Other differences

Other differences primarily relate to EAD modelling impacts and IFRS9 transitional arrangements applicable to standardised credit risk exposures.

Treasury risk management

Treasury risk is the risk of having insufficient capital, liquidity or funding resources to meet financial obligations and satisfy regulatory requirements, together with the financial risks arising from the provision of pensions and other post-employment benefits to staff and their dependents. Treasury risk also includes the risk to our earnings or capital due to non-trading book foreign exchange exposures and changes in market interest rates.

The Chief Risk Officer is the accountable risk steward, and the Chief Financial Officer is the risk owner, for all treasury risks.

Capital, liquidity, interest rate risk in the banking book and non-trading book foreign exchange risk are the responsibility of the Executive Committee and the Risk Committee. The Treasury function actively manages these risks on an on-going basis, supported by the Asset and Liability Management Committee ('ALCO'), overseen by Treasury Risk Management and the RMM.

Our policy is underpinned by our risk management framework, our Internal capital Adequacy Assessment Process ('ICAAP') and our Internal Liquidity Adequacy Assessment ('ILAA') Process. The risk framework incorporates a number of measures aligned to our assessment of risks for both internal and regulatory purposes. These risks include credit, market, operational, pensions, non-trading book foreign exchange risk, and interest rate risk in the banking book.

For further details of our approach to treasury risk management including capital risk, liquidity risk, interest rate in the banking book, non-trading foreign exchange exposure and pension risk, please see page 55 of the Annual Report and Accounts 2022.

Capital risk

HSBC UK's approach to capital management is driven by our strategic and organisational requirements, taking into account the regulatory, economic and commercial environment. We aim to maintain a strong capital base to support the risks inherent in our business and invest in accordance with our strategy, meeting regulatory and stress testing requirements at all times.

HSBC Holdings plc is the sole primary provider of equity capital to the group and provides non-equity capital where necessary Capital generated in excess of planned dividends is returned to the shareholder in the form of special dividends.Capital securities are regularly reviewed for compliance with regulatory requirements and guidelines. A list of the main features of our capital instruments in accordance with Annex III of Commission Implementing Regulation 1423/2013 is also published on our website at www.hsbc.com with reference to our balance sheet on 31 December 2022. The full terms and conditions of our securities are also available at www.hsbc.com.

Liquidity risk

We aim to ensure that management have oversight of our liquidity and funding risks at Group and entity level by maintaining comprehensive policies, metrics and controls. We maintain a strong liquidity base to support the risks inherent in our business and invest in accordance with our strategy, meeting both consolidated and local regulatory requirements at all times. We manage liquidity and funding risk at an operating entity level to make sure that obligations can be met in the jurisdiction where they fall due, generally without reliance on other parts of the Group.

Interest rate risk in the banking book

Interest rate risk in the banking book is the risk of an adverse impact to earnings or capital due to changes in market interest rates. It is generated by our non-traded assets and liabilities, specifically loans, deposits and financial instruments that are not held for trading intent or in order to hedge positions held with trading intent. Interest rate risk that can be economically hedged may be transferred to the Markets Treasury business. Hedging is generally executed through interest rate derivatives or fixed-rate government bonds. Any interest rate risk that Markets Treasury cannot economically hedge is not transferred and will remain within the global business where the risks originate.

The Global Treasury function uses a number of measures to monitor and control interest rate risk in the banking book, including:

- net interest income sensitivity; and
- economic value of equity sensitivity.

Non-trading book foreign exchange exposures

Structural foreign exchange exposures represent the group's net investments in subsidiaries, branches, joint arrangements or associates, together with any associated hedges where; the functional currency is note sterling. An entity's functional currency is normally that of the primary economic environment in which the entity operates.

The group does not have investments in subsidiaries or joint ventures in non sterling currencies.

Capital and RWAs

Own funds

Table 6: Composition of Regulatory own funds (UK CC1)

			At	
			31 Dec 2022	31 Dec 2021
		Ref †	**£m**	£m
	Common equity tier 1 ('CET1') capital: instruments and reserves			
1	Capital instruments and the related share premium accounts		**9,015**	9,015
	– ordinary shares	a	**9,015**	9,015
2	Retained earnings[1]	b	**12,078**	11,463
3	Accumulated other comprehensive income (and other reserves)[1]	c	**(2,556)**	(544)
UK-5a	Independently reviewed interim net profits net of any foreseeable charge or dividend	b	**896**	1,125
6	**Common equity tier 1 capital before regulatory adjustments**		**19,433**	21,059
	Common equity tier 1 capital: regulatory adjustments			
7	Additional value adjustments(negative amount)[2]		**(18)**	(13)
8	Intangible assets (net of related deferred tax liability)(negative amount)	e	**(4,257)**	(3,683)
11	Fair value reserves related to gains or losses on cash flow hedges of financial instruments that are not valued at fair value	g	**1,324**	89
12	Negative amounts resulting from the calculation of expected loss amounts	h	**(144)**	(126)
13	Any increase in equity that results from securitised assets (negative amount)		**0**	0
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing[2]	i	**0**	0
15	Defined-benefit pension fund assets(negative amount)	j	**(3,785)**	(4,519)
16	Direct and indirect holdings of own CET1 instruments(negative amount)		**0**	0
27a	Other regulatory adjustments to CET1 capital (including IFRS 9 transitional adjustments when relevant)	l	**(33)**	7
28	**Total regulatory adjustments to common equity tier**		**(6,914)**	(8,246)
29	**Common equity tier 1 ('CET1') capital**		**12,519**	12,813
	Additional tier 1 ('AT1') capital: instruments			
30	Capital instruments and the related share premium accounts		**2,196**	2,195
31	– classified as equity under IFRSs	m	**2,196**	2,195
34	Qualifying tier 1 capital included in consolidated AT1 capital (including minority interests not included in CET1) issued by subsidiaries and held by third parties	n	**56**	59
36	**Additional tier 1 capital before regulatory adjustments**		**2,252**	2,254
44	**Additional tier 1 capital**		**2,252**	2,254
45	**Tier 1 capital (T1 = CET1 + AT1)**		**14,771**	15,067
	Tier 2 capital: instruments and provisions			
46	Capital instruments and the related share premium accounts	o	**3,076**	3,000
	– of which: instruments grandfathered under CRR II			
51	**Tier 2 capital before regulatory adjustments**		**3,076**	3,000
58	**Tier 2 capital**		**3,076**	3,000
59	**Total capital (TC = T1 + T2)**		**17,847**	18,067
60	**Total Risk exposure amount**		**92,413**	83,723
	Capital ratios and buffers (%)			
61	Common equity tier 1 (as a percentage of total risk exposure amount)		**13.5**	15.3
62	Tier 1 (as a percentage of total risk exposure amount)		**16.0**	18.0
63	Total capital(as a percentage of total risk exposure amount)		**19.3**	21.6
64	Institution CET1 overall capital requirement (per Article 92 (1) CRR, plus additional requirement in accordance with point (a) of Article 104(1) CRD, and combined buffer requirement in accordance with Article 128(6) CRD) as a percentage of risk exposure amount)		**4.5**	3.5
65	– capital conservation buffer requirement		**2.5**	2.5
66	– countercyclical buffer requirement		**1.0**	—
67	– systemic risk buffer requirement		**1.0**	1.0
68	**Common equity tier 1 available to meet buffers**		**9.0**	10.8
	Amounts below the threshold for deduction (before risk weighting)			
75	Deferred tax assets arising from temporary differences (amount below 17.65% threshold, net of related tax liability where the conditions in Article 38 (3) CRR are met)		**290**	211
	Applicable caps on the inclusion of provisions in tier 2			
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach		**51**	21
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach		**451**	413

† *The references (a)–(o) identify balance sheet components in 'Table 2: Reconciliation of regulatory own funds to balance sheet in the audited financial statements (UK CC2)', which is used in the calculation of regulatory capital. This table shows how they contribute to the regulatory capital calculation. Their contribution may differ from their accounting value in Table 2 as a result of adjustment or analysis to apply regulatory definitions of capital.*

1 *These disclosures are based on updated rules implemented from 1 January 2022, are based on the PRA's disclosure templates and instructions which came into force at that time. The presentation of comparatives have been amended only for CRR II grandfathered instruments to align to the updated template's rows and instructions.*

2 *Additional value adjustments are calculated on assets measured at fair value.*

Common equity tier 1 ('CET1') ratio decreased to 13.5% from 15.3% at December 2021. We had built up capital in anticipation of regulatory changes which reduced our CET1 ratio by 1.7%, due to an increase in risk weighted assets ('RWA's) from revised internal Ratings based ('IRB') modelling requirements coupled with 10% floor on mortgage risk weights (1.2%), and a decrease in CET1 capital due to the reversal of the beneficial treatment of software assets (0.5%). During the year we generated capital from

profits net of dividends which was offset by a decrease in FVOCI reserves and RWA growth.

At 31 December 2022 our Pillar 2A requirement, in accordance with the PRA's Individual Capital Requirement based on a point-in-time assessment, is 3.97% of RWAs, of which 2.23% must be met by CET1 capital.

Leverage ratio

The risk of excessive leverage is managed as part of the UK risk appetite framework and monitored using a leverage ratio metric within our risk appetite statement ('RAS'). The RAS articulates the aggregate level and types of risk that HSBC UK is willing to accept in its business activities in order to achieve its strategic business objectives. The RAS is monitored via the risk appetite profile report, which includes comparisons of actual performance against the risk appetite and tolerance thresholds assigned to each metric. This is to ensure that any excessive risk is highlighted, assessed and mitigated appropriately.

The risk appetite profile report is presented monthly to the Risk Management Meeting.

Our approach to risk appetite is described on page 17 of the *Annual Report and Accounts 2022*.

The following tables provide a reconciliation of the total assets in our published balance sheet under IFRS and the total leverage exposure and a breakdown of on-balance sheet exposures excluding derivatives, Securities Financing Transactions and exempted exposures, by asset class.

Table 7: Summary reconciliation of accounting assets and leverage ratio exposures (UK LR1-LRSum)

		At 31 Dec 2022 £m
1	Total assets as per published financial statements	342,442
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of prudential consolidation	87
3	(Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference)	–
4	(Adjustment for exemption of exposures to central banks)	(99,171)
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) of the CRR)	–
6	Adjustment for regular-way purchases and sales of financial assets subject to trade date accounting	(9)
7	Adjustment for eligible cash pooling transactions	2,175
8	Adjustment for derivative financial instruments	(117)
9	Adjustment for securities financing transactions ('SFTs')	1,290
10	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	18,123
11	(Adjustment for prudent valuation adjustments and specific and general provisions which have reduced tier 1 capital (leverage))	(8,220)
UK-11a	(Adjustment for exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) of the CRR)	–
UK-11b	(Adjustment for exposures excluded from the total exposure measure in accordance with point (j) of Article 429a(1) of the CRR)	–
12	Other adjustments	(5,100)
13	**Total leverage ratio exposure**	**251,500**

Table 8: Leverage ratio common disclosure (UK LR2-LRCom)

		At 31 Dec 2022 £m
	On-balance sheet exposures (excluding derivatives and securities financing transactions ('SFTs'))	
1	On-balance sheet items (excluding derivatives, SFTs, but including collateral)	331,644
2	Gross-up for derivatives collateral provided, where deducted from the balance sheet assets pursuant to the applicable accounting framework	1,123
3	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(1,123)
6	(Asset amounts deducted in determining tier 1 capital (leverage))	(8,219)
7	**Total on-balance sheet exposures (excluding derivatives and SFTs)**	**323,425**
	Derivative exposures	
8	Replacement cost associated with SA-CCR derivatives transactions (i.e. net of eligible cash variation margin)	62
9	Add-on amounts for potential future exposure associated with SA-CCR derivatives transactions	366
UK-9b	Exposure determined under Original Exposure Method	–
11	Adjusted effective notional amount of written credit derivatives	–
13	**Total derivative exposures**	**428**
	SFT exposures	
14	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	11,039
15	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(3,458)
16	Counterparty credit risk exposure for SFT assets	1,115
18	**Total securities financing transaction exposures**	**8,696**
	Other off-balance sheet exposures	
19	Off-balance sheet exposures at gross notional amount	74,059
20	(Adjustments for conversion to credit equivalent amounts)	(55,936)
22	**Off-balance sheet exposures**	**18,123**
	Capital and total exposures measure	
23	**Tier 1 capital (leverage)**	**14,771**
24	Total exposure measure including claims on central banks	350,671
UK-24a	(-) Claims on central banks excluded	(99,171)
UK-24b	**Total exposure measure excluding claims on central banks**	**251,500**

Table 8: Leverage ratio common disclosure (UK LR2-LRCom) (continued)

		At 31 Dec 2022 £m
	Leverage ratios	
25	**Leverage ratio excluding claims on central banks (%)**	**5.9**
UK-25a	Fully loaded ECL accounting model leverage ratio excluding claims on central banks (%)	**5.9**
UK-25b	Leverage ratio excluding central bank reserves as if the temporary treatment of unrealised gains and losses measured at fair value through other comprehensive income had not been applied (%)	**5.9**
UK-25c	Leverage ratio including claims on central banks (%)	**4.2**
26	Regulatory minimum leverage ratio requirement (%)	**3.3**
	Additional leverage ratio disclosure requirements – leverage ratio buffers	
27	Leverage ratio buffer (%)	**0.7**
UK-27a	– *of which:* *G-SII or O-SII additional leverage ratio buffer (%)*	***0.4***
UK-27b	*countercyclical leverage ratio buffer (%)*	***0.3***
	Additional leverage ratio disclosure requirements – disclosure of mean values	
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	**9,176**
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	**7,580**
UK-31	Average total exposure measure including claims on central banks	**351,117**
UK-32	Average total exposure measure excluding claims on central banks	**252,024**
UK-33	Average leverage ratio including claims on central banks	**4.2**
UK-34	Average leverage ratio excluding claims on central banks	**5.9**

Table 9: Leverage ratio – split of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures) (UK LR3-LRSpl)

		At	
		31 Dec 2022 £m	31 Dec 2021 £m
UK-1	Total on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures), of which[1]:	**231,350**	339,852
UK-3	Banking book exposures, of which:	**231,350**	339,853
UK-5	Exposures treated as sovereigns	**16,063**	127,967
UK-7	Institutions	**2,765**	2,051
UK-8	Secured by mortgages of immovable properties	**125,226**	117,731
UK-9	Retail exposures	**14,159**	19,489
UK-10	Corporates	**57,066**	54,645
UK-11	Exposures in default	**3,202**	2,461
UK-12	Other exposures (e.g. equity, securitisations and other non-credit obligation assets)	**12,869**	15,509

1 *This calculation is in line with the UK leverage rules that were implemented on 1 January 2022, and excludes central bank claims. Comparatives for 2021 are reported based on the disclosure rules in force at that time, and include claims on central banks.*

At 31 December 2022, our leverage ratio measured under the PRA's UK leverage framework was 5.9%. This measure excludes qualifying central bank balances and loans under the UK Bounce Back Loan scheme from the calculation of exposure.

At 31 December 2022, our UK minimum leverage ratio requirement of 3.25% under the PRA's UK leverage framework was supplemented by an additional leverage ratio buffer of 0.35% and a countercyclical leverage ratio buffer of 0.30%.

These additional buffers translated into capital values of £880m and £755m respectively. We exceeded these leverage requirements.

For further details of the UK leverage ratio, please see page 60 of the Annual Report and Accounts 2022.

Pillar 1 minimum capital requirements and RWA flow

Pillar 1 covers the minimum capital resource requirements for credit risk, market risk and operational risk.Credit risk includes Counterparty credit risk ('CCR') and securitisation requirements. These requirements are expressed in terms of RWAs.

This table provides information on the scope of permissible approaches and our adopted approach by risk type.

Risk category	Scope of permissible approaches	Our approach
Credit risk	The Basel Committee's framework applies three approaches of increasing sophistication to the calculation of Pillar 1 credit risk capital requirements. The most basic level, the standardised approach, requires banks to use external credit ratings to determine the risk weightings applied to rated counterparties. Other counterparties are grouped into broad categories, and standardised risk weightings are applied to these categories. The next level, the foundation IRB ('FIRB') approach, allows banks to calculate their credit risk capital requirements on the basis of their internal assessment of a counterparty's probability of default ('PD'), but subjects their quantified estimates of exposure at default ('EAD') and loss given default ('LGD') to standard supervisory parameters. Finally, the advanced IRB ('AIRB') approach allows banks to use their own internal assessment in both determining PD and quantifying EAD and LGD.	HSBC UK has adopted the IRB approach for the majority of its business.For Retail, advanced IRB is primarily used, with Foundation used for most of the Wholesale portfolio Some portfolios remain on the standardised approach: • following supervisory prescription of a non-advanced approach; or • under exemptions from IRB treatment.
Counterparty credit risk	There are four approaches to calculating CCR and determining exposure values, as defined by the Basel Committee: mark-to-market, original exposure, standardised and internal model method ('IMM'). These exposure values are used to determine capital requirements under one of the credit risk approaches: standardised, FIRB or AIRB.	HSBC UK uses mark to market approach under which derivatives exposures are calculated per the Standardised Approach for Counterparty Credit Risk ('SA-CCR'), effective from 1st January 2022.
Equity	Capital requirements for non-trading book holdings of equity can be assessed under the standardised or IRB approaches. Underlying equity positions within collective investment undertakings must be treated using the IRB equity simple risk-weight approach.	For HSBC UK, all equity exposures are assessed under the standardised approach.
Securitisation	The framework prescribes the following approaches: • internal ratings-based approach ('SEC-IRBA'); • standardised approach ('SEC-SA'); • external ratings-based approach ('SEC-ERBA'); and • internal assessment approach ('IAA').	Under the framework: • Our originated positions are reported under SEC-IRBA. • Where broader approach categorisation is required, 'SEC-IRBA' is mapped to the IRB approach and the remaining three approaches are mapped to the standardised category.
Market risk	Market risk capital requirements can be determined under either the standard rules or the internal models approach ('IMA'). The latter involves the use of internal value at risk ('VaR') models to measure market risks and determine the appropriate capital requirement. In addition to the VaR models, other internal models include stressed VaR, incremental risk charge ('IRC') and comprehensive risk measure.	For HSBC UK, the market risk capital requirement is measured using the standardised rules.
Operational risk	The Basel Committee allows firms to calculate their operational risk capital requirement under the basic indicator approach, the standardised approach or the advanced measurement approach.	HSBC UK uses the standardised approach in determining operational risk capital requirements.

Table 10: Overview of risk-weighted exposure amounts (OV1)

		At			
		31 Dec 2022	30 Sep 2022	**31 Dec 2022**	30 Sep 2022
		RWAs	RWAs	**Total own funds requirement[1]**	Total own funds requirement[1]
		£m	£m	**£m**	£m
1	**Credit risk (excluding counterparty credit risk**	**80,090**	80,255	**6,407**	6,420
2	– standardised approach	**3,990**	3,583	**319**	287
3	– foundation IRB approach	**41,270**	41,512	**3,301**	3,321
4	– slotting approach	**5,469**	5,465	**438**	437
5	– advanced IRB approach	**29,361**	29,695	**2,349**	2,376
6	**Counterparty credit risk**	**204**	246	**16**	20
7	– standardised approach[2]	**132**	158	**11**	13
UK-8a	– risk exposure amount for contributions to the default fund of a central counterparty	**11**	11	**1**	1
UK-8b	– credit valuation adjustment	**18**	30	**1**	2
9	– Other counterparty credit risk[3]	**43**	47	**3**	4
16	**Securitisation exposures in the non-trading book(after the cap)**	**650**	654	**51**	52
17	– internal ratings-based approach ('SEC-IRBA')	**367**	379	**29**	30
19	– standardised approach ('SEC-SA')	**141**	133	**11**	11
UK-19	– 1250%/deduction	**142**	142	**11**	11
20	**Position, foreign exchange and commodities risks (Market risk)**	**101**	155	**8**	12
21	– standardised approach	**101**	155	**8**	12
23	**Operational risk**	**11,368**	10,607	**909**	849
UK-23	– standardised approach	**11,368**	10,607	**909**	849
29	**Total**	**92,413**	91,917	**7,391**	7,353
24	*– of which: Amounts below the thresholds for deduction (subject to 250% risk weight)[4]*	***724***	*731*	***58***	*58*

1 'Total own funds requirement' in this table represents the minimum capital charge set at 8% of RWAs by article 92 of the Capital Requirements Regulation.
2 The standardised approach to CCR was implemented with effect from 1 January 2022 and replaces the previous mark-to-market method.
3 Other counterparty credit risk includes RWAs on securities financing transactions and free deliveries.
4 These balances are included in rows 2 and 5 of the table.

Credit risk, including amounts below the thresholds for deduction

Standardised approach RWAs increased by £0.4bn mainly due to increased lending to other HSBC Group entities.

Foundation approach RWAs decreased by £0.2bn mainly due to data quality improvements.

Advanced approach RWAs decreased by £0.3bn due to improvements in asset quality.

Operational risk

RWAs increased by £0.7bn due to higher average revenue in the annual calculation of operational risk.

Table 11: RWA flow statements of credit risk exposures under the IRB approach[1] (CR8)

		Quarter ended			
		31 Dec 2022	30 Sep 2022	30 Jun 2022	31 Mar 2022
		£m	£m	£m	£m
1	**RWAs at the opening period**	**75,672**	74,504	74,836	68,143
2	Asset size	**(312)**	2,135	875	1,772
3	Asset quality	**(441)**	81	(640)	(1,708)
4	Model updates	**–**	–	–	–
5	Methodology and policy	**232**	(1,048)	(567)	6,629
9	**RWAs at the closing period**	**75,151**	75,672	74,504	74,836

1 Securitisation positions and Non-credit obligation assets ('NCOAs') are not included in this table while free deliveries are.

IRB RWAs decreased by (£0.5bn) during the period mainly from reduction in asset size (£0.3bn), improvements in asset quality £(0.4bn) partially offset by increase in methodology and policy changes of £0.2bn:

- Reduction in our lending in credit card portfolio decreased RWAs by (£0.5bn) partially offset by an increase in Corporate lending.
- Asset quality changes led to a (£0.4bn) fall in RWAs mainly due to credit migrations and changes in the underlying portfolio mix.
- Changes to methodology and policy caused a £0.2bn increase in RWAs, primarily due to risk parameter refinements and data quality improvements.

Pillar 2 and ICAAP

Pillar 2

We conduct an Internal Capital Adequacy Assessment Process ('ICAAP') to determine a point-in-time and forward-looking assessment of our capital requirements given our business strategy, risk profile, risk appetite and capital plan. This process incorporates HSBC UK's risk management processes and governance framework. Our base capital plan undergoes stress testing. This, coupled with our economic capital framework and other risk management practices, is used to assess our internal capital adequacy requirements and inform our view of our internal capital planning buffer. The ICAAP is formally approved by the HSBC UK Board of Directors, which has the ultimate responsibility for the effective management of risk and approval of our risk appetite.

The ICAAP is reviewed by the PRA during the Supervisory Review and Evaluation Process. This process occurs periodically to enable the regulator to define the individual capital requirement ('ICR') or minimum capital requirements for HSBC and to define the PRA buffer, where required. The PRA buffer is not intended to duplicate the CRD IV buffers and, where necessary, will be set according to vulnerability in a stress scenario, as identified and assessed through the annual PRA stress testing exercise.

The processes of internal capital adequacy assessment and supervisory review lead to a final determination by the PRA of the ICR and any additional PRA buffer that may be required.

Pillar 2 comprises Pillar 2A and Pillar 2B. Pillar 2A considers, in addition to the minimum capital requirements for Pillar 1 risks described above, any supplementary requirements for those risks and any requirements for risk categories not captured by Pillar 1. The risk categories covered under Pillar 2A depend on the specific circumstances of a firm and the nature and scale of its business.

Pillar 2B consists of guidance from the PRA on the capital buffer a firm would require in order to remain above its ICR in adverse circumstances that may be largely outside the firm's normal and direct control; for example, during a period of severe but plausible downturn stress, when asset values and the firm's capital surplus may become strained. This is quantified via any PRA buffer requirement the PRA may consider necessary. The assessment of this is informed by stress tests and a rounded judgement of a firm's business model, also taking into account the PRA's view of a firm's options and capacity to protect its capital position under stress; for instance, through capital generation. Where the PRA assesses that a firm's risk management and governance are significantly weak, it may also increase the PRA buffer to cover the risks posed by those weaknesses until they are addressed. The PRA buffer is intended to be drawn upon in times of stress, and its use is not of itself a breach of capital requirements that would trigger automatic restrictions on distributions. In specific circumstances, the PRA should agree a plan with a firm for its restoration over an agreed timescale.

Internal capital adequacy assessment

The HSBC UK Board, supported by its sub-committees, is responsible for ensuring adequate capital resources at all times. Together with RMM, the HSBC UK Board examines the group's risk profile from a regulatory and economic capital viewpoint. They aim to ensure that capital resources:

- remain sufficient to support our risk profile and outstanding commitments;
- exceed current regulatory requirements, and that the group is well placed to meet those expected in the future;
- allow the group to remain adequately capitalised in the event of a severe economic downturn stress scenario; and
- remain consistent with our strategic and operational goals, and our shareholder and investor expectations.

The minimum regulatory capital that we are required to hold is determined by the rules and guidance established by the PRA. These capital requirements are a primary factor in influencing and shaping the business planning process, in which RWA targets are established for our global businesses in accordance with the group's strategic direction and risk appetite.

Economic capital is the internally calculated capital requirement that we deem necessary to support the risks to which we are exposed. The economic capital assessment is a more risk-sensitive measure than the regulatory minimum, and takes account of the substantial diversification of risk accruing from our operations. Both the regulatory and the economic capital assessments rely upon the use of models that are integrated into our risk management processes. Our economic capital models are calibrated to quantify the level of capital that is sufficient to absorb potential losses over a one-year time horizon to a 99.95% level of confidence for our banking and trading activities, to a 99.5% level of confidence for our insurance activities and pension risks, and to a 99.9% level of confidence for our operational risks.

Preserving our strong capital position remains a priority, and the level of integration of our risk and capital management helps to optimise our response to business demand for regulatory and economic capital. Risks that are explicitly assessed through economic capital are credit risk (including CCR), market risk, operational risk, interest rate risk in the banking book ('IRRBB'), pension risk and structural foreign exchange risk.

Credit risk

Overview

Credit risk is the risk of financial loss if a customer or counterparty fails to meet a payment obligation under a contract. It arises principally from direct lending, trade finance and leasing business, but also from off-balance sheet products. such as guarantees and commitments, and from the group's holdings of debt and other securities.

Further explanation of the group's approach to managing credit risk (including details of past due and impaired exposures, and its approach to credit risk impairments can be found from page 26 of the Annual Report and Accounts 2022).

Credit quality

Our credit risk profile is diversified across a number of asset classes with a credit quality profile concentrated in the higher quality bands.

The following table provides information about the gross carrying amount of exposures and related impairment with further detail on the IFRS 9 stage, accumulated partial write off and collateral. The IFRS 9 stages have the following characteristics:

- Stage 1: These financial assets are unimpaired and without a significant increase in credit risk. A 12-month allowance for ECL is recognised;
- Stage 2: A significant increase in credit risk has been experienced on these financial assets since initial recognition. A lifetime ECL is recognised;
- Stage 3: There is objective evidence of impairment and the financial assets are therefore considered to be in default or otherwise credit impaired. A lifetime ECL is recognised.
- Purchased or originated credit-impaired ('POCI'): Financial assets purchased or originated at a deep discount are seen to reflect incurred credit losses. A lifetime ECL is recognised. These exposures are included in stage 3 in the table below.

Refer to the section 'EL and credit risk adjustments' on page 28 for further information on IFRS 9.

Credit-impaired (stage 3) exposures are disclosed on page 47 and 53 of the Annual Report and Accounts 2022.

Table 12: Performing and non-performing exposures and related provisions (CR1)

		Gross carrying amount/ nominal amount[1,2]						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions							Collateral and financial guarantees received	
		Performing exposures			Non-performing exposures			Performing exposures			Non-performing exposures					
			of which: stage 1	*of which: stage 2*		*of which: stage 2*	*of which: stage 3*		*of which: stage 1*	*of which: stage 2*		*of which: stage 2*	*of which: stage 3*	Accumulated partial write-off	On performing exposures	On non-performing exposures
		£m	*£m*	*£m*	£m	*£m*	*£m*	£m	*£m*	*£m*	£m	*£m*	*£m*	£m	£m	£m
005	Cash balances at central banks and other demand deposits	99,963	*99,962*	*1*	4	—	*4*	—	—	—	(2)	—	*(2)*	—	—	—
010	**Loans and advances**	209,583	*162,811*	*46,700*	4,544	—	*4,544*	(1,190)	*(249)*	*(941)*	(723)	—	*(723)*	(385)	164,411	2,659
030	General governments	3	*3*	—	—	—	—	—	—	—	—	—	—	—	—	—
040	Credit institutions	1,634	*1,632*	—	—	—	—	—	—	—	—	—	—	—	1,242	—
050	Other financial corporations	8,846	*8,641*	*135*	8	—	*8*	(4)	*(2)*	*(2)*	(1)	—	*(1)*	—	6,961	7
060	Non-financial corporations	61,314	*45,790*	*15,524*	3,696	—	*3,696*	(503)	*(135)*	*(368)*	(533)	—	*(533)*	(385)	30,447	2,166
070	– *of which: SMEs*[4]	*16,257*	13,130	3,127	*1,574*	—	1,574	*(190)*	(59)	(131)	*(128)*	—	(128)	—	*11,268*	*774*
080	Households	137,786	*106,745*	*31,041*	840	—	*840*	(683)	*(112)*	*(571)*	(189)	—	*(189)*	—	125,761	486
090	**Debt securities**	16,093	*16,093*	—	—	—	—	(1)	*(1)*	—	—	—	—	—	304	—
100	Central banks	277	*277*	—	—	—	—	—	—	—	—	—	—	—	—	—
110	General governments	13,432	*13,432*	—	—	—	—	(1)	*(1)*	—	—	—	—	—	304	—
120	Credit institutions	2,379	*2,379*	—	—	—	—	—	—	—	—	—	—	—	—	—
130	Other financial corporations	5	*5*	—	—	—	—	—	—	—	—	—	—	—	—	—
150	**Off-balance-sheet exposures**	73,849	*63,564*	*4,953*	312	—	*259*	(66)	*(29)*	*(37)*	(37)	—	*(31)*	—	16,977	39
170	General governments	7	*2*	—	—	—	—	—	—	—	—	—	—	—	—	—
180	Credit institutions	71	*56*	*12*	—	—	—	—	—	—	—	—	—	—	—	—
190	Other financial corporations	1,392	*1,032*	*88*	—	—	—	—	—	—	—	—	—	—	140	—
200	Non-financial corporations	30,063	*20,524*	*4,488*	225	—	*172*	(57)	*(20)*	*(37)*	(37)	—	*(31)*	—	5,260	30
210	Households	42,316	*41,950*	*365*	87	—	*87*	(9)	*(9)*	—	—	—	—	—	11,577	9
220	**Total at 31 Dec 2022**	399,488	*342,430*	*51,654*	4,860	—	*4,807*	(1,257)	*(279)*	*(978)*	(762)	—	*(756)*	(385)	181,692	2,698

Table 12: Performing and non-performing exposures and related provisions (CR1) (continued)

		Gross carrying amount/ nominal amount[1,2,3]						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions							Collaterals and financial guarantees received	
		Performing exposures			Non-performing exposures			Performing exposures			Non-performing exposures			Accu-mulated partial write-off	On perfor-ming expo-sures	On non-perfo-rming expo-sures
			of which: stage 1	of which: stage 2		of which: stage 2	of which: stage 3		of which: stage 1	of which: stage 2		of which: stage 2	of which: stage 3			
		£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
005	Cash balances at central banks and other demand deposits	113,717	113,717	—	—	—	—	—	—	—	—	—	—	—	—	—
010	Loans and advances	201,570	183,066	18,440	4,027	—	4,027	(1,007)	(315)	(692)	(848)	—	(848)	(334)	159,317	2,228
030	General governments	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—
040	Credit institutions	1,308	1,308	—	—	—	—	—	—	—	—	—	—	—	1,163	—
050	Other financial corporations	9,176	9,037	75	5	—	5	(3)	(2)	(1)	—	—	—	—	7,307	5
060	Non-financial corporations	60,819	45,815	15,004	2,970	—	2,970	(529)	(191)	(338)	(556)	—	(556)	(334)	32,828	1,623
070	– of which: SMEs	18,216	16,230	1,986	364	—	364	(151)	(51)	(100)	(36)	—	(36)	—	13,085	316
080	Households	130,266	126,905	3,361	1,052	—	1,052	(475)	(122)	(353)	(292)	—	(292)	—	118,019	600
090	Debt securities	14,602	14,602	—	—	—	—	(2)	(2)	—	—	—	—	—	—	—
100	Central banks	219	219	—	—	—	—	—	—	—	—	—	—	—	—	—
110	General governments	12,379	12,379	—	—	—	—	(1)	(1)	—	—	—	—	—	—	—
120	Credit institutions	1,780	1,780	—	—	—	—	(1)	(1)	—	—	—	—	—	—	—
130	Other financial corporations	224	224	—	—	—	—	—	—	—	—	—	—	—	—	—
150	Off-balance-sheet exposures	70,392	64,605	3,615	295	—	276	(60)	(33)	(26)	(22)	—	(18)	0	11,033	33
170	General governments	2	2	—	—	—	—	—	—	—	—	—	—		—	—
180	Credit institutions	95	95	—	—	—	—	(1)	(1)	—	—	—	—		—	—
190	Other financial corporations	912	759	104	—	—	—	—	—	—	—	—	—		27	—
200	Non-financial corporations	29,252	23,915	3,215	220	—	201	(50)	(24)	(25)	(22)	—	(18)		5,565	27
210	Households	40,131	39,834	296	75	—	75	(9)	(8)	(1)	—	—	—		5,441	6
220	Total at 31 Dec 2021	400,281	375,990	22,055	4,322	—	4,303	(1,069)	(350)	(718)	(870)	—	(866)	(334)	170,350	2,261

Stage 2 Strong category has increased significantly primarily on account of Stage 1 to Stage 2 balance movement driven by transfer of customers at-risk from stage 1 on account of introduction of Gen2 model.

1 *Includes reverse repos and settlement accounts.*
2 *The staging analysis is non-additive as totals contain instruments not eligible for staging, such as those held at fair value through profit and loss.*
3 *The counterparty sector classifications of this disclosure have been revised. 31 December 2021 data has been restated to be on a consistent basis with the current period.*
4 *Reporting process improvements resulted in a reduction in RWA benefits taken on Small and Medium sized enterprises ('SME's). The impact of these changes is reflected in the reported RWAs but not yet in the classification of the exposures as SMEs.*

Table 13: Maturity of exposures (CR1-A)

		Net exposure value[1]					
		On demand	**<= 1 year**	**> 1 year <= 5 years**	**> 5 years**	**No stated maturity**	**Total**
		£m	**£m**	**£m**	**£m**	**£m**	**£m**
1	Loans and advances	**47,604**	**42,018**	**56,917**	**140,436**	**—**	**286,975**
2	Debt securities	**—**	**1,841**	**4,449**	**9,888**	**—**	**16,178**
3	**Total as at 31 Dec 2022**	**47,604**	**43,859**	**61,366**	**150,324**	**—**	**303,153**

1 *Includes on-balance sheet reverse repos and excludes assets held for sale, cash balances with central banks and other demand deposits, securitisation positions and settlement accounts.*

Defaulted exposures

We have adopted the European Banking Authority ('EBA') guidelines on the application of definition of default and compliance is being met via the support of article 146 adjustments. The accounting definition of impairment and the regulatory definition of default are generally aligned.

For specific retail exposures, regulatory default is identified at 180 days (model redevelopments are underway to align to 90 days past due) while the exposures are identified as impaired at 90 days past due.

Table 14: Changes in the stock of non-performing loans and advances (CR2)

		Six months till 31 Dec 2022	
		July-Dec 2022	Jan-Jun 2022
		Gross carrying value	Gross carrying value
		£m	£m
10	**Initial stock of non-performing loans and advances**	**4,154**	4,028
20	Inflows to non-performing portfolios	**1,340**	1,240
30	Outflows from non-performing portfolios	**(393)**	(487)
40	Outflows due to write-offs	**(233)**	(257)
50	Outflow due to other situations[1]	**(324)**	(370)
60	**Final stock of non-performing loans and advances**	**4,544**	4,154

1 *Other situations include foreign exchange movements, repayments and changes in assets held for sale in default..*

Non-performing and forborne exposures

The EBA defines non-performing exposures as exposures with material amounts that are more than 90 days past due or exposures where the debtor is assessed as unlikely to pay its credit obligations in full without the realisation of collateral, regardless of the existence of any past due amounts or number days past due. For our retail portfolios a past due credit obligation is recognised where any amount of principal, interest or fees has not been paid at the date it was due (or cycle date). Any debtors that are in default for regulatory purposes or impaired under the applicable accounting framework are always considered as non-performing exposures. The *Annual Report and Accounts 2022* definition of stage 3 credit-impaired is aligned to the EBA's definition of non-performing exposures. The IFRS9 accounting standard expected credit losses are classified as Pillar 3 specific credit risk adjustments.

Forborne exposures are defined by the EBA as exposures where the bank has made concessions to a debtor that is experiencing or about to experience financial difficulties in meeting its financial commitments.

Up until 2021 HSBC classified loans as forborne when we modified the contractual payment terms where we had significant concerns about the borrowers' ability to meet contractual payments when due. In 2022 the definition of forborne has been expanded to capture non-payment related concessions. For wholesale portfolio non-payment related concession have been identified from February 2021 when the internal policies where changed. The 31 December 2021 comparatives disclosures have been presented under the prior definition of forborne for the wholesale and retail portfolios.

Forbearance measures consist of concessions towards a debtor that is experiencing or about to experience difficulties in meeting its financial commitments ('financial difficulties').

Under the EBA definition, exposures cease to be reported as forborne if they pass three tests:

- the forborne exposure must have been considered to be performing for a 'probation period' of at least two years;
- regular payments of more than an insignificant aggregate amount of principal or interest have been made during at least half of the probation period; and
- no exposure to the debtor is more than 30 days past due at the end of the probation period.

In the *Annual Report and Accounts 2022*, forborne loans retain this classification until maturity, de-recognition or satisfy the EBA's cure criteria.

The Prudential Regulation Authority's approach to the European Banking Authority ('EBA') Guidelines relating to the management of non-performing exposures ('NPEs') and forborne exposures ('FBEs') was outlined in a statement published in May 2022.

The PRA acknowledged that, whilst they are not applicable to or in the UK, the prudential aspects of these guidelines broadly represent good credit risk management standards.

While we are not obliged to follow the guidelines, we have already embedded, and will continue to maintain, certain thematic elements from the guidelines in our credit practices.

Table 15: Credit quality of forborne exposures (CQ1)

		Gross carrying amount/ nominal amount				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	
			Non-performing forborne						
		Performing forborne	Total	*of which: defaulted*	*of which: impaired*	On performing forborne exposures	On non performing forborne exposures	Total	*of which: forborne non-performing exposures*
		£m	£m	*£m*	*£m*	£m	£m	£m	*£m*
005	**Cash balances at central banks and other demand deposits**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
010	**Loans and advances**	**746**	**1,430**	***1,430***	***1,430***	**(53)**	**(213)**	**1,147**	***675***
050	Other financial corporations	**–**	**1**	***1***	***1***	**–**	**–**	**1**	***1***
060	Non-financial corporations	**587**	**1,053**	***1,053***	***1,053***	**(21)**	**(117)**	**919**	***469***
070	Households	**159**	**376**	***376***	***376***	**(32)**	**(96)**	**227**	***205***
090	**Loan commitments given**	**31**	**94**	***94***	***94***	**–**	**–**	**50**	***28***
100	**Total at 31 Dec 2022**	**777**	**1,524**	***1,524***	***1,524***	**(53)**	**(213)**	**1,197**	***703***
010	Loans and advances	113	1,664	*1,664*	*1,664*	(3)	(218)	1,076	*1,017*
060	Non-financial corporations	113	1,153	*1,153*	*1,153*	(3)	(126)	783	*724*
070	Households	–	511	*511*	*511*		(92)	293	*293*
100	Total at 31 Dec 2021	113	1,664	*1,664*	*1,664*	(3)	(218)	1,076	*1,017*

Table 16 presents an analysis of performing and non-performing exposures by days past due. The gross non-performing loan ('NPL') ratio at 31 December 2022 was 2.1% calculated in line with the EBA guidelines. While calculating NPL ratio, Cash balances at central banks and other demand deposits has not been considered.

Table 16: Credit quality of performing and non-performing exposures by past due days (CQ3)

		a	b	c	d	e	f	g	h	i	j	k	l
		Gross carrying amount/nominal amount[1]											
		Performing exposures			Non-performing exposures								
			Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days	Total	Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	*of which: defaulted*
005	**Cash balances at central banks and other demand deposits**	**99,963**	**99,963**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
010	**Loans and advances**	**209,583**	**209,326**	**257**	**4,544**	**2,878**	**286**	**1,199**	**17**	**162**	**1**	**1**	***4,544***
020	Central banks	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
030	General governments	**3**	**3**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
040	Credit institutions	**1,634**	**1,634**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
050	Other financial corporations	**8,846**	**8,846**	**–**	**8**	**8**	**–**	**–**	**–**	**–**	**–**	**–**	***8***
060	Non-financial corporations	**61,314**	**61,173**	**141**	**3,696**	**2,427**	**173**	**1,049**	**17**	**28**	**1**	**1**	***3,696***
070	– *of which: SMEs*[1]	***16,257***	***16,137***	***120***	***1,574***	***401***	***163***	***1,007***	***3***	**–**	**–**	**–**	**1,574**
080	Households	**137,786**	**137,670**	**116**	**840**	**443**	**113**	**150**	**–**	**134**	**–**	**–**	***840***
090	**Debt securities**	**16,093**	**16,093**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
100	Central banks	**277**	**277**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
110	General governments	**13,432**	**13,432**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
120	Credit institutions	**2,379**	**2,379**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
130	Other financial corporations	**5**	**5**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
140	Non-financial corporations	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
150	**Off-balance-sheet exposures**	**73,849**	**N/A**	**N/A**	**312**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	***312***
160	Central banks	**–**	**N/A**	**N/A**	**–**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**–**
170	General governments	**7**	**N/A**	**N/A**	**–**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**–**
180	Credit institutions	**71**	**N/A**	**N/A**	**–**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**–**
190	Other financial corporations	**1,392**	**N/A**	**N/A**	**–**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**–**
200	Non-financial corporations	**30,063**	**N/A**	**N/A**	**225**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	***225***
210	Households	**42,316**	**N/A**	**N/A**	**87**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	***87***
220	Total at 31 Dec 2022	**399,488**	**325,382**	**257**	**4,856**	**2,878**	**286**	**1,199**	**17**	**162**	**1**	**1**	***4,856***

1 *Reporting process improvements resulted in a reduction in RWA benefits taken on Small and Medium sized enterprises ('SMEs'). The impact of these changes is reflected in the reported RWAs but not yet in the classification of the exposures as SMEs.*

The table below provides information on the instruments that were cancelled in exchange for collateral obtained by taking possession and on the value of the collateral. The value at initial recognition represents the gross carrying amount of the collateral obtained by taking possession at initial recognition on the balance sheet, whilst the accumulated negative changes is the accumulated impairment or negative change in the value of the collateral since initial recognition, including amortisation in the case of property, plant & equipment and investment properties.

Table 17: Collateral obtained by taking possession and execution processes (CQ7)

		At 31 Dec 2022		At 31 Dec 2021	
		Collateral obtained by taking possession		Collateral obtained by taking possession	
		Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes
		£m	£m	£m	£m
1	Property plant and equipment ('PP&E')	—	—	—	—
2	Other than property, plant and equipment	1	—	1	—
3	Residential immovable property	1	—	1	—
4	Commercial immovable property	—	—	—	—
5	Movable property (auto, shipping, etc.)	—	—	—	—
6	Equity and debt instruments	—	—	—	—
7	Other	—	—	—	—
8	**Total**	1	—	1	—

Concentration risk

Concentrations of credit risk arise when a number of counterparties or exposures have comparable economic characteristics, are engaged in similar activities or operate in the same geographical areas or industry sectors so that their collective ability to meet contractual obligations is uniformly affected by changes in economic, political or other conditions.

We have a number of global businesses with a broad range of products. We use a number of controls and measures to minimise undue concentration of exposure in our portfolios across industries, countries and global businesses. These include portfolio and counterparty limits, approval and review controls, and stress testing. The following tables present information on the concentration of exposures by geography and industry.

Table 18: Quality of non-performing exposures by geography (CQ4)

		Gross carrying/ Nominal amount				
		Total	*of which: defaulted*	Accumulated impairment	Provisions on off-balance sheet commitments and financial guarantee given	Accumulated negative changes in fair value due to credit risk on non-performing exposures
		£m	£m	£m	£m	£m
010	**On balance sheet exposures**[1]	230,220	*4,544*	(1,914)	—	—
020	United Kingdom	214,430	*4,483*	(1,871)	—	—
030	United States	5,946	*2*	(5)	—	—
040	HongKong	1,434	*2*	(4)	—	—
070	Other countries	8,410	*57*	(34)	—	—
080	**Off balance sheet exposures**	74,161	*312*	—	105	—
90	United Kingdom	71,620	*310*	—	102	—
100	United States	582	*1*	—	1	—
110	HongKong	122	—	—	—	—
140	Other countries	1,837	*1*	—	2	—
150	**Total at 31 Dec 2022**	304,381	*4,856*	(1,914)	105	—

1 *Excludes cash and balances at central banks.*

Table 19: Credit quality of loans and advances to non-financial corporations by industry (CQ5)

		Gross carrying amount			Accumulated negative changes in fair value due to credit risk on non-performing exposures
		Total	*of which: defaulted*	Accumulated impairment	
		£m	*£m*	£m	£m
010	Agriculture, forestry and fishing	**4,059**	***152***	**(57)**	**–**
020	Mining and quarrying	**681**	***33***	**(10)**	**–**
030	Manufacturing	**7,954**	***420***	**(123)**	**–**
040	Electricity, gas, steam and air conditioning supply	**998**	***1***	**(2)**	**–**
050	Water supply	**833**	***8***	**(5)**	**–**
060	Construction	**3,391**	***234***	**(71)**	**–**
070	Wholesale and retail trade	**11,914**	***839***	**(257)**	**–**
080	Transport and storage	**1,960**	***80***	**(17)**	**–**
090	Accommodation and food service activities	**6,540**	***341***	**(93)**	**–**
100	Information and communication	**2,453**	***148***	**(38)**	**–**
120	Financial and insurance activities	**10,825**	***551***	**(160)**	**–**
130	Professional, scientific and technical activities	**3,860**	***132***	**(49)**	**–**
140	Administrative and support service activities	**4,793**	***260***	**(59)**	**–**
160	Education	**837**	***69***	**(23)**	**–**
170	Human health services and social work activities	**1,670**	***121***	**(19)**	**–**
180	Arts, entertainment and recreation	**901**	***92***	**(34)**	**–**
190	Other services	**1,341**	***215***	**(19)**	**–**
200	**Total at 31 Dec 2022**	**65,010**	***3,696***	**(1,036)**	**–**

Risk mitigation

Our approach when granting credit facilities is to do so on the basis of capacity to repay, rather than placing primary reliance on credit risk mitigants. Depending on a customer's standing and the type of product, facilities may be provided unsecured.

Mitigation of credit risk is a key aspect of effective risk management and takes many forms. Our general policy is to promote the use of credit risk mitigation, justified by commercial prudence and capital efficiency. Detailed policies cover the acceptability, structuring and terms with regard to the availability of credit risk mitigation such as in the form of collateral security. These policies, together with the setting of suitable valuation parameters, are subject to regular review to ensure that they are supported by empirical evidence and continue to fulfil their intended purpose.

Collateral

The most common method of mitigating credit risk is to take collateral. In our retail residential and commercial real estate ('CRE') businesses, a mortgage over the property is usually taken to help secure claims. Physical collateral is also taken in various forms of specialised lending and leasing transactions where income from the physical assets that are financed is also the principal source of facility repayment. In the commercial and industrial sectors, charges are created over business assets such as premises, stock and debtors. Loans to private banking clients may be made against a pledge of eligible marketable securities, cash or real estate. Facilities to small- and medium-sized enterprises ('SMEs') are commonly granted against guarantees given by their owners and/or directors.

Further information regarding collateral held over CRE and residential property is provided on pages 48 and 52, respectively, of the Annual Report and Accounts 2022.

Financial collateral

HSBC UK provides customers with working capital management products. In some cases, these products combine loans and advances to customers with customer accounts over which we have right of offset which comply with the regulatory requirements for on-balance sheet netting. Where this applies, the customer accounts are treated as cash collateral and are reflected in our LGD estimates.

For risk management purposes, the net amounts of such exposures are subject to limits and the relevant customer agreements are subject to review to ensure the legal right of offset remains appropriate.

Other forms of credit risk mitigation

Facilities to SMEs are commonly granted against guarantees given by their owners and/or directors. Guarantees may be taken from third parties where the group extends facilities without the benefit of any alternative form of security e.g. where it issues a bid or performance bond in favour of a non-customer at the request of another bank.

In our corporate lending, we also take guarantees from corporates and export credit agencies. Corporates normally provide guarantees as part of a parent/subsidiary or common parent relationship and span a number of credit grades. Export credit agencies will normally be investment grade.

Policy and procedures

Policies and procedures govern the protection of our position from the outset of a customer relationship; for instance, in requiring standard terms and conditions or specifically agreed documentation permitting the offset of credit balances against debt obligations, and through controls over the integrity, current valuation and, if necessary, realisation of collateral security.

Valuing collateral

Valuation strategies are established to monitor collateral mitigants to ensure that they will continue to provide the anticipated secure secondary repayment source. The frequency of valuation increases with the volatility of the collateral. In the residential mortgage business HSBC UK policy prescribes revaluation at intervals of up to three years, or more frequently as the need arises; for example, where market conditions are subject to significant change. Residential property collateral values are determined through a combination of professional appraisals, house price indices or statistical analysis.

For commercial real estate, where the facility exceeds regulatory threshold requirements, HSBC UK policy requires an independent review of the valuation at least every three years, or more frequently as the need arises. Revaluations are sought where, for example, material concerns arise in relation to the performance of the collateral. CRE revaluation also occurs commonly in circumstances where an obligor's credit quality has declined sufficiently to cause concern that the principal payment source may not fully meet the obligation.

Recognition of risk mitigation under the IRB approach

Within an IRB approach, risk mitigants are considered in two broad categories:

- those which reduce the intrinsic PD of an obligor and therefore operate as determinants of PD; and
- those which affect the estimated recoverability of obligations and require adjustment of LGD or, in certain limited circumstances, EAD.

The first category typically includes full parental guarantees where one obligor within a group guarantees another. In these circumstances, the parent guarantor materially influences the PD of the guaranteed obligor. PD estimates are also subject to a 'sovereign ceiling', constraining the risk ratings assigned to obligors in countries of higher risk, and where only partial parental support exists. In certain jurisdictions, certain types of third-party guarantee are recognised by substituting the obligor's PD with that of the guarantor.

In the second category, LGD estimates are affected by a wider range of collateral, including cash, charges over real estate property, fixed assets, trade goods, receivables and floating charges such as mortgage debentures. Unfunded mitigants, such as third-party guarantees, are also considered in LGD estimates where there is evidence that they reduce loss expectation.

The main types of provider of guarantees are banks, other financial institutions and corporates. The creditworthiness of providers of unfunded credit risk mitigation is taken into consideration as part of the guarantor's risk profile. Internal limits for such contingent exposure are approved in the same way as direct exposures.

EAD and LGD values, in the case of individually assessed exposures, are determined by reference to internal risk parameters based on the nature of the exposure. For retail portfolios, credit risk mitigation data is incorporated into the internal risk parameters for exposures and feeds into the calculation of the expected loss ('EL') band value summarising both customer delinquency and product or facility risk. Credit and credit risk mitigation data form inputs submitted by all HSBC UK offices to centralised databases. A range of collateral recognition approaches are applied to IRB capital treatments:

- Unfunded protection, which includes credit derivatives and guarantees, is reflected through adjustment or determination of PD or LGD. Under the IRB advanced approach, recognition may be through PD or LGD.
- Eligible financial collateral under the IRB advanced approach is recognised in LGD models. Under the IRB foundation approach, regulatory LGD values are adjusted. The adjustment to LGD is based on the degree to which the exposure value would be adjusted notionally if the financial collateral comprehensive method were applied.
- For all other types of collateral, including real estate, the LGD for exposures under the IRB advanced approach is calculated by models. For IRB foundation, base regulatory LGDs are adjusted depending on the value and type of the asset taken as collateral relative to the exposure. The types of eligible mitigants recognised under the IRB foundation approach are more limited.

Table 20 sets out the exposure value and the effective value of credit risk mitigation expressed as the exposure value covered by the credit risk mitigants.

Recognition of risk mitigation under the standardised approach

Where credit risk mitigation is available in the form of an eligible guarantee, non-financial collateral or a credit derivative, the exposure is divided into covered and uncovered portions. The covered portion is determined after applying an appropriate 'haircut' for currency and maturity mismatches (and for omission of restructuring clauses in credit derivatives, where appropriate) to the amount of the protection provided and attracts the risk weight of the protection provider. The uncovered portion attracts the risk weight of the obligor.

The value of exposure fully or partially covered by eligible financial collateral is adjusted under the financial collateral comprehensive method using supervisory volatility adjustments (including those for currency mismatch) which are determined by the specific type of collateral (and its credit quality, in the case of eligible debt securities) and its liquidation period. The adjusted exposure value is subject to the risk weight of the obligor.

Table 20: Credit risk mitigation techniques – overview (CR3)

		Exposures unsecured: carrying amount	Exposures secured: carrying amount	*of which: Exposures secured by collateral*	*of which: Exposures secured by financial guarantees*	*of which: Exposures secured by credit derivatives*[1]
		£m	£m	*£m*	*£m*	*£m*
1	Loans and advances	**145,109**	**167,070**	***159,855***	***7,215***	**–**
2	Debt securities	**15,788**	**304**	**–**	***304***	
3	**Total at 31 Dec 2022**	**160,897**	**167,374**	***159,855***	***7,519***	**–**
4	*– of which: non-performing exposures*	***1,164***	***2,659***	***1,398***	**1,261**	**–**
5	*– of which: defaulted*	***1,164***	***2,659***	***1,398***	**1,261**	**–**
1	Loans and advances	155,915	161,545	*152,697*	*8,848*	–
2	Debt securities	14,600	–	–	–	–
3	Total at 31 Dec 2021[2]	170,515	161,545	*152,697*	*8,848*	–
4	*– of which: non-performing exposures*	*952*	*2,228*	*1,691*	536	–
5	*– of which: defaulted*	*952*	*2,228*	*1,691*	536	–

1 HSBC UK does not have any exposures secured by credit derivatives.
2 Prior period balances have been restated to include reverse repos and settlement balances to align to recent CRR II changes.

Table 21: Standardised approach – credit conversion factor ('CCF') and credit risk mitigation ('CRM') effects (CR4)

		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWAs and RWA density	
		On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWAs	RWA density
		£m	£m	£m	£m	£m	%
	Asset classes[1]						
1	Central governments or central banks	**108,124**	**1**	**115,470**	**25**	**724**	**1**
2	Regional governments or local authorities	**15**	**—**	**210**	**—**	**—**	**—**
3	Public sector entities	**514**	**—**	**—**	**—**	**—**	**—**
5	International organisations	**132**	**—**	**132**	**—**	**—**	**—**
6	Institutions	**843**	**—**	**843**	**—**	**366**	**44**
7	Corporates	**968**	**179**	**910**	**86**	**894**	**90**
8	Retail	**2,678**	**533**	**2,466**	**20**	**1,705**	**69**
9	Secured by mortgages on immovable property	**197**	**—**	**197**	**—**	**76**	**38**
10	Exposures in default	**84**	**3**	**67**	**—**	**96**	**141**
15	Equity	**36**	**—**	**36**	**—**	**36**	**100**
16	Other items	**374**	**—**	**374**	**—**	**92**	**25**
17	**Total at 31 Dec 2022**	**113,966**	**716**	**120,707**	**132**	**3,990**	**3**
1	Central governments or central banks	119,954	6	128,723	39	529	—
2	Regional governments or local authorities	—	—	88	—	—	—
3	Public sector entities	428	—	428	—	—	—
6	Institutions	938	—	938	—	305	33
7	Corporates	402	98	349	18	270	74
8	Retail	1,437	620	1,437	37	921	62
9	Secured by mortgages on immovable property	241	—	241	—	91	38
10	Exposures in default	13	1	13	—	16	123
11	Exposures associated with particularly high risk	9	—	9	—	14	156
15	Equity	15	—	15	—	15	100
16	Other items	321	—	321	—	82	26
17	Total at 31 Dec 2021	123,758	725	132,562	94	2,243	2

1 Securitisation positions are not included in this table.

Table 22: IRB approach – Disclosure of the extent of the use of CRM techniques (CR7-A)

			Funded credit Protection ('FCP')								
				Part of exposures covered by Other eligible collateral (%)				Part of exposures covered by Other funded credit protection (%)			
		Total exposures	Part of exposures covered by financial collateral	Total	Part of exposures covered by Immovable property collateral	Part of exposures covered by receivables	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
AIRB		£m	%	%	%	%	%	%	%	%	%
1	Central governments and central banks	**5,803**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
2	Institutions	**2,006**	**2.00**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
3	Corporates	**10,994**	**2.30**	**3.10**	**3.00**	**—**	**0.10**	**—**	**—**	**—**	**—**
3.1	*– of which: Corporates – SMEs[1]*	***2***	***—***	***17.80***	***17.80***	**—**	**—**	**—**	**—**	**—**	**—**
3.2	*Corporates – specialised lending*	***10,013***	***—***	***—***	***—***	**—**	**—**	**—**	**—**	**—**	**—**
3.3	*Corporates – other*	***979***	***25.70***	***35.30***	***34.10***	**—**	***1.20***	**—**	**—**	**—**	**—**
4	Retail	**178,476**	**0.50**	**79.00**	**79.00**	**—**	**—**	**—**	**—**	**—**	**—**
4.1	*– of which: Retail – immovable property SMEs[1]*	***2***	***—***	***84.10***	***84.10***	**—**	**—**	**—**	**—**	**—**	**—**
4.2	*Retail – immovable property non-SMEs*	***141,157***	***—***	***99.80***	***99.80***	**—**	**—**	**—**	**—**	**—**	**—**
4.3	*Retail – qualifying revolving*	***24,468***	***—***	***—***	***—***	**—**	**—**	**—**	**—**	**—**	**—**
4.4	*Retail – other SMEs[1]*	***6,962***	***—***	***—***	***—***	**—**	**—**	**—**	**—**	**—**	**—**
4.5	*Retail – other non-SMEs*	***5,887***	***13.10***	***—***	***—***	**—**	**—**	**—**	**—**	**—**	**—**
5	**Total at 31 Dec 2022**	**197,278**	**0.60**	**71.60**	**71.60**	**—**	**—**	**—**	**—**	**—**	**—**
FIRB											
3	Corporates[1]	**62,623**	**8.40**	**33.10**	**23.20**	**7.10**	**2.90**	**—**	**—**	**—**	**—**
3.1	*– of which: Corporates – SMEs[1]*	***11,084***	***0.30***	***62.60***	***45.90***	***12.10***	***4.60***	**—**	**—**	**—**	**—**
3.3	*Corporates – other*	***51,539***	***10.10***	***26.80***	***18.30***	***6.00***	***2.50***	**—**	**—**	**—**	**—**
4	**Total at 31 Dec 2022**	**62,623**	**8.40**	**33.10**	**23.20**	**7.10**	**2.90**	**—**	**—**	**—**	**—**

1 Reporting process improvements resulted in a reduction in RWA benefits taken on Small and Medium sized enterprises ('SMEs'). The impact of these changes is reflected in the reported RWAs but not yet in the classification of the exposures as SMEs.

Table 22: IRB approach – Disclosure of the extent of the use of CRM techniques (CR7-A) (continued)

		Unfunded credit Protection		Credit risk mitigation methods in the calculation of RWAs	
		Part of exposures covered by guarantees	Part of exposures covered by credit derivatives	RWA post-All CRM assigned to the obligor exposure class	RWA with substitution effects
AIRB		%	%	£m	£m
1	Central governments and central banks	0.00	–	700	700
2	Institutions	0.00	–	323	323
3	Corporates	2.40	–	6,383	6,383
3.1	– *of which:* *Corporates – SMEs*[1]	*0.00*	–	*1*	*1*
3.2	*Corporates – specialised lending*	*0.00*	–	*5,963*	*5,963*
3.3	*Corporates – other*	*27.40*	–	*419*	*419*
4	Retail	0.00	–	26,476	26,476
4.1	– *of which:* *Retail – immovable property SMEs*[1]	*1.10*	–	*4*	*4*
4.2	*Retail – immovable property non-SMEs*	*0.00*	–	*14,778*	*14,778*
4.3	*Retail – qualifying revolving*	*0.00*	–	*5,727*	*5,727*
4.4	*Retail – other SMEs*[1]	*0.00*	–	*1,949*	*1,949*
4.5	*Retail – other non-SMEs*	*0.00*	–	*4,018*	*4,018*
5	**Total at 31 Dec 2022**	0.10	–	33,882	33,882
FIRB					
3	Corporates	–	–	41,269	41,269
3.1	– *of which:* *Corporates – SMEs*[1]	–	–	*6,337*	*6,337*
3.2	*Corporates – specialised lending*	–	–	–	–
3.3	*Corporates – other*	–	–	*34,932*	*34,933*
4	**Total at 31 Dec 2022**	–	–	41,269	41,269

1 *Reporting process improvements resulted in a reduction in RWA benefits taken on Small and Medium sized enterprises ('SME's). The impact of these changes is reflected in the reported RWAs but not yet in the classification of the exposures as SMEs.*

Standardised approach

Qualitative disclosures on banks' use of external credit ratings under the standardised approach for credit risk

The standardised approach is applied where exposures do not qualify for use of an IRB approach and/or where an exemption from IRB has been granted. The standardised approach requires banks to use risk assessments prepared by external credit assessment institutions ('ECAIs') or Export Credit Agencies ('ECAs') to determine the risk weightings applied to rated counterparties.

ECAI risk assessments are used within the Group as part of the determination of risk weightings for the following classes of exposure:

- central governments and central banks;
- regional governments and local authorities;
- institutions;
- corporates;
- securitisation positions; and
- short-term claims on institutions and corporates.

We have nominated three ECAIs for this purpose – Moody's Investor Service ('Moody's'), Standard and Poor's rating agency ('S&P') and Fitch Ratings ('Fitch'). In addition to this, we use DBRS ratings specifically for securitisation positions. We have not nominated any ECAs.

Data files of external ratings from the nominated ECAIs are matched with customer records in our centralised credit database.

When calculating the risk-weighted value of an exposure using ECAI risk assessments, risk systems identify the customer in question and look up the available ratings in the central database according to the rating selection rules. The systems then apply the prescribed credit quality step mapping to derive from the rating the relevant risk weight.

All other exposure classes are assigned risk weightings as prescribed in the PRA's Rulebook.

Credit quality step	Moody's assessment	S&P's assessment	Fitch's assessment	DBRS assessment
1	Aaa to Aa3	AAA to AA–	AAA to AA–	AAA to AAL
2	A1 to A3	A+ to A–	A+ to A–	AH to AL
3	Baa1 to Baa3	BBB–	BBB–	BBBL
4	Ba1 to Ba3	BB+ to BB–	BB+ to BB–	BBH to BBL
5	B1 to B3	B+ to B–	B+ to B–	BH to BL
6	Caa1 and below	CCC+ and below	CCC+ and below	CCCH and below

Exposures to, or guaranteed by, central governments and central banks of the European Economic Area ('EEA') states are risk-weighted at 0% provided that they are denominated and funded in local currency or qualify for that weight by virtue of their external rating.

The following table provides further details of the risk weighting of our standardised non-counterparty credit exposures. For information about the risk weighting of our standardised counterparty credit risk exposures, refer to Table 33.

Table 23: Standardised approach – exposures by asset classes and risk weights (CR5)

	Risk weight ('RW%')	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others	Total credit exposure amount (post-CCF and CRM)	*of which: un-rated*
		£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	*£m*
	Asset classes[1]																	
1	Central governments or central banks	115,205	—	—	—	—	—	—	—	—	—	—	290	—	—	—	115,495	*290*
2	Regional governments or local authorities	210	—	—	—	—	—	—	—	—	—	—	—	—	—	—	210	—
5	International organisations	132	—	—	—	—	—	—	—	—	—	—	—	—	—	—	132	—
6	Institutions	—	—	—	—	194	—	642	—	—	6	—	—	—	—	—	843	*6*
7	Corporates	—	—	—	—	41	—	148	—	—	797	11	—	—	—	—	996	*797*
8	Retail exposures	—	—	—	—	—	—	—	—	2,487	—	—	—	—	—	—	2,487	*2,487*
9	Secured by mortgages on immovable property	—	—	—	—	—	187	—	—	—	10	—	—	—	—	—	197	*197*
10	Exposures in default	—	—	—	—	—	—	—	—	—	12	56	—	—	—	—	68	*68*
15	Equity exposures	—	—	—	—	—	—	—	—	—	36	—	—	—	—	—	36	*36*
16	Other items	—	—	—	—	353	—	—	—	—	21	—	—	—	—	—	374	*374*
17	**Total at 31 Dec 2022**	115,547	—	—	—	588	187	790	—	2,487	883	66	290	—	—	—	120,839	*4,255*
	Asset classes[1]																	
1	Central governments or central banks	128,550	—	—	—	—	—	—	—	—	—	—	211	—	—	—	128,762	*212*
2	Regional governments or local authorities	88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	88	—
3	Public sector entities	428	—	—	—	—	—	—	—	—	—	—	—	—	—	—	428	*328*
6	Institutions	—	—	—	—	549	—	387	—	—	1	—	—	—	—	—	938	*938*
7	Corporates	—	—	—	—	119	—	4	—	—	244	—	—	—	—	—	367	*249*
8	Retail	—	—	—	—	—	—	—	—	1,474	—	—	—	—	—	—	1,474	*1,474*
9	Secured by mortgages on immovable property	—	—	—	—	—	231	—	—	—	11	—	—	—	—	—	241	*241*
10	Exposures in default	—	—	—	—	—	—	—	—	—	6	7	—	—	—	—	13	*13*
11	Exposures associated with particularly high risk	—	—	—	—	—	—	—	—	—	—	9	—	—	—	—	9	*9*
15	Equity	—	—	—	—	—	—	—	—	—	15	—	—	—	—	—	15	*15*
16	Other items	—	—	—	—	299	—	—	—	—	23	—	—	—	—	—	321	*20*
17	Total at 31 Dec 2021	129,066	—	—	—	967	231	391	—	1,474	300	16	211	—	—	—	132,656	*3,499*

1 Securitisation positions are not included in this table.

Application of the IRB approach

Our IRB credit risk rating framework incorporates obligor propensity to default within the next 12 months expressed in PD, and loss severity in the event of default expressed in EAD and LGD. These measures are used to calculate RWAs and EL. They are also used with other inputs to inform rating assessments for the purposes of credit approval and many other purposes meeting the requirements of the 'use test', for example:

- credit approval and monitoring: IRB models are used in the assessment of customer and portfolio risk in lending decisions;
- risk appetite: IRB measures are an important element in identifying risk exposure at customer, sector and portfolio level;
- pricing: IRB parameters are used in pricing tools for new transactions and reviews; and
- economic capital and portfolio management: IRB parameters are used in the economic capital model that has been implemented across HSBC.

Roll-out of the IRB approach

With the PRA's permission, we have adopted the advanced IRB approach for the majority of our retail business, while our wholesale business mainly uses the Foundation IRB approach.

EL and credit risk adjustments

We analyse credit loss experience in order to assess the performance of our risk measurement and control processes, and to inform our understanding of the implications for risk and capital management of dynamic changes occurring in the risk profile of our exposures.

When comparing regulatory EL with measures of ECL under IFRS 9, differences in the definition and scope of each should be considered. These can give rise to material differences in the way economic, business and methodological drivers are reflected quantitatively in the accounting and regulatory measures of loss.

In general, HSBC UK calculates ECL using three main components namely probability of default, loss given default, and exposure at default.

ECLs include impairment allowances (or provisions, against commitments and guarantees) calculated for a 12-month period ('12-month ECL'), for the remaining life of an exposure ('lifetime ECL'), and on financial assets that are considered to be in default or otherwise credit impaired. ECLs resulting from default events that are possible:

- within the next 12 months are recognised for financial instruments in stage 1; and
- beyond 12 months are recognised for financial instruments in stages 2 and 3.

An assessment of whether credit risk has increased significantly since initial recognition is performed at each reporting period by considering the change in the risk of default occurring over the remaining life of the financial instrument.

Unless identified at an earlier stage, all financial assets are deemed to have suffered a significant increase in credit risk when 30 days past due.

Change in ECL and other credit impairment charges represents the movement in the ECL during the year including write-offs, recoveries and foreign exchange. EL represents the one-year regulatory expected loss accumulated in the book at the balance sheet date.

Credit risk adjustments ('CRAs') encompass the impairment allowances or provisions balances, and changes in ECL and other credit impairment charges.

HSBC leverages the Basel IRB framework where possible, with recalibration to meet the differing IFRS 9 requirements as follows:

Model	Regulatory capital	IFRS 9
PD	• Through the cycle (represents long-run average PD throughout a full economic cycle) • The definition of default includes a backstop of 90+ days past due, although this has been modified to 180+ days past due for some portfolios	• Point in time (based on current conditions, adjusted to take into account estimates of future conditions that will impact PD) • Default backstop of 90+ days past due for all portfolios
EAD	• Cannot be lower than current balance	• Amortisation captured for term products
LGD	• Downturn LGD (consistent with losses we would expect to suffer during a severe but plausible economic downturn) • Regulatory floors may apply to mitigate risk of underestimating downturn LGD due to lack of historical data • Discounted using cost of capital • All collection costs included	• Expected LGD (based on estimate of loss given default including the expected impact of future economic conditions such as changes in value of collateral) • No floors • Discounted using the original effective interest rate of the loan • Only costs associated with obtaining/selling collateral included
Other		• Discounted back from point of default to balance sheet date

Credit risk

Additional tables

Table 24: Specialised lending and equity exposures under the simple risk-weight approach (CR10)

Specialised lending: Income-producing real estate and high volatility commercial real estate (Slotting approach)							
Regulatory categories	**Remaining maturity**	**On-balance sheet amount**	**Off-balance sheet amount**	**Risk weight**	**Exposure amount**	**RWAs**	**Expected loss**
		£m	**£m**	**%**	**£m**	**£m**	**£m**
Category 1	Less than 2.5 years	**4,035**	**639**	**50**	**4,436**	**2,218**	**–**
	Equal to or more than 2.5 years	**1,843**	**358**	**70**	**2,080**	**1,453**	**8**
Category 2	Less than 2.5 years	**1,359**	**130**	**70**	**1,447**	**1,013**	**6**
	Equal to or more than 2.5 years	**549**	**182**	**90**	**664**	**591**	**5**
Category 3	Less than 2.5 years	**118**	**–**	**115**	**118**	**135**	**3**
	Equal to or more than 2.5 years	**24**	**3**	**115**	**22**	**25**	**1**
Category 4	Less than 2.5 years	**7**	**–**	**250**	**7**	**16**	**1**
	Equal to or more than 2.5 years	**7**	**–**	**250**	**7**	**17**	**1**
Category 5	Less than 2.5 years	**264**	**–**	**–**	**265**	**–**	**132**
	Equal to or more than 2.5 years	**174**	**9**	**–**	**176**	**–**	**88**
	Less than 2.5 years	**5,783**	**770**		**6,273**	**3,383**	**142**
Total at 31 Dec 2022	Equal to or more than 2.5 years	**2,597**	**551**		**2,949**	**2,086**	**103**
Category 1	Less than 2.5 years	2,919	712	50	3,335	1,609	–
	Equal to or more than 2.5 years	1,915	466	70	2,190	1,549	9
Category 2	Less than 2.5 years	1,888	145	70	1,981	1,361	8
	Equal to or more than 2.5 years	572	145	90	656	592	5
Category 3	Less than 2.5 years	216	3	115	224	253	6
	Equal to or more than 2.5 years	35	1	115	37	43	1
Category 4	Less than 2.5 years	10	–	250	10	26	1
	Equal to or more than 2.5 years	1	–	250	1	3	–
Category 5	Less than 2.5 years	192	10	–	324	–	162
	Equal to or more than 2.5 years	10	–	–	20	–	10
	Less than 2.5 years	5,225	870		5,874	3,249	177
Total at 31 Dec 2021	Equal to or more than 2.5 years	2,533	612		2,904	2,187	25

Table 25: IRB – Credit risk exposures by portfolio and PD range[1] (CR6)

PD scale	On-balance sheet exposures	Off-balance-sheet exposures pre-CCF	Exposure weighted average CCF	Exposure post-CCF and post-CRM	Exposure weighted average PD	Number of obligors[4]	Exposure weighted average LGD (%)	Exposure weighted average maturity (years)	Risk weighted exposure amount after supporting factors[3]	Density of risk weighted exposure amount	Expected loss amount	Value adjustments and provisions[3]
	£m	£m	%	£m	%		%	years	£m	%	£m	£m
AIRB – Central government and central banks												
0.00 to <0.15	**5,803**	**–**	**–**	**5,803**	**0.01**	**58**	**45.0**	**4.00**	**700**	**12.1**	**–**	**–**
– 0.00 to <0.10	***5,803***	**–**	**–**	***5,803***	***0.01***	***58***	***45.0***	***4.00***	***700***	***12.1***	**–**	**–**
Sub-total	**5,803**	**–**	**–**	**5,803**	**0.01**	**58**	**45.0**	**4.00**	**700**	**12.1**	**–**	**–**
AIRB – Institutions												
0.00 to <0.15	**1924**	**107**	**76.0**	**1987**	**0.05**	**402**	**25.5**	**3.0**	**323**	**16.2**	**–**	**2**
– 0.00 to <0.10	***1697***	***67***	***72.0***	***1727***	***0.04***	***307***	***22.1***	***3.2***	***233***	***13.5***	**–**	**–**
– 0.10 to <0.15	***226***	***40***	***84.0***	***260***	***0.13***	***95***	***47.6***	***1.2***	***89***	***34.4***	**–**	***1***
0.15 to <0.25	**–**	**1**	**–**	**–**	**0.22**	**6**	**45.0**	**1.0**	**–**	**38.3**	**–**	**–**
Sub-total	**1924**	**108**	**76.0**	**1987**	**0.05**	**408**	**25.5**	**3.0**	**323**	**16.2**	**–**	**2**
AIRB – Corporate – specialised lending (excluding slotting)[2]												
0.00 to <0.15	**6**	**17**	**57.0**	**15**	**0.13**	**2**	**30.2**	**3.3**	**4**	**23.3**	**–**	**–**
– 0.10 to <0.15	***6***	***17***	***57.0***	***15***	***0.13***	***2***	***30.2***	***3.3***	***4***	***23.3***	**–**	**–**
0.15 to <0.25	**160**	**40**	**57.0**	**183**	**0.22**	**8**	**26.1**	**4.1**	**52**	**28.5**	**–**	**1.0**
0.25 to <0.50	**224**	**68**	**58.0**	**263**	**0.37**	**6**	**33.8**	**4.4**	**149**	**56.4**	**–**	**1.0**
0.50 to <0.75	**104**	**31**	**57.0**	**122**	**0.63**	**9**	**40.4**	**3.3**	**86**	**70.5**	**–**	**–**
0.75 to <2.50	**83**	**189**	**60.0**	**196**	**1.09**	**8**	**36.3**	**4.5**	**204**	**104.1**	**1.0**	**–**
– 0.75 to <1.75	***83***	***189***	***60.0***	***196***	***1.09***	***8***	***36.3***	***4.5***	***204***	***104.1***	***1.0***	**–**
Sub-total	**577**	**345**	**59.0**	**780**	**0.55**	**33**	**33.6**	**4.2**	**494**	**63.4**	**2.0**	**2.0**

Table 25: IRB – Credit risk exposures by portfolio and PD range[1] (CR6) (continued)

PD scale	On-balance sheet exposures $bn	Off-balance-sheet exposures pre-CCF $bn	Exposure weighted average CCF %	Exposure post-CCF and post-CRM $bn	Exposure weighted average PD %	Number of obligors[4]	Exposure weighted average LGD %	Exposure weighted average maturity (years) years	Risk weighted exposure amount after supporting factors[3] $bn	Density of risk weighted exposure amount %	Expected loss amount $bn	Value adjust-ments and provisions[3] $bn
AIRB – Corporate – SME												
0.25 to <0.50	2	–	–	2	0.37	1	47.9	0.9	1	42.9	–	–
Sub-total	2	–	–	2	0.37	1	47.9	0.9	1	42.9	–	–
AIRB – Corporate – Other												
0.00 to <0.15	159	174	1.0	165	0.10	66	14.8	2.2	20	12.2	–	–
– 0.00 to <0.10	*67*	*158*	*1.0*	*67*	*0.05*	*45*	*16.7*	*1.8*	*7*	*10.3*	–	–
– 0.10 to <0.15	*92*	*15*	*10.0*	*98*	*0.13*	*21*	*13.4*	*2.5*	*13*	*13.5*	–	–
0.15 to <0.25	104	1	73.0	105	0.22	24	15.2	3.6	18	17.4	–	–
0.25 to <0.50	125	39	53.0	146	0.36	46	18.8	2.5	43	29.5	–	–
0.50 to <0.75	180	35	4.0	181	0.59	29	11.2	1.9	37	20.3	–	–
0.75 to <2.50	222	65	105.0	286	1.80	1,760	21.9	1.8	163	56.9	1	1
– 0.75 to <1.75	*87*	*24*	*237.0*	*140*	*1.40*	*1,748*	*18.0*	*1.8*	*63*	*45.5*	–	–
– 1.75 to <2.5	*135*	*41*	*29.0*	*147*	*2.18*	*12*	*25.5*	*1.7*	*100*	*67.8*	*1*	–
2.50 to <10.00	70	739	–	70	4.56	29	29.7	1.1	65	91.6	1	–
– 2.5 to <5	*69*	*738*	–	*70*	*4.54*	*25*	*29.4*	*1.1*	*63*	*90.7*	*1*	–
– 5 to <10	*1*	–	–	*1*	*5.84*	*4*	*49.5*	*1.2*	*1*	*167.7*	–	–
10.00 to <100.00	7	–	–	7	16.34	9	13.2	1.0	5	64.4	–	–
– 10 to <20	*6*	–	–	*6*	*10.91*	*6*	*14.6*	*1.0*	*4*	*67.6*	–	–
– 30.00 to <100.00	*2*	–	–	*2*	*36.01*	*3*	*8.3*	*1.0*	*1*	*52.8*	–	–
100.00 (Default)	61	–	–	62	100.00	13	18.4	1.0	68	110.1	7	7
Sub-total	928	1,053	9.0	1,023	7.19	1,976	18.0	2.0	419	40.9	10	8
Wholesale AIRB – Total at 31 Dec 2022	9,234	1,506.0	25.2	9,594.0	0.80	2,476	37.1	3.6	1,937.0	20	12.0	12.0
AIRB – Secured by mortgages on immovable property SME												
10.00 to <100.00	1	1	15.0	1	14.08	43	72.4	–	2	299.6	–	–
– 10 to <20	*1*	*1*	*15.0*	*1*	*14.08*	*43*	*72.4*	–	*2*	*299.6*	–	–
100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	–
Sub-total	1	1	15.0	1	14.08	43	72.4	–	2	299.6	–	–
AIRB – Secured by mortgages on immovable property non-SME												
0.00 to <0.15	104,652	9,528	102.0	116,521	0.07	836,341	13.6	–	7,735	6.6	29	9
– 0.00 to <0.10	*89,988*	*6,582*	*101.0*	*98,510*	*0.05*	*717,635*	*12.8*	–	*5,349*	*5.4*	*19*	*7*
– 0.10 to <0.15	*14,664*	*2,946*	*104.0*	*18,011*	*0.12*	*118,706*	*17.9*	–	*2,386*	*13.2*	*10*	*3*
0.15 to <0.25	9,925	1,898	104.0	12,096	0.20	75,777	16.8	–	2,159	17.8	10	4
0.25 to <0.50	5,595	636	107.0	6,382	0.35	42,368	15.4	–	1,541	24.1	8	4
0.50 to <0.75	1,966	170	107.0	2,187	0.61	12,581	14.1	–	670	30.6	4	3
0.75 to <2.50	1,958	194	103.0	2,190	1.27	12,421	14.7	–	995	45.4	7	7
– 0.75 to <1.75	*1,680*	*161*	*101.0*	*1,870*	*1.12*	*10,263*	*15.7*	–	*848*	*45.4*	*6*	*5*
– 1.75 to <2.5	*278*	*33*	*113.0*	*320*	*2.11*	*2,158*	*9.2*	–	*146*	*45.7*	*1*	*3*
2.50 to <10.00	525	80	114.0	626	4.63	5,058	7.3	–	327	52.3	4	15
– 2.5 to <5	*357*	*54*	*114.0*	*424*	*3.58*	*3,362*	*7.9*	–	*211*	*49.8*	*2*	*7*
– 5 to <10	*169*	*26*	*115.0*	*201*	*6.86*	*1,696*	*6.2*	–	*116*	*57.6*	*2*	*7*
10.00 to <100.00	507	14	109.0	531	28.29	5,227	9.6	–	626	117.8	32	59
– 10 to <20	*227*	*8*	*113.0*	*240*	*15.58*	*2,264*	*10.9*	–	*305*	*127.3*	*8*	*18*
– 20 to <30	*97*	*1*	*127.0*	*100*	*24.51*	*981*	*6.7*	–	*106*	*105.7*	*4*	*12*
– 30.00 to <100.00	*183*	*6*	*101.0*	*192*	*46.14*	*1,982*	*9.5*	–	*215*	*112.2*	*20*	*29*
100.00 (Default)	623	16	20.0	624	100.00	7,789	11.7	–	725	116.2	28	83
Sub-total	125,751	12,537	103.0	141,157	0.69	997,562	13.9	–	14,778	10.5	123	185

Table 25: IRB – Credit risk exposures by portfolio and PD range[1] (CR6) (continued)

PD scale	On-balance sheet expo-sures £m	Off-balance-sheet expo-sures pre-CCF £m	Exposure weighted average CCF %	Exposure post CCF and post-CRM £m	Exposure weighted average PD %	Number of obligors[4]	Exposure weighted average LGD %	Exposure weighted average maturity years	Risk weighted exposure amount after supporting factors[3] £m	Density of risk weighted exposure amount %	Expected loss amount £m	Value adjust-ments and provi-sions[3] £m
AIRB – Qualifying revolving retail exposures												
0.00 to <0.15	2,029	22,021	65.0	16,269	0.05	10,659,512	77.0	–	734	4.5	11	22
– 0.00 to <0.10	1,522	18,927	65.0	13,915	0.04	9,500,989	76.2	–	491	3.5	7	15
– 0.10 to <0.15	507	3,094	59.0	2,355	0.13	1,158,523	81.8	–	242	10.3	4	7
0.15 to <0.25	459	2,458	64.0	2,024	0.22	1,605,945	83.2	–	336	16.6	6	10
0.25 to <0.50	597	1,350	77.0	1,629	0.36	1,339,551	81.9	–	391	24.0	7	16
0.50 to <0.75	534	816	67.0	1,115	0.59	534,542	84.0	–	443	39.8	9	27
0.75 to <2.50	1,310	986	80.0	2,129	1.39	1,122,226	82.6	–	1,554	73.0	42	120
– 0.75 to <1.75	1,079	809	76.0	1,724	1.21	836,122	83.1	–	1,188	68.9	31	97
– 1.75 to <2.5	230	177	95.0	405	2.18	286,104	80.5	–	366	90.4	11	24
2.50 to <10.00	600	316	87.0	894	4.63	584,571	78.9	–	1,277	142.8	47	85
– 2.5 to <5	371	244	77.0	571	3.45	377,447	80.5	–	746	130.6	25	46
– 5 to <10	229	71	118.0	323	6.71	207,124	76.1	–	531	164.3	22	39
10.00 to <100.00	213	47	85.0	268	28.61	158,373	80.1	–	763	284.4	107	52
– 10 to <20	129	29	105.0	166	13.17	93,252	78.3	–	449	270.4	25	24
– 20 to <30	19	3	117.0	29	27.27	29,980	82.6	–	107	367.5	9	–
– 30.00 to <100.00	65	15	37.0	73	64.09	35,141	83.2	–	208	283.1	73	28
100.00 (Default)	123	28	66.0	139	100.00	223,370	65.7	–	229	164.4	77	62
Sub-total	5,863	28,022	66.0	24,468	1.28	16,228,090	78.7	–	5,727	23.4	306	394
AIRB – Other SME												
0.00 to <0.15	1	13	101.0	14	0.12	30,845	93.5	–	3	21.4	–	46
– 0.00 to <0.10	–	3	100.0	3	0.08	6,448	93.9	–	–	16.0	–	46
– 0.10 to <0.15	1	10	101.0	11	0.13	24,397	93.4	–	3	22.8	–	–
0.15 to <0.25	5	22	73.0	19	0.21	28,715	92.4	–	6	31.1	–	–
0.25 to <0.50	11	96	60.0	67	0.39	79,901	94.4	–	32	48.4	–	–
0.50 to <0.75	13	96	66.0	75	0.63	69,450	94.6	–	48	63.1	–	–
0.75 to <2.50	2,226	866	53.0	976	1.61	525,135	83.6	–	834	85.4	16	15
– 0.75 to <1.75	1,533	675	53.0	791	1.50	386,002	83.2	–	649	82.0	11	8
– 1.75 to <2.5	693	191	53.0	184	2.09	139,133	85.7	–	185	100.2	5	7
2.50 to <10.00	1,663	288	52.0	553	5.19	310,360	83.2	–	639	115.6	36	31
– 2.5 to <5	827	180	52.0	293	3.64	171,169	83.8	–	343	117.0	15	10
– 5 to <10	837	108	52.0	260	6.94	139,191	82.7	–	296	114.0	20	21
10.00 to <100.00	1,355	86	52.0	219	22.16	212,352	85.9	–	338	154.1	47	57
– 10 to <20	910	58	48.0	130	13.87	135,061	84.6	–	177	135.6	18	32
– 20 to <30	206	17	56.0	46	24.24	35,091	87.7	–	81	177.2	11	1
– 30.00 to <100.00	239	11	67.0	44	44.74	42,200	88.2	–	81	185.0	19	24
100.00 (Default)	1,113	11	68.0	76	100.00	54,640	68.0	–	50	66.3	59	49
Sub-total	6,388	1,478	55.0	1,998	8.48	1,311,398	84.1	–	1,949	97.5	159	200
AIRB – Other non-SME												
0.00 to <0.15	492	655	61.0	890	0.10	54,366	24.4	–	65	7.3	–	2
– 0.00 to <0.10	215	302	21.0	277	0.04	27,313	26.7	–	17	6.3	–	2
– 0.10 to <0.15	278	353	95.0	612	0.13	27,053	23.4	–	47	7.7	–	–
0.15 to <0.25	542	47	41.0	560	0.20	94,612	77.9	–	188	33.5	1	2
0.25 to <0.50	1,343	134	4.0	1,345	0.37	111,077	74.8	–	649	48.2	4	7
0.50 to <0.75	198	44	5.0	200	0.60	12,741	61.8	–	98	49.0	–	–
0.75 to <2.50	2,098	105	39.0	2,131	1.36	213,708	77.6	–	1,939	91.0	22	30
– 0.75 to <1.75	1,737	93	42.0	1,770	1.20	166,107	76.2	–	1,523	86.1	15	19
– 1.75 to <2.5	362	12	13.0	362	2.13	47,601	84.0	–	416	115.1	6	10
2.50 to <10.00	595	11	93.0	602	4.66	98,119	85.8	–	789	131.0	24	53
– 2.5 to <5	393	11	93.0	401	3.47	68,939	85.5	–	506	126.3	12	29
– 5 to <10	203	–	–	202	7.02	29,180	86.4	–	283	140.2	12	24
10.00 to <100.00	111	1	65.0	110	35.13	17,630	85.2	–	187	169.2	33	31
– 10 to <20	61	1	42.0	61	14.03	9,218	83.4	–	101	166.7	7	11
– 20 to <30	10	–	–	10	25.90	1,793	86.4	–	22	220.2	2	2
– 30.00 to <100.00	40	–	–	39	70.12	6,619	87.7	–	63	159.8	24	18
100.00 (Default)	48	1	63.0	47	100.00	6,038	82.1	–	104	219.9	31	36
Sub-total	5428	997	48.0	5885	2.58	608,291	69.4	–	4018	68.3	115	162
Retail AIRB – Total at 31 Dec 2022	143432	43035	75.9	173510	1.00	22,107,934	25.7	–	26,476	15.3	703	941

Table 25: IRB – Credit risk exposures by portfolio and PD range[1] (CR6) (continued)

PD scale	On-balance sheet expo-sures £m	Off-balance-sheet expo-sures pre-CCF £m	Exposure weighted average CCF %	Exposure post CCF and post-CRM £m	Exposure weighted average PD %	Number of obligors[4]	Exposure weighted average LGD %	Exposure weighted average maturity years	Risk weighted exposure amount after supporting factors[3] £m	Density of risk weighted exposure amount %	Expected loss amount £m	Value adjust-ments and provi-sions[3] £m
FIRB – Corporate – SME												
0.00 to <0.15	622	231	19.0	652	0.13	1,392	40.7	2.6	196	30	–	1
– 0.00 to <0.10	*3*	*–*	*–*	*3*	*0.07*	*2*	*45.0*	*1.5*	*–*	*17*	*–*	*–*
– 0.10 to <0.15	*619*	*231*	*19.0*	*649*	*0.13*	*1,390*	*40.7*	*2.6*	*196*	*30*	*–*	*1*
0.15 to <0.25	1,608	586	16.0	1,639	0.22	2,573	38.8	2.3	575	35	2	3
0.25 to <0.50	1,903	491	11.0	1,885	0.37	2,661	38.0	2.7	900	48	4	5
0.50 to <0.75	1,608	325	21.0	1,604	0.63	1,901	38.1	2.6	969	60	5	7
0.75 to <2.50	3,117	632	21.0	3,036	1.32	4,222	38.3	2.4	2,300	76	21	14
– 0.75 to <1.75	*2,650*	*544*	*22.0*	*2,606*	*1.17*	*3,597*	*38.3*	*2.4*	*1,920*	*74*	*16*	*12*
– 1.75 to <2.5	*468*	*88*	*17.0*	*429*	*2.25*	*625*	*38.4*	*2.4*	*380*	*89*	*5*	*2*
2.50 to <10.00	956	164	16.0	872	4.83	1,416	38.2	2.4	960	110	22	16
– 2.5 to <5	*529*	*94*	*19.0*	*500*	*3.56*	*826*	*38.2*	*2.7*	*507*	*101*	*9*	*7*
– 5 to <10	*427*	*70*	*12.0*	*372*	*6.54*	*590*	*38.2*	*2.1*	*454*	*122*	*12*	*9*
10.00 to <100.00	313	41	18.0	279	14.60	409	38.4	1.9	437	157	21	12
– 10 to <20	*289*	*39*	*18.0*	*258*	*12.70*	*357*	*38.3*	*1.9*	*397*	*154*	*17*	*11*
– 30.00 to <100.00	*24*	*2*	*11.0*	*21*	*38.02*	*52*	*39.7*	*2.1*	*40*	*190*	*4*	*1*
100.00 (Default)	530	27	15.0	473	100.00	348	38.7	2.2	–	–	183	78
Sub-total	**10,658**	**2,497**	**17.0**	**10,439**	**5.92**	**14,922**	**38.5**	**2.5**	**6,337**	**61**	**257**	**137**
FIRB – Corporate – Other												
0.00 to <0.15	5,114	6,390	64.0	9,608	0.09	4,401	36.1	2.1	2,371	25	4	4
– 0.00 to <0.10	*2,438*	*3,693*	*68.0*	*5,245*	*0.06*	*920*	*35.4*	*2.0*	*980*	*19*	*1*	*1*
– 0.10 to <0.15	*2,676*	*2,698*	*58.0*	*4,363*	*0.13*	*3,481*	*37.1*	*2.3*	*1,390*	*32*	*3*	*2*
0.15 to <0.25	5,671	4,327	53.0	7,884	0.22	3,633	37.4	2.2	3,317	42	8	14
0.25 to <0.50	4,640	2,510	46.0	5,958	0.37	3,338	39.4	1.9	3,247	55	11	16
0.50 to <0.75	4,455	2,273	44.0	5,539	0.63	2,652	33.8	1.7	3,287	59	14	14
0.75 to <2.50	12,291	5,853	47.0	14,172	1.48	31,115	38.6	2.1	14,054	99	98	81
– 0.75 to <1.75	*9,304*	*4,594*	*45.0*	*10,798*	*1.24*	*28,801*	*38.8*	*2.1*	*10,287*	*95*	*63*	*57*
– 1.75 to <2.5	*2,986*	*1,259*	*55.0*	*3,374*	*2.25*	*2,314*	*37.8*	*2.2*	*3,767*	*112*	*35*	*24*
2.50 to <10.00	4,578	2,123	51.0	5,213	4.30	3,782	38.4	2.0	6,898	132	104	73
– 2.5 to <5	*3,265*	*1,742*	*52.0*	*3,797*	*3.57*	*3,016*	*37.8*	*2.2*	*4,769*	*126*	*62*	*38*
– 5 to <10	*1,313*	*381*	*46.0*	*1,415*	*6.25*	*766*	*40.0*	*1.6*	*2,129*	*150*	*42*	*35*
10.00 to <100.00	988	130	45.0	998	12.24	602	35.1	1.5	1,758	176	55	44
– 10 to <20	*965*	*119*	*48.0*	*974*	*11.06*	*539*	*35.1*	*1.5*	*1,724*	*177*	*49*	*43*
– 30.00 to <100.00	*24*	*10*	*11.0*	*24*	*60.29*	*63*	*35.8*	*1.1*	*35*	*145*	*6*	*1*
100.00 (Default)	1,444	172	47.0	1,392	100.00	1,444	40.8	2.0	–	–	577	342
Sub-total	**39,180**	**23,777**	**53.0**	**50,762**	**4.00**	**50,967**	**37.5**	**2.0**	**34,933**	**69**	**870**	**588**
FIRB – Total at 31 Dec 2022	**49,838**	**26,274**	**49.0**	**61,201**	**4.33**	**65,781**	**37.6**	**2.1**	**41,269**	**67**	**1,127**	**725**

Table 25: IRB – Credit risk exposures by portfolio and PD range[1] (CR6) (continued)

PD scale	On-balance sheet exposures	Off-balance-sheet exposures pre-CCF	Exposure weighted average CCF	Exposure post-CCF and post-CRM	Exposure weighted average PD	Number of obligors	Exposure weighted average LGD	Exposure weighted average maturity (years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount	Expected loss amount	Value adjust-ments and provisions
	£m	£m	%	£m	%		%	years	£m	%	£m	£m
AIRB – Central government and central banks												
0.00 to <0.15	6,451	—	31.8	6,451	—	76	45.0	3.42	698	10.8	—	—
Sub-total	6,451	—	31.8	6,451	—	76	45.0	3.42	698	10.8	—	—
AIRB – Institutions												
0.00 to <0.15	1,105	231	43.48	1,118	0.1	0	27.00	2.80	200	17.9	0	2
0.50 to <0.75	10	10	56.97	2	0.6	0	45.00	1.81	2	83.8	0	0
2.50 to <10.00	0	6	0.00	0	3.3	0	45.00	1.00	0	117.0	0	0
Sub-total	1,115	247	42.64	1,120	0.1	0	27.00	2.80	202	18.0	0	2
AIRB – Corporate – specialised lending (excluding slotting)[2]												
0.00 to <0.15	5	12	57.0	12	0.1	1	18.0	2.24	1	10.3	—	—
0.15 to <0.25	108	75	43.7	141	0.2	11	28.0	3.96	41	28.6	1	1
0.25 to <0.50	107	82	57.0	154	0.4	3	41.0	3.79	99	64.3	—	—
0.50 to <0.75	89	46	57.0	115	0.6	10	41.0	4.05	91	79.5	—	—
0.75 to <2.50	75	37	57.0	96	1.3	5	23.0	4.59	68	70.3	—	—
Sub-total	384	252	53.0	518	0.6	30	34.0	4.01	300	57.8	1	1
AIRB – Corporate – SME												
0.00 to <0.15	—	—	—	—	0.1	—	37	1.0	—	12.8	—	—
0.15 to <0.25	2	2	21.0	2	0.2	25	15	1.6	—	7.0	—	—
0.25 to <0.50	—	—	—	—	0.4	—	45	1.0	—	1,484.1	—	—
0.50 to <0.75	—	—	45.4	—	0.6	—	45	1.0	—	37.5	—	—
0.75 to <2.50	—	—	57.0	—	0.9	6	36	4.1	—	59.6	—	—
2.50 to <10.00	—	—	—	—	3.7	—	45	1.0	—	72.5	—	—
Sub-total	2	2	22.3	2	0.3	25	17	1.9	—	15.9	—	—
AIRB – Corporate – Other												
0.00 to <0.15	178	130	51.1	257	0.1	93	15	2.0	35	13.8	—	—
0.15 to <0.25	135	18	45.1	142	0.2	174	17	1.3	22	15.1	—	—
0.25 to <0.50	128	18	76.4	143	0.4	122	20	2.0	41	28.4	—	—
0.50 to <0.75	78	1	44.9	83	0.6	101	21	1.6	27	33.1	—	—
0.75 to <2.50	366	34	110.3	385	1.8	21,535	20	1.5	178	46.6	1	—
2.50 to <10.00	62	638	—	62	3.9	57	17	1.4	31	49.8	—	—
10.00 to <100.00	11	—	566.7	11	17.9	20	20	1.0	10	90.7	—	—
100.00 (Default)	72	—	856.3	72	100.0	18	21	1.0	129	179.2	7	6
Sub-total	1,030	839	14.9	1,155	7.3	22,127	19	1.6	473	41.0	8	6
Wholesale AIRB – Total at 31 Dec 2021	8,982	1,340	27.1	9,246	1.0	22,771	39	3.0	1,673	18.1	9	9
AIRB – Secured by mortgages on immovable property SME												
0.75 to <2.50	—	—	15.0	—	2.0	—	96.0	—	—	128.0	—	—
2.50 to <10.00	1	—	—	1	5.0	17	78.0	—	2	188.0	—	—
10.00 to <100.00	3	2	11.0	3	17.0	38	73.0	—	8	318.0	—	—
100.00 (Default)	7	—	85.0	9	100.0	126	63.0	—	13	145.0	5	1
Sub-total	11	2	27.0	13	74.0	181	67.0	—	23	185.0	5	1

Table 25: IRB – Credit risk exposures by portfolio and PD range[1] (CR6) (continued)

PD scale	On-balance sheet exposures	Off-balance-sheet exposures pre-CCF	Exposure weighted average CCF	Exposure post-CCF and post-CRM	Exposure weighted average PD	Number of obligors	Exposure weighted average LGD	Exposure weighted average maturity (years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount	Expected loss amount	Value adjust-ments and provisions
	£m	£m	%	£m	%		%	years	£m	%	£m	£m
AIRB – Secured by mortgages on immovable property non-SME												
0.00 to <0.15	97,645	4,586	104.0	105,671	—	571,617	15.0	—	3,267	3.0	12	13
0.15 to <0.25	9,264	1,317	104.0	10,911	—	59,021	17.0	—	908	8.0	4	4
0.25 to <0.50	5,342	503	109.0	6,037	—	32,657	17.0	—	791	13.0	5	5
0.50 to <0.75	2,068	112	112.0	2,248	1.0	12,159	15.0	—	374	17.0	3	3
0.75 to <2.50	2,112	208	94.0	2,358	1.0	12,754	16.0	—	628	27.0	5	9
2.50 to <10.00	608	85	113.0	714	5.0	3,864	8.0	—	267	37.0	4	9
10.00 to <100.00	523	8	118.0	546	29.0	2,952	10.0	—	315	58.0	16	18
100.00 (Default)	652	17	22.0	656	100.0	3,550	13.0	—	862	131.0	35	91
Sub-total	118,214	6,836	104.0	129,141	1.0	698,575	15.0	—	7,412	6.0	84	152
AIRB – Qualifying revolving retail exposures												
0.00 to <0.15	2,380	24,010	60.0	16,793	—	8,483,386	78.0	—	659	4.0	10	17
0.15 to <0.25	409	2,393	69.0	2,055	—	1,038,000	83.0	—	275	13.0	5	6
0.25 to <0.50	621	2,886	57.0	2,220	—	1,121,564	84.0	—	461	21.0	8	10
0.50 to <0.75	747	1,187	58.0	1,442	1.0	728,436	85.0	—	437	30.0	9	18
0.75 to <2.50	1,313	1,019	77.0	2,120	1.0	1,071,160	83.0	—	1,166	55.0	32	81
2.50 to <10.00	652	293	107.0	993	5.0	501,520	81.0	—	1,151	116.0	42	71
10.00 to <100.00	193	44	99.0	253	30.00	127,684	79.0	—	552	218.0	75	48
100.00 (Default)	148	27	63.0	163	100.00	82,489	82.0	—	394	241.0	103	94
Sub-total	6,463	31,859	61.0	26,039	1.00	13,154,238	80.0	—	5,095	20.0	284	345
AIRB – Other SME												
0.00 to <0.15	3	55	68.0	40	—	15,084	95.0	—	8	19.0	—	29
0.15 to <0.25	6	86	49.0	47	—	17,638	95.0	—	15	32.0	—	—
0.25 to <0.50	19	203	62.0	146	—	54,347	95.0	—	69	47.0	1	—
0.50 to <0.75	18	124	69.0	103	1.0	38,512	94.0	—	64	62.0	1	—
0.75 to <2.50	3,235	1,080	45.0	948	2.0	352,878	84.0	—	858	91.0	15	14
2.50 to <10.00	2,058	350	47.0	465	5.0	173,513	83.0	—	663	143.0	34	23
10.00 to <100.00	1,538	132	44.0	137	22.0	51,051	88.0	—	238	174.0	33	27
100.00 (Default)	480	18	21.0	73	100.0	27,383	72.0	—	37	51.0	62	48
Sub-total	7,357	2,048	50.0	1,959	7.0	730,407	85.0	—	1,952	100.0	146	141

Table 25: IRB – Credit risk exposures by portfolio and PD range[1] (CR6) (continued)

PD scale	On-balance sheet exposures £m	Off-balance-sheet exposures pre-CCF £m	Exposure weighted average CCF %	Exposure post-CCF and post-CRM £m	Exposure weighted average PD %	Number of obligors	Exposure weighted average LGD %	Exposure weighted average maturity (years) years	Risk weighted exposure amount after supporting factors £m	Density of risk weighted exposure amount %	Expected loss amount £m	Value adjust-ments and provisions £m
AIRB – Other non-SME												
0.00 to <0.15	438	635	58.0	806	—	91,615	15.0	—	29	4.0	—	—
0.15 to <0.25	1,103	39	57.0	1,123	—	127,665	79.0	—	425	38.0	2	2
0.25 to <0.50	500	39	10.0	504	—	57,324	75.0	—	238	47.0	1	1
0.50 to <0.75	954	37	5.0	954	1.0	108,428	84.0	—	655	69.0	5	5
0.75 to <2.50	2,133	53	8.0	2,133	1.0	242,226	80.0	—	1,988	93.0	23	22
2.50 to <10.00	744	13	88.0	752	5.0	85,414	87.0	—	978	130.0	29	45
10.00 to <100.00	141	1	93.0	140	34.0	15,965	85.0	—	239	170.0	39	24
100.00 (Default)	93	1	56.0	90	100.0	10,248	82.0	—	189	209.0	55	62
Sub-total	6,106	818	50.0	6,502	3.0	738,885	73.0	—	4,741	73.0	154	161
Retail AIRB – Total at 31 Dec 2021	138,151	41,563	68	163,654	1.0	15,322,286	29	0	19,223	12.0	673	800
FIRB – Corporate – SME												
0.00 to <0.15	564	247	25.3	599	0.1	1,271	40.0	2.7	163	27	—	—
0.15 to <0.25	1,544	534	18.1	1,560	0.2	2,593	39.0	2.4	505	32	2	1
0.25 to <0.50	1,760	526	21.1	1,744	0.4	2,861	38.4	2.5	717	41	3	2
0.50 to <0.75	1,516	386	22.7	1,486	0.6	2,257	38.0	2.8	831	56	5	2
0.75 to <2.50	3,389	800	29.4	3,153	1.4	5,686	38.4	2.5	2,289	73	24	14
2.50 to <10.00	1,158	240	25.3	938	4.7	2,276	38.5	2.5	995	106	25	32
10.00 to <100.00	380	78	49.6	339	18.0	734	38.4	2.3	555	164	34	23
Sub-total	10,311	2,810	24.6	9,819	1.7	17,678	38.5	2.5	6,055	62	93	74
FIRB – Corporate – Other												
0.00 to <0.15	4,132	6,340	65.0	8,632	0.1	3,409	39.0	2.1	2,255	26	4	2
0.15 to <0.25	4,877	3,553	50.7	6,664	0.2	3,334	36.2	1.9	2,608	39	6	29
0.25 to <0.50	3,654	2,662	45.5	4,892	0.4	2,891	40.0	2.1	2,910	59	9	4
0.50 to <0.75	3,646	2,207	46.6	4,537	0.6	2,731	36.5	1.9	3,100	68	13	5
0.75 to <2.50	11,836	6,656	46.4	14,231	1.5	35,428	39.4	2.2	13,695	96	94	57
2.50 to <10.00	6,774	2,520	55.2	7,480	4.9	4,569	32.4	1.9	9,493	127	135	162
10.00 to <100.00	779	279	36.4	824	16.7	809	36.7	1.9	1,695	205.6	56	82
100.00 (Default)	1,916	196	50.9	1,886	100.0	1,698	39.8	2.1	—	—	754	308
Sub-total	37,614	24,413	52.7	49,146	5.4	54,869	37.6	2.0	35,756	72.8	1,071	649
FIRB – Total at 31 Dec 2021	47,923	27,224	50.0	58,967	5.0	72,550	38.0	2.0	41,811	71.0	1,164	723

1 *Securitisation positions and NCOAs are not included in this table.*
2 *Slotting exposures are disclosed in Table 24: Specialised lending and equity exposures under the simple risk-weight approach (CR10).*
3 *Figures have been prepared on an IFRS 9 transitional basis.*
4 *For current period, single obligor with multiple ratings/PD are counted separately for every PD band. We count the number of obligors on the basis of our exposure to the original counterparty (reported in the first two columns of this table). Where exposure is subject to risk-transfer to another party, to avoid duplication, we do not count the exposure again after risk transfer.*

Table 26: Scope of the use of IRB and SA approaches (UK CR6-A)

		Exposure value as defined in Article 166 CRR for exposures subject to IRB approach	Total exposure value for exposures subject to the Standardised approach and to the IRB approach[1]	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[2] (%)
		a	b	c	d	e
1	Central governments or central banks	**5,803**	**114,589**	**95**	**5**	
1.1	– *of which: Regional governments or local authorities*	*—*	*15*	*100*	*—*	
1.2	– *of which: Public sector entities*	*—*	*514*		*—*	*100*
2	Institutions	**2,006**	**2,843**	**30**	**70**	
3	Corporates	**73,617**	**70,976**	**1**	**98**	**1**
3.1	– *of which: Corporates – Specialised lending, excluding slotting approach*	*780*	*577*		*100*	
3.2	– *of which: Corporates – Specialised lending under slotting approach*	*9,233*	*9,187*		*100*	
4	Retail	**178,476**	**153,690**		**100**	
4.1	– *of which: Retail – Secured by real estate SMEs*	*2*	*2*		*100*	
4.2	– *of which: Retail – Secured by real estate non-SMEs*	*141,157*	*129,774*		*100*	
4.3	– *of which: Retail – Qualifying revolving*	*24,468*	*8,666*		*100*	
4.4	– *of which: Retail – Other SMEs*	*6,962*	*7,792*		*84*	*16*
4.5	– *of which: Retail – Other non-SMEs*	*5,887*	*7,456*		*78*	*22*
5	Equity	**—**	**36**	**100**		
6	Other non-credit obligation assets	**1,564**	**1,938**	**19**	**81**	
7	**Total at 31 Dec 2022**	**261,465**	**344,073**	**32**	**67**	**1**

1 *The key driver for difference in IRB exposure value is mainly due to the CCF applied to the off balance sheet exposures.*
2 *Percentage of total exposure value subject to a roll-out plan (%), includes other STD exposures which are not subject to permanent partial use ('PPU').*

Wholesale risk

The wholesale risk rating system

This section describes how we operate our credit risk analytical models and use IRB metrics in the wholesale customer business.

PDs for wholesale customer segments (i.e. central governments and central banks, financial institutions and corporate customers) and for certain individually assessed personal customers are derived from a customer risk rating ('CRR') master scale of 23 grades. Of these, 21 are non-default grades representing varying degrees of strength of financial condition, and two are default grades. Each CRR has a PD range associated with it as well as a mid-point PD.

The score generated by a credit risk rating model for the obligor is mapped to a master-scale CRR and corresponding PD. Relationship managers may by exception, propose a different CRR from that indicated through an override process which must be approved by the Credit function. Overrides for each model are recorded and monitored as part of the model management process. The CRR is then reviewed by a credit approver who, taking into account information such as the most recent financial events and market data, makes the final decision on the rating. The rating assigned reflects the rating calculated by the model and the approver's overall view of the obligor's credit standing.

The mid-point PD associated with the finally assigned CRR is then used in the regulatory capital calculation.

The CRR is assigned at an obligor level, which means that separate exposures to the same obligor are generally subject to a single, consistent rating. Exceptions may include where an exposure to a corporate or bank is capped to that of the Sovereign which may lead to different CRRs for the same obligor. Unfunded credit risk mitigants, such as guarantees or parental support, may also influence the final assignment of a CRR to an obligor. The effect of unfunded risk mitigants is considered for IRB and standardised approaches in Table 22.

If an obligor is in default on any material credit obligation to the group, all of the obligor's facilities are considered to be in default.

Under the IRB approach, obligors are grouped into CRR grades that have similar anticipated default frequency and a common mid-point PD. The anticipated default frequency is calculated using approved PD models that generally follow the Through the Cycle ('TTC') approach. Whereas LGD models follow a downturn methodology. That is, while models are calibrated to long-run default rates, obligor ratings are reviewed annually, or more frequently if necessary, to reflect Point in Time ('PiT') changes in their circumstances and/or their economic operating environment.

Our policy requires approvers to downgrade ratings on expectations, but to upgrade them only on performance.

For EAD and LGD estimation, operating entities are permitted, subject to overview by Risk and approval by the regulator and regulatory floors, to use their own modelling approaches. Risk provides co-ordination, benchmarks, and promotion of best practice on EAD and LGD estimation.

EAD is estimated to a 12-month forward time horizon and represents the current exposure, plus an estimate for future increases in exposure and the realisation of contingent exposures post-default.

LGD captures the effects of facility and collateral structure on outcomes post-default. This includes such factors as the type of client, the facility seniority, the type and value of collateral, past recovery experience and priority under law. Post default cash flows are discounted to allow for the impact of time value of money. LGD is expressed as a percentage of EAD.

New IRB Repair guidelines were published by the EBA with effect from 1 January 2022. These guidelines specify detailed new requirements including the Margin of Conservatism classification framework, data representativeness, LGD in default and Expected Loss Best Estimate ('ELBE') and model monitoring.

Legacy models were not designed to comply with these new requirements and a pipeline for model re-development and/or model demise is underway with future planned submissions agreed with the regulator. The impact on RWAs and Expected Loss relating to the non-compliance with the new regulations has been assessed and additional PMAs have been implemented. The PMAs have been submitted to the regulator and are subject to regular review to ensure they remain appropriate given changes in economic conditions and the composition of the portfolios.

Wholesale models

To determine credit ratings for the different types of wholesale obligor, multiple models and scorecards are used for PD, LGD, and EAD. These models may be differentiated by region, customer segment and/or customer size. For example, we have separate PD models for all of our key customer segments, including sovereigns, financial institutions, and large, medium and small-sized corporates.

The two major drivers of model methodology are the nature of the portfolio and the availability of internal or external data on historical defaults and risk factors. For some historically low-default portfolios, e.g. sovereign and financial institutions, a model will rely more heavily on external data and/or the input of an expert panel. Where sufficient data is available, models are built on a statistical basis, although the input of expert judgement may still form an important part of the overall model development methodology.

Our approach to EAD and LGD also encompasses global models for central governments and central banks, and for institutions, as exposures to these customer types are managed centrally by Global Risk.

The PRA requires all firms to apply an LGD floor of 45% for senior unsecured exposure to sovereign entities. This floor was applied to reflect the relatively few loss observations across all firms in relation to these obligors. This floor is applied for the purposes of regulatory capital reporting.

In the same guidance, the PRA also indicated that it considers income-producing real estate to be an asset class that would be difficult to model. As a result, RWAs for our CRE portfolio are calculated using the supervisory slotting approach. Under the supervisory slotting approach the bank allocates exposures to one of five categories. Each category then receives a fixed pre-determined RWA and EL percentage.

Table 27 sets out the key characteristics of the significant wholesale credit risk models that drive the capital calculation split by regulatory wholesale asset class, with their associated RWAs, including the number of models for each component, the model method or approach and the number of years of loss data used.

HSBC UK uses the HSBC Group's global models for exposures to Sovereigns and Institutions. The number of defaults in these models relating to HSBC UK customers is immaterial. Information on the performance of these global models can be found in the *HSBC Holdings plc Pillar 3 Disclosures at 31 December 2022* published at www.hsbc.com/investors.

Table 27: Wholesale IRB credit risk models

Portfolio	IRB exposure class	RWA £m	Component model	Number of material component models	Model description and methodology	Number of years loss data	Regulatory Floors
Large corporates	Corporates-Other	41,269	PD	1	A statistical model built on 15 years of data. The model uses financial information, macroeconomic information and market-driven data, and is complemented by a qualitative assessment.	15	PD floor of 0.03%
UK corporates	Corporates-Other, Corporates-SME		PD	3	Corporates that fall below the global large corporate threshold are rated through UK PD models, which reflect UK specific circumstances and cover Mid-sized and Small Corporates. These models use financial information, behavioural data and qualitative information to derive a statistically built PD.	>10	PD floor of 0.03%

Retail risk

Retail risk rating systems

The most material risk rating systems for which we disclose details of the modelling methodology and performance data represent RWAs of £23 bn which corresponds to 79% of the total retail IRB RWA.

PD models are developed using statistical estimation based on a minimum of five years of historical data. The final estimates from the model are intended to be TTC. Where models are developed based on a PIT approach, the model outputs become effectively TTC through the application of buffer or model adjustments as agreed with the PRA.

EAD models are also developed using at least five years of historical observations and typically adopt one of two approaches:

- For closed-end products without the option for additional drawdowns, EAD is estimated as the outstanding balance of accounts at the time of observation.
- For products with the option for additional drawdowns, EAD is estimated as the outstanding balance of accounts at the time of observation plus a credit conversion factor applied to the undrawn portion of the facility.

LGD estimates have more variation, particularly in respect of the time period that is used to quantify economic downturn assumptions.

Table 28: Retail IRB risk rating systems

Portfolio	Exposure class	RWA £m	Component model	Number of material component models	Model description and methodology	Number of years loss data[1]	Applicable Pillar 1 regulatory thresholds and overlays
UK HSBC residential mortgages	Retail – secured by mortgages on immovable property non-SME	13,509	PD	1	Statistical model built on internal behavioural data and bureau information. Underlying PIT model is calibrated to the latest observed PD. An adjustment is then applied to generate the long-run PD based on a combination of historical misalignment of the underlying model and expert judgement.	7–10	PD floor of 0.03%
			LGD	1	Component based model incorporating, 'possession given default', 'predicted shortfall' and 'time to possession'. A downturn adjustment is applied to each component including a 30% reduction from peak house valuation and a 10% adjustment to forced sale haircut.	>10	LGD floor of 10% at portfolio level
			EAD	1	EAD is equal to the sum of balance at observation plus further unpaid interest that could accrue before default.	7–10	EAD must at least be equal to current balance
UK first direct residential mortgages	Retail – secured by mortgages on immovable property non-SME	872	PD	1	Underlying PIT PD model is a segmented scorecard. An adjustment is then applied based on observed misalignment in the underlying model (with some additional conservatism applied).	7–10	PD floor of 0.03%
			LGD	1	Component based model incorporating, 'possession given default', 'predicted shortfall' and 'time to possession'. A downturn adjustment is applied to each component including a 30% reduction from peak house valuation and a 10% adjustment to forced sale haircut.	>10	LGD floor of 10% at portfolio level
			EAD	1	There are two separate model components – one for standard capital repayment mortgages and one for offset mortgages which offer a revolving loan facility.	7–10	EAD must at least be equal to current balance
UK HSBC credit cards	Retail – qualifying revolving	2,948	PD	1	Statistical model built on internal behavioural data and bureau information. Underlying PIT model is calibrated to the latest observed PD. An adjustment is then applied to generate the long-run PD based on historical observed misalignment of the underlying model.	7–10	PD floor of 0.03%
			LGD	1	Statistical model based on forecasting the amount of expected future recoveries, segmented by default status.	7–10	
			EAD	1	Statistical model that directly estimates EAD for different segments of the portfolio using either balance or limit as the key input.	7–10	EAD must at least be equal to current balance
UK HSBC personal loans	Retail – other non-SME	3,420	PD	1	Statistical model built on internal behavioural data and bureau information. Underlying PIT model is calibrated to the latest observed PD. An adjustment is then applied to generate the long-run PD based on historical observed misalignment of the underlying model.	7–10	PD floor of 0.03%
			LGD	1	Statistical model based on forecasting the amount of expected future recoveries, segmented by default status.	7–10	
			EAD	1	EAD is equal to current balance as this provides a conservative estimate.	7–10	EAD must at least be equal to current balance
UK business banking	Retail – other SME	1,923	PD	1	Statistical model built on internal behavioural data and bureau information. Underlying PIT model is calibrated to the latest observed PD. An adjustment is then applied to generate the long run PD based on historical observed misalignment of the underlying model.	7–10	PD floor of 0.03%
			LGD	2	Two sets of models – one for secured exposures and another for unsecured exposures. The secured model uses the value to loan as a key component for estimation and the unsecured model estimates the amount of future recoveries and undrawn portion.	7–10	
			EAD	1	Statistical model using segmentation according to limit and utilisation and estimation of the undrawn exposure.	7–10	EAD must at least be equal to current balance

1 *Defined as the number of years of historical data used in model development and estimation.*

Retail credit models

We disclose information on our most material models. The actual and estimated values are derived from local model monitoring and calibration processes.

Our analytics teams adopt back-testing criteria specific to local conditions in order to assess the accuracy of their models.

In conducting the back-testing, our UK residential mortgage LGD models consider repossession rates over a 36-month period starting at the date of default. For both our HSBC UK and first direct branded residential mortgages, LGD estimates and LGD actual values remained low and stable in 2022.

Model performance

Model assessment is subject to global internal standards designed to support a comprehensive quantitative and qualitative process within a cycle of model monitoring and assessment that includes:

- investigation of model stability;
- measuring model performance by comparing the model's outputs against actual outcomes; and
- reviewing model use within the business, e.g. user input data quality, override activity and the assessment of results from key controls around the usage of the rating system as a whole within the overall credit process.

Models are monitored using a series of metrics and triggers approved by relevant parties. Model performance metrics, and material remedial actions in the event of a trigger breach, are reported at the corresponding Wholesale and Retail MOF's that are responsible for overseeing the models used within HSBC UK.

We also disclose model performance reports for our retail IRB models to our lead regulator, the PRA, quarterly.

Tables 29 and 30 below validate the reliability of PD calculations by comparing the PD used in IRB calculations with actual default experience. In Table 30, a customer's PD is observed at a PIT and their default or non-default status in the following one-year period is recorded against that PD grade.

Table 29: Wholesale IRB exposure – back-testing of probability of default (PD) per portfolio[1] (CR9)

PD range	Number of obligors		Observed average default rate %	Exposures weighted average PD (%)	Average PD (%)	Average historic annual default rate (%)
	End of previous year[2]	*of which: number which defaulted in the year*				
2022						
F-IRB						
Corporates[3,4]						
0.00 to <0.15	**5,394**	**—**	—	0.11	0.12	0.12
- 0.00 to <0.10	***742***	***—***	*—*	***0.06***	***0.05***	***0.11***
- 0.10 to <0.15	***4,652***	***—***	*—*	***0.13***	***0.13***	***0.12***
0.15 to <0.25	**6,641**	***4***	0.06	0.22	0.22	0.08
0.25 to <0.50	**6,301**	***5***	0.08	0.37	0.37	0.23
0.50 to <0.75	**4,995**	***45***	0.90	0.63	0.63	0.81
0.75 to <2.50	**15,294**	***170***	1.11	1.44	1.44	1.00
- 0.75 to <1.75	***11,840***	***92***	***0.78***	***1.20***	***1.21***	***0.91***
- 1.75 to <2.5	***3,454***	***78***	***2.26***	***2.25***	***2.25***	***1.32***
2.5 to <10.00	**8,528**	***251***	2.94	4.40	4.47	3.90
- 2.5 to <5	***6,064***	***104***	***1.72***	***3.58***	***3.64***	***2.25***
- 5 to <10	***2,464***	***147***	***5.97***	***6.85***	***6.52***	***8.70***
10.00 to <100.00	**1,324**	***157***	11.86	17.44	18.15	15.73
- 10 to <20	***1,165***	***116***	***9.96***	***13.07***	***12.84***	***14.00***
- 20 to <30	—	—	—	—	—	—
- 30.00 to <100.00	***159***	***41***	***25.79***	***52.81***	***57.09***	***28.86***
100.00 (Default)	**2,318**	***NA***	NA	NA	NA	NA

1 *Data represents an annual view as of 30 September.*
2 *Back-testing is conducted on the basis of the opening count of obligors not in default in each year. Obligors who default during the year are excluded from the opening count for the following year.*
3 *Corporate models include UK Mid-market, SME and Highly Leveraged Transactions models, and UK Commercial Banking customers in the Global Large Corporate Scorecard. These models are primarily used by HSBC UK but the data presented will include some HSBC Bank plc customers that also use these models.*
4 *Our Corporate model segments do not align to regulatory exposure class definitions so the information presented above includes exposures in both the Corporate –Other and Corporate-SME exposure classes.*

Table 30: Retail IRB exposure – back-testing of probability of default ('PD') per portfolio[1] (CR9)

PD range	Number of obligors		Observed average default rate %	Exposures weighted average PD (%)	Average PD (%)	Average historic annual default rate (%)
	End of previous year[2]	*of which: number which defaulted in the year*				
2022						
Retail – Secured by real estate non-SME						
0.00 to <0.15	**630,244**	***233***	0.04	0.06	0.06	0.04
- 0.00 to <0.10	***557,800***	***167***	***0.03***	***0.06***	***0.06***	***0.04***
- 0.10 to <0.15	***72,444***	***66***	***0.09***	***0.12***	***0.12***	***0.09***
0.15 to <0.25	**62,707**	***73***	0.12	0.19	0.19	0.13
0.25 to <0.50	**38,961**	***98***	0.25	0.34	0.34	0.30
0.50 to <0.75	**9,732**	***44***	0.45	0.60	0.60	0.54
0.75 to <2.50	**11,120**	***97***	0.87	1.29	1.33	1.12
- 0.75 to <1.75	***8,890***	***66***	***0.74***	***1.11***	***1.14***	***0.95***
- 1.75 to <2.5	***2,230***	***31***	***1.39***	***2.07***	***2.07***	***1.77***
2.50 to <10.00	**3,944**	***145***	3.68	4.59	4.66	3.98
- 2.5 to <5	***2,578***	***77***	***2.99***	***3.43***	***3.45***	***3.00***
- 5 to <10	***1,366***	***68***	***4.98***	***6.92***	***6.93***	***5.90***
10.00 to <100.00	**4,035**	***870***	21.56	30.74	29.58	22.27
- 10 to <20	***1,701***	***175***	***10.29***	***15.47***	***15.27***	***10.74***
- 20 to <30	***823***	***135***	***16.40***	***24.35***	***24.37***	***17.03***
- 30.00 to <100.00	***1,511***	***560***	***37.06***	***47.82***	***48.52***	***37.68***
100.00 (Default)	**8,200**	***NA***	NA	NA	NA	NA
Retail – qualifying revolving						
0.00 to <0.15	**1,459,244**	***1,038***	0.07	0.06	0.06	0.07
- 0.00 to <0.10	***1,202,666***	***766***	***0.06***	***0.05***	***0.05***	***0.06***
- 0.10 to <0.15	***256,578***	***272***	***0.11***	***0.12***	***0.12***	***0.11***
0.15 to <0.25	**307,967**	***540***	0.18	0.20	0.19	0.17
0.25 to <0.50	**239,142**	***818***	0.34	0.35	0.35	0.34
0.50 to <0.75	**121,853**	***785***	0.64	0.61	0.62	0.58
0.75 to <2.50	**205,173**	***3,442***	1.68	1.30	1.31	1.60

Table 30: Retail IRB exposure – back-testing of probability of default ('PD') per portfolio[1] (CR9) (continued)

	Number of obligors					
PD range	End of previous year[2]	of which: number which defaulted in the year	Observed average default rate %	Exposures weighted average PD (%)	Average PD (%)	Average historic annual default rate (%)
- 0.75 to <1.75	166,679	2,346	1.41	1.13	1.14	1.33
- 1.75 to <2.5	38,494	1,096	2.85	2.06	2.07	2.64
2.50 to <10.00	64,411	3,356	5.21	4.08	4.11	5.11
- 2.5 to <5	49,580	1,913	3.86	3.27	3.27	3.94
- 5 to <10	14,831	1,443	9.73	6.90	6.91	9.04
10.00 to <100.00	22,432	9,858	43.95	47.44	45.22	42.56
- 10 to <20	8,251	1,541	18.68	13.82	13.78	17.15
- 20 to <30	3,198	760	23.76	24.03	24.11	25.01
- 30.00 to <100.00	10,983	7,557	68.81	75.34	74.99	67.87
100.00 (Default)	14,752	NA	NA	NA	NA	NA
Retail – other non-SME						
0.00 to <0.15	22,206	28	0.13	0.13	0.13	0.11
- 0.00 to <0.10	3,050	4	0.13	0.09	0.09	0.10
- 0.10 to <0.15	19,156	24	0.13	0.13	0.13	0.12
0.15 to <0.25	113,618	178	0.16	0.19	0.19	0.16
0.25 to <0.50	1,735	5	0.29	0.47	0.47	0.32
0.50 to <0.75	63,048	212	0.34	0.58	0.58	0.49
0.75 to <2.50	187,915	1,381	0.73	1.34	1.35	1.04
- 0.75 to <1.75	147,754	837	0.57	1.14	1.14	0.83
- 1.75 to <2.5	40,161	544	1.35	2.09	2.10	1.71
2.50 to <10.00	66,082	2,260	3.42	4.65	4.76	4.10
- 2.5 to <5	42,105	1,049	2.49	3.48	3.49	3.21
- 5 to <10	23,977	1,211	5.05	6.91	6.99	5.64
10.00 to <100.00	16,755	4,678	27.92	38.38	38.98	29.39
- 10 to <20	7,423	795	10.71	13.84	13.82	11.89
- 20 to <30	2,132	296	13.88	24.36	24.53	19.48
- 30.00 to <100.00	7,200	3,587	49.82	70.53	69.20	51.93
100.00 (Default)	9,269	NA	NA	NA	NA	NA
Retail – other SME						
0.00 to <0.15	19,679	29	0.15	0.11	0.11	0.07
- 0.00 to <0.10	5,056	5	0.10	0.08	0.08	0.05
- 0.10 to <0.15	14,623	24	0.16	0.12	0.12	0.08
0.15 to <0.25	35,172	62	0.18	0.20	0.20	0.15
0.25 to <0.50	57,617	166	0.29	0.38	0.36	0.40
0.50 to <0.75	66,203	335	0.51	0.62	0.61	0.67
0.75 to <2.50	290,838	3,657	1.26	1.74	1.47	1.36
- 0.75 to <1.75	209,249	2,163	1.03	1.39	1.21	1.14
- 1.75 to <2.5	81,589	1,494	1.83	2.11	2.14	2.01
2.50 to <10.00	179,681	9,194	5.12	5.19	5.11	4.30
- 2.5 to <5	96,017	2,978	3.10	3.56	3.53	3.34
- 5 to <10	83,664	6,216	7.43	6.82	6.94	5.98
10.00 to <100.00	76,127	18,300	24.04	26.06	24.33	15.88
- 10 to <20	41,569	5,492	13.21	13.95	14.01	8.34
- 20 to <30	15,921	3,910	24.56	24.46	24.31	14.99
- 30.00 to <100.00	18,637	8,898	47.74	48.32	47.37	34.44
100.00 (Default)	26,142	NA	NA	NA	NA	NA

1 Data represents an annual view, analysed at 30 September.
2 Back-testing is conducted on the basis of the opening count of obligors not in default in each year. Obligors who default during the year are excluded from the opening count for the following year.

Counterparty credit risk

Counterparty credit risk management

Counterparty credit risk ('CCR') is the risk that a counterparty may default before completing the satisfactory settlement of the transaction. It arises on derivatives, securities financing transactions and exposures to central counterparties ('CCP') in both the trading and non trading books.

Limits for CCR exposures, including to central counterparties ('CCPs'),are assigned within the overall credit risk management process. The credit risk function assigns a limit against each counterparty to cover exposure which may arise as a result of a counterparty default.

Banks are permitted to apply the following methods to determine exposure values for CCR:

- the Internal Model Method ('IMM');
- the Standardised Approach (SA-CCR) – for derivatives and long settlement transactions;
- the simple/comprehensive approach to recognition of collateral with SFTs; and
- the Value at Risk models approach, again applicable for SFTs

HSBC UK uses the standardised approach to determine CCR exposures. Under the SA-CCR approach, the EAD is calculated as the sum of Replacement Cost and Potential Future Exposures ('PFE') multiplied by an alpha factor of 1.4.

Table 31: Analysis of counterparty credit risk exposure by approach (excluding centrally cleared exposures) (CCR1)

		Replacement cost	Potential future exposure	Effective expected positive exposure[1]	Alpha used for computing regulatory exposure value	EAD pre-CRM	EAD post-CRM	Exposure Value	RWAs
		£m	£m	£m		£m	£m	£m	£m
1	SA-CCR (for derivatives)	44	133	–	1.40	248	248	248	99
4	Financial collateral comprehensive method (for SFTs)					119	119	119	20
6	**Total at 31 Dec 2022**	44	133	–	1.40	367	367	367	118

1 *Effective expected positive exposure column is not relevant for HSBC UK, as the exposures are calculated under SA-CCR.*

Credit valuation adjustment

Credit valuation adjustments ('CVA') represent the risk of mark-to-market losses on the expected counterparty risk to over-the-counter ('OTC') derivatives. HSBC UK applies the standardised approach for CVA. Certain qualifying central counterparties are exempt from CVA.

Table 32: Credit valuation adjustment capital charge (CCR2)

		At 31 Dec 2022		At 31 Dec 2021	
		Exposure value	RWAs	Exposure value	RWAs
		£m	£m	£m	£m
4	Transactions subject to the Standardised method	98	18	95	20
5	**Total transactions subject to own funds requirements for CVA risk**	98	18	95	20

The following table presents information on the risk-weighting of CCR exposures under the standardised approach by regulatory portfolio.

Further detail on the standardised approach is provided on page 26.

Table 33: Standardised approach – CCR exposures by regulatory exposure class and risk weights (CCR3)

	Risk weight	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Others	Total exposure value
		£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
6	Institutions					52	21						73
	Total at 31 Dec 2022					52	21						73

Collateral arrangements

Our policy is to revalue all traded transactions and associated collateral positions on a daily basis. An independent collateral management function manages the collateral process, including pledging collateral, receiving collateral, investigating disputes and following up non-receipts.

Collateral types are controlled under a policy to ensure price transparency, price stability, liquidity, enforceability,independence, reusability and eligibility for regulatory purposes.

A valuation 'haircut' policy reflects the fact that collateral may fall in value between the date the collateral was called and the date of liquidation or enforcement. Approximately 95% of collateral held as variation margin under credit support annex ('CSA') agreements is composed of either cash or liquid government securities.

Further information on gross fair value exposure and the offset due to legally enforceable netting and collateral is set out on page 118 of the Annual Report and Accounts 2022*.*

Table 34: Composition of collateral for CCR exposure (CCR5)

		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
		Segregated	Unsegregated	Segregated	Unsegregated		
		£m	£m	£m	£m	£m	£m
1	Cash	—	626	—	2,352	—	—
2	Debt	177	—	1,910	1,484	11,876	14,471
5	**Total at 31 Dec 2022**	**177**	**626**	**1,910**	**3,836**	**11,876**	**14,471**

Central counterparties

While exchange traded derivatives have been cleared through central counterparties ('CCPs') for many years, recent regulatory initiatives designed to reduce systemic risk in the banking system are directing increasing volumes of OTC derivatives to also be cleared through CCPs.

To manage the significant concentration of risk in CCPs that results from this, we have developed a risk appetite framework to manage risk accordingly, at the level of individual CCPs and globally. A dedicated CCP risk team has been established to manage the interface with CCPs and undertake in-depth due diligence of the unique risks associated with these organisations.

Table 35: Exposures to central counterparties (CCR8)

		At			
		At 31 Dec 2022		At 31 Dec 2021	
		Exposure value	RWAs	EAD post-CRM	RWAs
		£m	£m	£m	£m
1	**Exposures to qualifying central counterparties ('QCCPs') (total)**	4,569	68	1,081	74
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions)	2,537	51	462	9
3	– OTC derivatives	1,396	28	178	4
4	– exchange-traded derivatives		—		
5	– securities financing transactions	1,142	23	284	6
6	– netting sets where cross-product netting has been approved	—	—	—	—
7	Segregated initial margin	1,726	0	619	
8	Non-segregated initial margin	306	6		
9	Pre-funded default fund contributions	—	11	—	64

Wrong-way risk

Wrong-way risk occurs when a counterparty's exposures are adversely correlated with its credit quality.

There are two types of wrong-way risk:

- General wrong-way risk occurs when the probability of counterparty default is positively correlated with general risk factors, for example, where a counterparty is resident and/or incorporated in a higher-risk country and seeks to sell a non-domestic currency in exchange for its home currency; and
- Specific wrong-way risk occurs in self-referencing transactions. These are transactions in which exposure is driven by capital or financing instruments issued by the counterparty and occurs where exposure from HSBC UK's perspective materially increases as the value of the counterparty's capital or financing instruments referenced in the contract decreases. It is our policy that specific wrong-way transactions are approved on a case-by-case basis.

We use a range of tools to monitor and control wrong-way risk, including requiring the business to obtain prior approval before undertaking wrong-way risk transactions outside pre-agreed guidelines.

Credit rating downgrade

A credit rating downgrade clause in a Master Agreement or a credit rating downgrade threshold clause in a credit support annex ('CSA') is designed to trigger an action if the credit rating of the affected party falls below a specified level. These actions may include the requirement to pay or increase collateral, the termination of transactions by the non-affected party or the assignment of transactions by the affected party.

HSBC UK has no such clauses.

Table 36: IRB – CCR exposures by portfolio and PD scale (CCR4)

PD scale	Exposure value £m	Exposure weighted average PD %	Number of obligors	Exposure weighted average LGD %	Exposure weighted average maturity years	RWAs £m	Density of risk weighted exposure amounts %
AIRB – Institutions							
PD scale							
0.00 to <0.15	**147**	**0.07**	**22**	**45.0**	**0.69**	**25**	**17**
0.15 to <0.25	**1**	**0.22**	**1**	**45.0**	**5.00**	**1**	**99**
0.50 to <0.75	**—**	**0.63**	**1**	**45.0**	**1.00**	**—**	**62**
0.75 to <2.50	**—**	**0.87**	**1**	**45.0**	**1.00**	**—**	**73**
Sub-total	**148**	**0.07**	**25**	**45.0**	**0.72**	**26**	**18**
FIRB – Total at 31 Dec 2022							
FIRB – Corporates							
0.00 to <0.15	**64**	**0.13**	**77**	**45.0**	**0.42**	**13**	**20**
0.15 to <0.25	**20**	**0.22**	**185**	**45.0**	**1.02**	**8**	**38**
0.25 to <0.50	**20**	**0.37**	**139**	**45.0**	**1.02**	**11**	**53**
0.50 to <0.75	**12**	**0.63**	**95**	**45.0**	**1.02**	**9**	**71**
0.75 to <2.50	**22**	**1.50**	**233**	**45.0**	**1.03**	**22**	**100**
2.50 to <10.00	**4**	**4.07**	**61**	**45.0**	**1.00**	**6**	**146**
10.00 to <100.00	**1**	**14.22**	**12**	**45.0**	**1.00**	**3**	**231**
100.00 (Default)	**2**	**100.00**	**19**	**45.0**	**1.00**	**—**	**—**
FIRB – Total at 31 Dec 2022	**146**	**1.99**	**821**	**45.0**	**0.76**	**72**	**49**
Total (all portfolios) at 31 Dec 2022	**294**	**1.03**	**846**	**45.0**	**0.74**	**98**	**33**
PD scale							
AIRB – Institutions							
0.00 to <0.15	114	0.09	18	45.0	0.7	23	20
0.15 to <0.25	3	0.22	1	45.0	5.0	3	99
Sub-total	117	0.09	19	45.0	0.8	26	22
FIRB – Corporates							
0.00 to <0.15	7	0.12	71	45.0	1.0	1	22
0.15 to <0.25	9	0.22	168	45.0	1.0	3	35
0.25 to <0.50	6	0.37	136	45.0	1.1	3	48
0.50 to <0.75	4	0.63	91	45.0	1.0	3	63
0.75 to <2.50	7	1.41	227	45.0	1.0	6	87
2.50 to <10.00	1	4.34	50	45.0	1.0	1	132
10.00 to <100.00	—	41.93	9	45.0	1.0	—	164
100.00 (Default)	—	100.00	5	45.0	1.0	—	—
FIRB – Total at 31 Dec 2021	34	1.15	757	45.0	1.0	17	53
Total (all portfolios) at 31 Dec 2021	151	0.33	776	45.0	0.9	43	29

Securitisation

Securitisation strategy

HSBC UK acts as originator and investor to securitisation positions. Our strategy is to use securitisation to meet our needs for aggregate funding or capital management (to the extent that market conditions, regulatory treatments and other conditions are suitable) and for customer facilitation.

Securitisations follow a detailed due diligence framework in accordance with the securitisation framework. Wholesale Credit Risk conducts the credit approval process for securitisations in the banking book. Traded Risk set and monitor detailed risk limits and criteria for securitisations in the trading book.HSBC does not provide support to its originated or sponsored securitisation transactions as a policy.

Securitisation activity

Our roles in the securitisation process are as follows:

- originator: where we originate the assets being securitised, either directly or indirectly;
- investor: where we invest in a securitisation transaction directly or provide derivatives or liquidity facilities to a securitisation.

SPE	Underlying assets	Start date	Maturity date	EAD (£m)	Capital requirement before securitisation (£m)	Capital requirement after securitisation (£m)
Neon Portfolio Distribution DAC	Corporate loans	Dec-19	Dec-26	2,276	151	41

HSBC UK as originator

We are originator of one securitisation programme outstanding as at 31 December 2022.We have used SPE (Neon Portfolio Distribution) to securitise customer loans and advances and other debt that we have originated in order to diversify our sources of funding for asset origination and for capital efficiency purposes.

Typically we follow an approach commonly known as synthetic securitisation, using credit derivatives and financial guarantees to transfer the credit risk associated with such customer loans and advances.

In order to recognise capital benefit under synthetic securitisation, we satisfy the regulatory requirements for significant risk transfer ('SRT') and monitor our compliance periodically.

HSBC maintains a unhedged holding of at least 5% in each reference obligation. None of these transactions are categorised as Simple Transparent and Standardised ('STS') as per securitisation framework.

Further details are available in Note 14 of the Financial Statements in the Annual Report and Accounts 2022.

HSBC UK as investor

We have exposure to third-party securitisations across a wide range of sectors in the form of investments and liquidity facilities.

Monitoring of securitisation positions

Securitisation positions are managed by a dedicated team that uses a combination of market standard systems and third-party data providers to monitor performance data and manage market and credit risks.

Liquidity risk of securitised assets is consistently managed as part of the group's liquidity and funding risk management framework.

Securitisation accounting treatment

For accounting purposes, we consolidate structured entities (including SPEs) when the substance of the relationship indicates that we control them; that is, we are exposed, or have rights, to variable returns from our involvement with the structured entity and have the ability to affect those returns through our power over the entity.

We reassess the need to consolidate whenever there is a change in the substance of the relationship between HSBC and a structured entity.

Full details of these assessments and our accounting policy on structured entities may be found in Note 1.2(a) and Note 14 on the Financial Statements respectively of the Annual Report and Accounts 2022*.*

Valuation of securitisation positions

Valuation of our investments in securitisation exposures primarily focuses on quotations from third parties, observed trade levels and calibrated valuations from market standard models.

Our hedging and credit risk mitigation strategy, with regards to retained securitisation and re-securitisation exposures, is to continually review our positions.

Securitisation regulatory treatment

Any reduction in RWAs as a result of our own originated securitisations must receive the PRA's permission and be justified by a commensurate transfer of credit risk to third parties. If these conditions are met, the underlying assets are de-recognised for regulatory purposes and any retained exposures to the securitisation, including derivatives or liquidity facilities, are risk weighted as securitisation positions.

For all securitisation positions we follow the hierarchy of RWA calculation approaches as described in the securitisation framework. Our originated positions are all reported under the Internal Rating Based Approach ('Sec-IRBA').

Analysis of securitisation exposures

Table 37: Securitisation exposures in the non-trading book (SEC1)

		Bank acts as originator							Bank acts as sponsor				Bank acts as investor			
		Traditional				Synthetic			Traditional				Traditional			
		STS		Non-STS												
		Total	*of which: SRT*	Total	*of which: SRT*	Total	*of which: SRT*	Sub-total	STS	Non-STS	Syn-thetic	Sub-total	STS	Non-STS	Syn-thetic	Sub-total
		£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
2	Retail (total)	—	—	—	—	—	—	—	—	—	—	—	5	775	—	780
3	– residential mortgage	—	—	—	—	—	—	—	—	—	—	—	5	—	—	5
5	– other retail exposures	—	—	—	—	—	—	—	—	—	—	—	—	775	—	775
7	Wholesale (total)	—	—	—	—	2,276	*2,276*	2,276	—	—	—	—	—	75	—	75
8	– loans to corporates	—	—	—	—	2,276	*2,276*	2,276	—	—	—	—	—	—	—	—
10	– lease and receivables	—	—	—	—	—	—	—	—	—	—	—	—	75	—	75
1	**Total at 31 Dec 2022**	—	—	—	—	2,276	*2,276*	2,276	—	—	—	—	5	850	—	855
2	Retail (total)	—	—	—	—	—	—	—	—	—	—	—	—	1,009	—	1,009
3	– residential mortgage	—	—	—	—	—	—	—	—	—	—	—	—	224	—	224
5	– other retail exposures	—	—	—	—	—	—	—	—	—	—	—	—	785	—	786
7	Wholesale (total)	—	—	—	—	2,276	*2,276*	2,276	—	—	—	—	—	—	—	—
8	– loans to corporates	—	—	—	—	2,276	*2,276*	2,276	—	—	—	—	—	—	—	—
10	– lease and receivables	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	Total at 31 Dec 2021	—	—	—	—	2,276	*2,276*	2,276	—	—	—	—	—	1,009	—	1,009

The following table presents our exposure in the non-trading book and associated regulatory capital requirements where we act as originator.

Table 38: Securitisation exposures in the non-trading book and associated regulatory capital requirements – bank acting as originator or as sponsor (SEC3)

		Exposure values (by risk weight bands/deductions)					Exposure values (by regulatory approach)			
		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250% RW deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions
		£m	£m	£m	£m	£m	£m	£m	£m	£m
1	**Total at 31 Dec 2022**	2,262	—	—	3	11	2,265	—	—	11
9	Synthetic securitisation	2,262	—	—	3	11	2,265	—	—	11
10	Securitisation	2,262	—	—	3	11	2,265	—	—	11
12	– wholesale	2,262	—	—	3	11	2,265	—	—	11
13	Re-securitisation	—	—	—	—	—	—	—	—	—
1	Total at 31 Dec 2021	—	2,263	—	2	11	2,265	—	—	11
8	Re-securitisation	—	—	—	—	—	—	—	—	—
9	Synthetic securitisation	—	2,263	—	2	11	2,265	—	—	11
10	Securitisation	—	2,263	—	2	11	2,265	—	—	11
12	– wholesale	—	2,263	—	2	11	2,265	—	—	11
13	Re-securitisation	—	—	—	—	—	—	—	—	—

		RWAs (by regulatory approach)				Capital charge after cap			
		SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions
		£m	£m	£m	£m	£m	£m	£m	£m
1	**Total at 31 Dec 2022**	367	—	—	142	29	—	—	11
8	**Re-securitisation**	—	—	—	—	—	—	—	—
9	Synthetic transactions	367	—	—	142	29	—	—	11
10	Securitisation	367	—	—	142	29	—	—	11
12	– wholesale	367	—	—	142	29	—	—	11
13	Re-securitisation	—	—	—	—	—	—	—	—
2	Total at 31 Dec 2021	516	—	—	142	41	—	—	11
10	Re-securitisation	—	—	—	—	—	—	—	—
11	Synthetic transactions	516	—	—	142	41	—	—	11
12	Securitisation	516	—	—	142	41	—	—	11
14	– wholesale	516	—	—	142	41	—	—	11
15	Re-securitisation	—	—	—	—	—	—	—	—

The following table presents our exposure in the non-trading book and associated regulatory capital requirements where we act as an investor.

Table 39: Securitisation exposures in the non-trading book and associated capital requirements – bank acting as investor (SEC4)

		Exposure values (by risk weight bands)					Exposure values (by regulatory approach)			
		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions
		£m	£m	£m	£m	£m	£m	£m	£m	£m
1	**Total at 31 Dec 2022**	**780**	**75**	**—**	**—**	**—**	**—**	**—**	**855**	**—**
2	Traditional securitisation	**780**	**75**	**—**	**—**	**—**	**—**	**—**	**855**	**—**
3	Securitisation	**780**	**75**	**—**	**—**	**—**	**—**	**—**	**855**	**—**
4	– retail underlying	***780***	**—**	**—**	**—**	**—**	**—**	**—**	**780**	**—**
5	– *of which: STS*	***5***	**—**	**—**	**—**	**—**	**—**	**—**	***5***	**—**
6	Wholesale	**—**	**75**	**—**	**—**	**—**	**—**	**—**	**75**	**—**
2	Total at 31 Dec 2021	734	275	—	—	—	—	—	1,009	—
3	Traditional securitisation	734	275	—	—	—	—	—	1,009	—
4	Securitisation	734	275	—	—	—	—	—	1,009	—
5	– retail underlying	734	275	—	—	—	—	—	1,009	—
6	– *of which: STS*	—	—	—	—	—	—	—	—	—

Table 39: Securitisation exposures in the non-trading book and associated capital requirements – bank acting as investor (SEC4) (continued)

		RWAs (by regulatory approach)				Capital charge after cap			
		SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250%/ deductions
		£m	£m	£m	£m	£m	£m	£m	£m
1	**Total at 31 Dec 2022**	**—**	**—**	**141**	**—**	**—**	**—**	**11**	**—**
2	Traditional securitisation	**—**	**—**	**141**	**—**	**—**	**—**	**11**	**—**
3	Securitisation	**—**	**—**	**141**	**—**	**—**	**—**	**11**	**—**
4	– retail underlying	**—**	**—**	**125**	**—**	**—**	**—**	**10**	**—**
5	– *of which: STS*	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
6	Wholesale	**—**	**—**	**16**	**—**	**—**	**—**	**1**	**—**
1	Total at 31 Dec 2021	—	—	202	—	—	—	16	—
2	Traditional securitisation	—	—	202	—	—	—	16	—
3	Securitisation	—	—	202	—	—	—	16	—
4	– retail underlying	—	—	202	—	—	—	16	—
5	– *of which: STS*	—	—	—	—	—	—	—	—
6	*Wholesale*	—	—	—	—	—	—	—	—

Table 40: Exposures securitised by the institution – Institution acts as originator or as sponsor (SEC5)

		Total outstanding nominal amount		Total amount of specific credit risk adjustments made during the period
			of which: exposures in default	
		£m	*£m*	£m
1	**Total at 31 Dec 2022**	**2,498**	**—**	**10**
7	Wholesale (total)	**2,498**	**—**	**10**
8	– loans to corporates	**2,498**	**—**	**10**

Market risk

Overview of market risk

Market risk is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios.

Further explanation of the group's approach to managing market risk can be found from page 61 of the HSBC UK Bank plc Annual Report and Accounts *2022.*

The table below reflects the components of capital requirement for market risk under the standardised approach:

Table 41: Market risk under standardised approach (MR1)

		At	
		31 Dec 2022	31 Dec 2021
		RWAs	RWAs
		£m	£m
	Outright products		
1	Interest rate risk (general and specific)	**48**	47
3	Foreign exchange risk	**53**	123
9	**Total**	**101**	170

Prudent valuation adjustment

Prudent value represents a conservative estimate with a 90% degree of certainty of a price that would be received to sell an asset or paid to transfer a liability in orderly transactions occurring between market participants at the balance sheet date.

HSBC has documented policies and maintains systems and controls for the calculation of the prudent valuation adjustment ('PVA'). HSBC's methodology addresses fair value uncertainties arising from a number of sources: market price uncertainty, bid-offer uncertainty, model risk, concentration, administrative costs, unearned credit spreads and investing and funding costs.

Table 42: Prudential valuation adjustments (PV1)

		Risk Category					Category level AVA – Valuation uncertainty		Total category level post-diversification	of which: in the trading book	of which: in the banking book
		Equity	Interest rates	FX	Credit	Commodities	Unearned credit spreads AVA	Investment and funding costs AVA			
		£m	£m	£m	£m	£m	£m	£m	£m	*£m*	*£m*
1	Market price uncertainty	2	15	–	–	–	–	–	9	–	*8*
3	*Close-out cost*	–	*7*	–	–	–	–	–	*4*	–	3
4	*Concentrated positions*	–	6	–	–	–	–	–	6	–	6
7	Operational risk	–	1	–	–	–	–	–	1	–	*1*
12	Total Additional Valuation	–	–	–	–	–	–	–	19	–	*19*

Interest rate risk in the banking book

Interest rate risk in the banking book ('IRRBB') is the risk of an adverse impact to earnings or capital due to changes in market interest rates. It is generated by our non-traded assets and liabilities, specifically loans, deposits and financial instruments that are not held for trading intent.

Risk management and governance

Treasury measures, monitors and manages interest rate risk in the banking book. This includes reviewing and challenging the interest rate management impacts of new products and the proposed behavioural assumptions used for hedging activities. Treasury is also responsible for maintaining and updating the transfer pricing framework, informing Asset and Liability Committee ('ALCO') of HSBC UK's overall banking book interest rate risk exposure.

All material interest rate risk must be identified, measured, monitored, managed and controlled by metrics within limits for HSBC UK. Key metrics used to monitor IRRBB include: projected net interest income ('NII') and economic value of equity ('EVE') sensitivities under varying interest rate scenarios as prescribed by the regulators and internally calibrated scenarios and shocks. A stressed VaR is used for the portfolio of liquid securities held by Markets Treasury that are accounted for at fair value through other comprehensive income.

EVE and NII sensitivities are monitored against thresholds for HSBC UK. Treasury is subject to an independent oversight and challenge from Treasury Risk, Internal Audit and model governance. Calculations exclude pension, insurance and investments in subsidiaries.

Stress testing is used to assess how the bank copes with severe economic scenarios, in particular looking at bank's resilience to make sure there is enough capital to withstand extreme shocks.

At HSBC, stress testing also forms a key part of our risk management framework. HSBC runs various internal and regulatory stress tests during the year which helps us to identify key economic risks the entity is exposed to and how they impact on its financial and capital position in a severe economic shock. Identifying these risks allow the entity to actively assess and put in place effective risk management strategies to help mitigate before those risks occur. The results of the various stress tests also help to ensure that the bank has adequate capital and liquidity to withstand extreme hypothetical economic shocks as defined in the stress scenarios and thus to help determine our capital requirements under ICAAP.

Economic value of equity and net interest income sensitivity

EVE sensitivities represent the expected movement in EVE due to pre-specified interest rate shocks, where all other economic variables are held constant representing the present value of the future banking book cash flows that could be distributed to equity providers under a managed run-off scenario. This can be used to assess the economic capital required to support interest rate risk in the banking book and provides a comprehensive view of the potential long term effects of the changes in interest. HSBC UK is required to monitor EVE sensitivities as a percentage of capital resources and this is calculated on a quarterly basis.

NII sensitivities apply varying interest rate scenarios (i.e. simulation modelling) under a static balance sheet whilst all other economic variables are held constant. Sensitivity of net interest income reflects the bank's sensitivity of earnings due to changes in market interest rates, and is assessed over both 1 year and 5 years horizon.

Active management of IRRBB

Interest rate risk that can be economically hedged is transferred to the Markets Treasury business. Hedging is generally executed through interest rate derivatives or fixed-rate government bonds. Any interest rate risk that Markets Treasury cannot economically hedge is not transferred and will remain within the global business where the risks originate.

Markets Treasury safeguards the bank by ensuring risk remains within appetite and seeks to generate sustainable returns through management of those risks within the risk appetite set by Treasury Risk. Markets Treasury manages a variety of risks including duration, spread, cross currency basis, inflation and convexity utilising products including liquid fixed income securities, interest rate swaps, cross currency swaps, and money markets loans and deposits. Treasury Risk measures and monitors against limits the Markets Treasury activities using metrics including present value of one basis point, credit spread of one basis point and VaR on a daily basis.

The large majority of Markets Treasury activity is on a non-market risk capitalised basis. The only Markets Treasury activity treated as market risk capitalised is the use of FX swaps to manage cash. All returns generated by Markets Treasury are transferred into global businesses.

Interest rate shock and stress scenarios applied

The NII sensitivities are indicative and based on scenarios and shocks prescribed by the PRA instructions (Rule 9.4A of the PRA Rulebook: CRR Firms: Interest Rate Risk Arising from Non Trading Activities Instrument 2020 and in accordance with Article 448(1) CRR). Calculations are done under the following scenarios:

- Parallel up;
- Parallel down;
- An immediate shock of +/-200 bps for USD, EUR, HKD and +/-250 bps for GBP to the current market-implied path of interest rates across all currencies (effects over one year); and
- Other currency shocks as per regulatory guidelines (effects over one year).

The EVE sensitivities are based on six Basel Standard Outlier shocks:

- Parallel up;
- Parallel down;
- Steepener;
- Flattener;
- Short rates shock up; and
- Short rates shock down.

Key modelling assumptions

For EVE sensitivities, commercial margins and other spread components have been excluded from the interest cash flows calculation and all balance sheet items are discounted at the risk free rate. All equity instruments that have no coupon or call dates are excluded. Interest rate floors start at -1.0% for overnight yield curve tenors and increase 5bps per year to 0.0% at 20 year tenors. 100% of the negative values are netted with 50% of the positive values by currency as per regulatory guidelines.

For NII sensitivities we assume constant balance sheet, and we include commercial margin. All forecasted market rates are based on implied forward rates from the reporting date. Interest rate floors start at -1.0% for overnight yield curve tenors and increase 5bps per year to 0.0% at 20 year tenors. We apply pass on assumptions to managed rate products. Customer pricing includes flooring where there is contractual obligations and customer optionality including prepayment and early redemption risk is included where present.

Non-maturing deposits (‘NMD’s) are deposits that have no explicit maturity and no explicit repricing dates thus behaviouralisation assumptions are applied.

Pillar 3 disclosure has different assumptions to Group IRRBB internal model assumptions. Those include, but not limited to treatment of NMD’s, shocks, scenarios and flooring.

The average repricing maturity for non-maturity deposits ('NMDs') in Q4 2022 was 14 months. The longest repricing maturity for non-maturity deposits ('NMDs') in Q4 2022 was 120 months.

As of 31 December 2022, the maximum decline in EVE is £458m from a parallel shock up which is 3.1% of tier 1 capital. The most adverse NII scenario over the next 12 months was the parallel shock down, this would result in decrease of projected NII by £2,414m.

Table 43: Quantitative information on IRRBB (UK IRRBB1)

		ΔEVE		ΔNII		Tier 1 capital	
		31 Dec 2022	31 Dec 2021	**31 Dec 2022**	31 Dec 2021	**31 Dec 2022**	31 Dec 2021
		£m	£m	**£m**	£m	**£m**	£m
10	Parallel shock up	**(458)**	(901)	**1,697**	2,382		
20	Parallel shock down	**294**	357	**(2,414)**	(2,341)		
30	Steepener shock	**(280)**	(192)				
40	Flattener shock	**103**	47				
50	Short rates shock up	**4**	(249)				
60	Short rates shock down	**(19)**	176				
70	Maximum	**(458)**	(901)	**(2,414)**	(2,341)		
80	Tier 1 capital					**14,771**	15,067

Non-financial risk

Non-financial risk is the risk to achieving our strategy or objectives as a result of inadequate or failed internal processes, people and systems, or from external events. Sound non-financial risk management is central to achieving good outcomes for our customers.

Non-financial risk is relevant to every aspect of our business and is broadly managed through the risk management framework (‘RMF’). Non-financial risk covers a wide spectrum of areas, such as technology and cyber security, transaction processing, data risk, failure to manage third parties, building unavailability, failure to protect people and place from physical malevolent acts, business interruption and incident risk, workplace safety, financial crime and fraud, regulatory compliance, financial reporting and tax risk, legal risk, model risk and people risk.

Losses arising from breaches of regulation and law, unauthorised activities, error, omission, inefficiency, fraud, systems failure or external events all fall within the definition of non-financial risk.

Operational risk capital requirements

Operational risk is part of non-financial risk. We currently use the standardised approach (‘TSA’) in determining our operational risk capital requirement.

Table 44: Operational risk own funds requirements and risk-weighted exposure amounts (OR1)

	a	b	c	d	e
	Relevant indicator			Own funds requirements	Risk weighted exposure amount amount
	2020	2021	2022		
Banking activities	**£m**	**£m**	**£m**	**£m**	**£m**
Subject to TSA:					
Corporate Finance	—	—	—	—	—
Trading and Sales	394	345	190	56	696
Retail Brokerage	—	—	—	—	—
Commercial Banking	2,295	2,351	3,176	391	4,888
Retail Banking	3,174	3,169	4,203	422	5,274
Payment and Settlement	10	104	191	18	228
Agency Services	53	63	60	9	110
Asset Management	105	126	114	14	172

Organisation and responsibilities

Responsibility for managing non-financial risk lies with our people. During 2022, we remained focused on strengthening our approach to managing non-financial risk. The RMF sets out our approach to governance and risk appetite and sets the principals for our management of non-financial risks and associated controls.

Progress has been made in enhancing the framework and tools for strengthening the control environment and we will continue to improve practices in the management of non-financial risk.

In 2022 we continued to develop the Operational and Resilience Risk sub-function, which provides robust non-financial risk steward oversight of the management of risk by the Group businesses, functions and legal entities.The sub-function helps the business grow safely and ensures governance and management of Operational and Resilience Risk through the delivery and embedding of effective frameworks and policies, and continuous oversight and assurance of risks, controls, events and impacts. The effectiveness of first line of defence risk and control owners, and second line of defence risk stewards in managing our Non-Financial Risk processes and practices are reported through the HSBC UK Risk Management Meeting ('RMM').

The RMM is chaired by the HSBC UK Chief Risk Officer; it is a formal governance meeting which oversees all risk which includes the management of HSBC UK's Non-Financial Risk profile.

Non-Financial risk is organised as a specific risk discipline within the Risk function and is headed by the Head of Operational and Resilience Risk and Risk Strategy. The Head of Operational and Resilience Risk and Risk Strategy is responsible for monitoring the effectiveness of the first line of defence in its management of Non-Financial Risk. The Head of Operational and Resilience Risk and Risk Strategy is accountable to HSBC UK's Chief Risk Officer in respect of this element of the overall RMF.

Activity to strengthen the first and second lines of defence continued to be a key focus in 2022. The first line of defence owns the risk and is accountable for identifying, assessing and managing key existing and emerging risks. The second line of defence sets the policy and control standards to manage risks, and provides advice and guidance to support these policies. It also challenges the first line to ensure it is managing risk effectively. The third line of defence is Global Internal Audit, which provides independent assurance to the Board and management that our risk management approach and processes are designed and operating effectively.

Measurement and monitoring

The RMF is written as a high-level standard, supplemented by detailed policies.

These policies explain our approach to identifying, assessing, monitoring and controlling non-financial risk, and give guidance on mitigating actions to be taken when weaknesses are identified.

In order to drive risk awareness in a more forward looking manner, we set out our risk appetite and then regularly monitor non-financial risk exposure against that risk appetite. This assists management in determining whether further action is required.

Risk scenario analysis across HSBC UK provides a top down, forward-looking assessment of risks to help determine whether they are being effectively managed within our risk appetite or whether further management action is required. In HSBC UK, the first line of defence are responsible for maintaining an appropriate level of internal control, commensurate with the scale and nature of operations. They are responsible for identifying and assessing risks, designing controls and monitoring the effectiveness of these controls. The RMF helps managers to fulfil these responsibilities by defining a standard risk assessment methodology and providing a tool for the systematic reporting of operational loss data.

Risk and control assessment approach

Non-financial risk and control assessments are performed by the first line of defence. The risk and control assessment process is designed to provide the first line of defence with a view of non-financial risks, an assessment of the effectiveness of controls, and a tracking mechanism for action plans so that they can proactively manage non-financial risks within acceptable levels. Appropriate means of mitigation and controls are considered. These include making specific changes to strengthen the internal control environment, and investigating whether cost-effective insurance cover is available to mitigate the risk.

Recording

We use a Group-wide risk management system to record the results of our non-financial risk management process. Non-financial risk and control assessments, as described above, are input and maintained by the first line of defence. The first line of defence monitors and follows up the progress of documented action plans. Operational risk losses are entered into the Group-wide risk management system and reported to governance on a monthly basis. Loss capture thresholds are in line with industry standards.

Liquidity

Management of liquidity and funding risk

We aim to ensure that management has oversight of our liquidity and funding risks by maintaining comprehensive policies, metrics and controls.

Liquidity coverage ratio

The LCR aims to ensure that a bank has sufficient unencumbered high-quality liquid assets ('HQLA') to meet its liquidity needs in a 30 calendar day liquidity stress scenario. From 1 January 2022, we started managing LCR based on PRA's LCR rules following UK's exit from EU. Before this we were managing LCR based on European Commission Delegated Regulation (EU) 2015/61.

At 31 December 2022, HSBC UK's LCR was above regulatory minimum. 2022 average LCR has marginally increased by 4% as compared to 2021 average LCR, retaining a strong liquidity position and reflecting stable commercial surplus during the year.

Net stable funding ratio

We use the net stable funding ratio ('NSFR'), alongside other appropriate metrics, as a basis for ensuring operating entities raise sufficient stable funding to support their business activities. These metrics require institutions to maintain a minimum amount of stable funding based on assumptions of asset liquidity. From 1 January 2022, we started managing funding risk based on the PRA's NSFR rules.

Currency mismatch in the LCR

Our internal liquidity and funding risk management framework requires all operating entities to monitor the LCR for material currencies. This continuous monitoring helps with overall management of currency exposures, in line with our internal framework.

The following tables presents liquidity coverage and funding risk information on a HSBC UK Bank Domestic Liquidity Sub-group basis reflecting the way we manage liquidity within HSBC UK. The HSBC UK Bank Domestic Liquidity Sub-group comprises: HSBC UK Bank plc, Marks and Spencer Financial Services plc, HSBC Trust Company (UK) Limited and HSBC Private Bank (UK) Limited.

For details on our approach to manage Liquidity Risk, please refer Treasury Risk management section page 55.

More details on the concentration of funding and liquidity sources may be found on page 60 of the Annual Report and Accounts 2022.

Table 45: Quantitative information of LCR (UK LIQ1)

	Quarter ended 31 Dec 2022		Quarter ended 30 Sep 2022		Quarter ended 30 Jun 2022		Quarter ended 31 Mar 2022	
	Total unweighted value	**Total weighted value**	Total unweighted value	Total weighted value	Total unweighted value	Total weighted value	Total unweighted value	Total weighted value
	£m	**£m**	£m	£m	£m	£m	£m	£m
Number of data points used in the calculation of averages		**12**		12		12		12
High quality liquid assets								
Total high quality liquid assets ('HQLA')		**110,722**		114,008		112,761		110060
Cash outflows								
Retail deposits and small business funding	**205,647**	**16,718**	204,995	16,462	203,160	16,170	200,924	15,849
– *of which:*								
stable deposits	***128,482***	***6,424***	*129,049*	*6,452*	*129,067*	*6,453*	*129,042*	*6,452*
less stable deposits	***77,165***	***10,294***	*75,946*	*10,010*	*74,093*	*9,717*	*71,882*	*9,397*
Unsecured wholesale funding	**75,367**	**29,084**	75,390	29,263	74,295	28,899	72,612	28,403
– operational deposits (all counterparties) and deposits in networks of cooperative banks	**22,250**	**5,217**	21,673	5,088	21,280	5,005	20,650	4,867
– non-operational deposits (all counterparties)	**52,972**	**23,722**	53,559	24,017	52,870	23,749	51,812	23,386
– unsecured debt	**145**	**145**	158	158	145	145	150	150
Secured wholesale funding		**—**						
Additional requirements	**22,405**	**2,998**	22,281	2,992	22,720	2,960	23,043	2,912
– outflows related to derivative exposures and other collateral requirements	**578**	**578**	528	519	487	470	440	421
– outflows related to loss of funding on debt products	**—**	**—**	—	—	—	—	—	—
– credit and liquidity facilities	**21,827**	**2,420**	21,753	2,473	22,233	2,490	22,603	2,491
Other contractual funding obligations	**698**	**471**	647	407	624	370	675	398
Other contingent funding obligations	**55,429**	**4,468**	56,708	4,586	56,883	4,659	57,018	4,617
Total cash outflows		**53,739**		53,710		53,058		52,179
Cash inflows								
Secured lending transactions (including reverse repos)	**3,266**	**49**	2,079	33	728	4	655	4
Inflows from fully performing exposures	**3,261**	**2,514**	3,176	2,458	3,224	2,478	3,177	2,439
Other cash inflows	**10,593**	**2,230**	10,250	2,147	9,847	2,045	9,375	1,934
Total cash inflows	**17,120**	**4,793**	15,505	4,638	13,799	4,527	13,207	4,377
Inflows Subject to 75% Cap	**17,120**	**4,793**	15,505	4,638	13,799	4,527	13,207	4,377
Liquidity coverage ratio (Adjusted value)								
Liquidity Buffer		**110,722**		114,008		112,761		110,060
Total net cash outflows		**48,946**		49,072		48,531		47,802
Liquidity coverage ratio (%)		**226.2**		232.3		232.3		230.2

Table 46: Net stable funding ratio (UK LIQ2)

		Unweighted value by residual maturity				Weighted value
		No maturity	< 6 months	6 months to < 1yr	≥ 1yr	
		£m	£m	£m	£m	£m
Available stable funding ('ASF') Items						
1	Capital items and instruments	**22,192**	**—**	**—**	**3,075**	**25,267**
2	– Own funds	**22,192**	**—**	**—**	**3,075**	**25,267**
3	– Other capital instruments	**—**	**—**	**—**	**—**	**—**
4	Retail deposits	**—**	**206,425**	**—**	**—**	**192,207**
5	– Stable deposits	**—**	**128,479**	**—**	**—**	**122,055**
6	– Less stable deposits	**—**	**77,946**	**—**	**—**	**70,151**
7	Wholesale funding:	**—**	**86,821**	**962**	**19,321**	**56,328**
8	– Operational deposits	**—**	**22,514**	**—**	**—**	**11,257**
9	– Other wholesale funding	**—**	**64,307**	**962**	**19,321**	**45,071**
10	Interdependent liabilities	**—**	**—**	**—**	**—**	**—**
11	Other liabilities:	**—**	**4,700**	**—**	**—**	**—**
12	– NSFR derivative liabilities	**—**	**—**	**—**	**—**	**—**
13	– All other liabilities and capital instruments not included in the above categories	**—**	**4,700**	**—**	**—**	**—**
14	**Total available stable funding ('ASF')**	**—**	**—**	**—**	**—**	**273,802**
Required stable funding ('RSF') Items						
15	Total high-quality liquid assets ('HQLA')	**117,351**		**—**	**—**	**288**
UK-15a	Assets encumbered for more than 12m in cover pool			**—**	**—**	**—**
16	Deposits held at other financial institutions for operational purposes			**—**	**—**	**—**
17	Performing loans and securities:		**32,084**	**11,761**	**165,866**	**138,852**
18	– Performing securities financing transactions with financial customers collateralised by Level 1 HQLA subject to 0% haircut		**7,890**	**3,170**	**—**	**1,596**
19	– Performing securities financing transactions with financial customer collateralised by other assets and loans and advances to financial institutions		**87**	**—**	**—**	**4**
20	– Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs		**17,865**	**5,680**	**48,271**	**51,810**
21	*– of which: With a risk weight of less than or equal to 35% under the Basel II standardised approach for credit risk*		***780***	***577***	***4,966***	***3,906***
22	– Performing residential mortgages		**2,834**	**2,778**	**116,385**	**83,520**
23	*– of which: With a risk weight of less than or equal to 35% under the Basel II standardised approach for credit risk*		***2,819***	***2,769***	***115,932***	***83,123***
24	– Other loans and securities that are not in default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products		**3,408**	**133**	**1,210**	**1,922**
25	Interdependent assets		**—**	**—**	**—**	**—**
26	Other assets:		**4,355**	**—**	**13,167**	**16,881**
27	– Physical traded commodities		**—**	**—**	**—**	**—**
28	– Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs		**96**	**—**	**—**	**82**
29	– NSFR derivative assets		**217**	**—**	**—**	**217**
30	– NSFR derivative liabilities before deduction of variation margin posted		**328**	**—**	**—**	**16**
31	– All other assets not included in the above categories		**3,714**	**—**	**13,167**	**16,566**
32	Off-balance sheet items		**—**	**—**	**76,911**	**10,530**
33	**Total RSF**		**—**	**—**	**—**	**166,551**
34	Net stable funding ratio (%)		**0**	**0**	**0**	**164.4**

Other risks

Non-trading book exposures in equities

Equity exposures are classified as mandatorily measured at fair value through profit and loss. These investments are only held as a result of historic debt: equity swaps after a lending write-off has been made with the subsequent granting of equity in the company going forward.

At 31 December 2022, we held equity investments of £36m. Our opening position at 1 January 2022 was £14m and £36m has been reflected through profit and loss for the year. Disposals of equities were made in the period.

Remuneration

As a wholly-owned subsidiary, HSBC UK is subject to the remuneration practices established by HSBC. Details of HSBC Group's remuneration practices, including details on the Remuneration Committee membership and its activities, the remuneration strategy, and remuneration structure of HSBC Identified Staff and Material Risk Takers ('MRT') is available in the Directors' Remuneration Report from page 276 of the HSBC Holdings plc *Annual Report and Accounts 2022*.

The following tables show the remuneration awards made to Identified Staff and MRTs in HSBC UK for 2022. Individuals have been identified as MRTs as set out in the European Union Regulatory Technical Standard ('RTS') 2021/923. The tables below include the total remuneration of HSBC UK senior management and other individuals identified as HSBC UK MRTs based on their role and professional activities. This also includes certain individuals employed by the Group who have broader roles within HSBC, for example those with global roles.

Table 47: Remuneration awarded for the financial year (REM1)

£m	MB Supervisory function	MB Management function	Other senior management	Other identified staff
Number of Identified Staff	8	3	15	67
Total fixed remuneration	1.4	2.9	8.7	16.5
– *of which:* *cash-based*[1]	*1.4*	*2.9*	*8.7*	*16.5*
shares or equivalent ownership interests[2]	–	–	–	
Number of identified staff	8	3	15	67
Total variable remuneration [3,4]	–	3.9	6.2	11.8
– *of which:* *cash-based*	–	*1.8*	*2.9*	*6.2*
deferred	–	*1.1*	*1.5*	*2.2*
shares or equivalent ownership interests	–	*2.1*	*3.3*	*5.4*
deferred	–	*1.4*	*1.9*	*2.5*
share-linked instruments or equivalent non-cash instruments	–	–	–	*0*
deferred	–	–	–	*0*
other forms	–	–	–	–
deferred	–	–	–	–
Total (£m)	1.4	6.8	14.9	28.3

1 *Cash-based fixed remuneration is paid immediately.*
2 *Paid in HSBC shares. Vested shares are subject to a retention period of up to one year.*
3 *Variable pay awarded in respect of 2022. In accordance with shareholder approval received on 23 May 2014 (98% in favour), for each MRT the variable component of remuneration for any one year is limited to 200% of fixed component of the total remuneration.*
4 *9 identified staff members were exempt from the application of the remuneration structure requirements for MRTs under the PRA and FCA remuneration rules. Their total remuneration is £1.8m, of which £1.4m is fixed pay and £0.4m is variable remuneration.*

Table 48: Special payments to staff whose professional activities have a material impact on institutions' risk profile (REM2)

£m	MB Supervisory function	MB Management function	Other senior management	Other identified staff
Guaranteed variable remuneration awards[1]				
Guaranteed variable remuneration awards – Number of identified staff	—	—	—	—
Guaranteed variable remuneration awards – Total amount	—	—	—	—
– *of which: guaranteed variable remuneration awards paid during the financial year, that are not taken into account in the bonus cap*	—	—	—	—
Severance payments awarded in previous periods, that have been paid out during the financial year – Number of identified staff[2]	—	—	—	—
Severance payments awarded in previous periods, that have been paid out during the financial year – Total amount	—	—	—	—
Severance payments awarded during the financial year				
Severance payments awarded during the financial year – Number of identified staff[2]	—	—	—	**2**
Severance payments awarded during the financial year – Total amount	—	—	—	**0.7**
– *of which: deferred*	—	—	—	***0.7***
severance payments paid during the financial year, that are not taken into account in the bonus cap	—	—	—	***0.7***
highest payment that has been awarded to a single person	—	—	—	***0.6***

1 *No guaranteed variable remuneration was awarded in 2022. HSBC would offer a guaranteed variable remuneration award in exceptional circumstances for new hires, and for the first year of employment only. It would typically involve a critical new hire, and would also depend on factors such as the seniority of the individual, whether the new hire candidate has any competing offers and the timing of the hire during the performance year.*

2 *Includes payments such as payment in lieu of notice, statutory severance, outplacement service, legal fees, ex-gratia payments and settlements (excludes pre-existing benefit entitlements triggered on terminations).*

Table 49: Deferred remuneration at 31 December[1] (REM3)

Deferred and retained remuneration – £m	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*	Total amount of adjustment during the financial year due to ex post implicit adjustments	Total amount of deferred remuneration awarded before the financial year actually paid out in the financial year	Total of amount of deferred remuneration awarded for previous performance period that has vested but is subject to retention periods
MB Supervisory function	—	—	—	—	—	—
Cash-based	—	—	—	—	—	—
Shares or equivalent ownership interests	—	—	—	—	—	—
Share-linked instruments or equivalent non-cash instruments	—	—	—	—	—	—
Other forms	—	—	—	—	—	—
MB Management function	**6.6**	***0.9***	***5.7***	**0.2**	**0.9**	**0.2**
Cash-based	**2.6**	***0.3***	***2.3***	—	**0.3**	—
Shares or equivalent ownership interests	**4**	***0.6***	***3.4***	**0.2**	**0.6**	**0.2**
Share-linked instruments or equivalent non-cash instruments	—	—	—	—	—	—
Other forms	—	—	—	—	—	—
Other senior management	**10.5**	***1.7***	***8.8***	**0.4**	**1.7**	**0.2**
Cash-based	**4.5**	***0.7***	***3.8***	—	**0.7**	—
Shares or equivalent ownership interests	**6**	***1***	***5***	**0.4**	**1**	**0.2**
Share-linked instruments or equivalent non-cash instruments	—	—	—	—	—	—
Other forms	—	—	—	—	—	—
Other identified staff	**17.1**	***3.8***	***13.3***	**0.5**	**3.8**	**0.4**
Cash-based	**7.2**	***1.4***	***5.8***	—	**1.4**	—
Shares or equivalent ownership interests	**9.9**	***2.4***	***7.5***	**0.5**	**2.4**	**0.4**
Share-linked instruments or equivalent non-cash instruments	—	—	—	—	—	—
Other forms	—	—	—	—	—	—
Total amount	**34.2**	***6.4***	***27.8***	**1.1**	**6.4**	**0.8**

1 *This table provides details of balances and movements during performance year 2022. For details of variable pay awards granted for 2022, refer to the 'Remuneration awarded for the financial year' table. Deferred remuneration is made in cash and/or shares. Share-based awards are made in HSBC shares.*

Table 50: Identified staff – Remuneration by band[1] (REM4)

	Identified staff that are high earners as set out in Article 450(i) CRR
€1,000,000 – 1,500,000	6
€1,500,000 – 2,000,000	4
€2,000,000 – 2,500,000	1
€2,500,000 – 3,000,000	–
€3,000,000 – 3,500,000	1
€3,500,000 – 4,000,000	–
€4,000,000 – 4,500,000	–
€4,500,000 – 5,000,000	1

1 *Table prepared in Euros in accordance with Article 450 of the European Union Capital Requirements Regulation, using the exchange rates published by the European Commission for financial programming and budget for December of the reported year as published on its website.*

Table 51: Remuneration of staff whose professional activities have a material impact on institutions' risk profile (REM5)

	Management body remuneration			Business areas				
£m	MB Supervisory function	MB Management function	Total MB	Retail banking	Corporate functions	Independent internal control functions	All other	Total
Total number of identified staff								93
– of which: members of the MB	***8***	***3***	***11***					
other senior management				***4***	***7***	***3***	***1***	
other identified staff				***31***	***16***	***18***	***2***	
Total remuneration of identified staff	1.4	6.8	8.2	20.3	13.2	8	1.7	
– of which: variable remuneration[1]		***3.9***	***3.9***	***8.6***	***5.7***	***3***	***0.7***	
fixed remuneration	***1.4***	***2.9***	***4.3***	***11.7***	***7.5***	***5***	***1***	

1 *Variable pay awarded in respect of 2022. In accordance with shareholder approval received on 23 May 2014 (98% in favour), for each MRT the variable component of remuneration for any one year is limited to 200% of fixed component of the total remuneration.*

Appendix I

Countercyclical capital buffer

The table below discloses the geographical distribution of credit exposures relevant to the calculation of the countercyclical buffer under Article 440 of the Regulation (EU) 575/2013. Countries or territories that have a CCyB requirement, or have an own funds requirement of greater than 0.1%, or that are material in nature are disclosed below.

Table 52: Geographical distribution of credit exposures relevant for the calculation of the countercyclical buffer (UK CCyB1)

	General credit exposures		Relevant credit exposures – Market risk		Securitisation exposures		Own funds requirements						
	SA	IRB	Sum of long/ short positions for SA	Internal models	Total Exposure value for non-trading book	Total exposure value	Relevant credit risk exposures – Credit risk	Relevant credit exposures – Market risk	Securitis-ation positions in the non-trading book	Total	Risk weighted exposure amounts	Own funds require-ments weights	CCyB rate
Country	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**%**	**%**
Bulgaria	—	4	—	—	—	4	—	—	—	—	1	—	—
Czech Republic	—	10	—	—	—	10	—	—	—	—	3	—	—
Denmark	—	20	—	—	—	20	—	—	—	—	5	—	—
Estonia	—	1	—	—	—	1	—	—	—	—	—	—	—
Hong Kong	—	1,458	—	—	—	1,458	35	—	—	35	434	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	12	320	—	—	—	332	9	—	—	9	116	—	—
Jersey	—	413	—	—	—	413	22	—	—	22	271	—	—
Luxembourg	—	247	—	—	—	247	17	—	—	17	211	—	—
Netherlands	—	825	—	—	—	826	37	—	—	37	469	—	—
Norway	—	6	—	—	—	6	—	—	—	—	2	—	—
Romania	—	11	—	—	—	11	—	—	—	—	4	—	—
Singapore	—	454	—	—	—	454	12	—	—	12	155	—	—
Slovakia	—	11	—	—	—	11	—	—	—	—	4	—	—
Sweden	—	11	—	—	—	11	—	—	—	—	1	—	—
Switzerland	—	326	—	—	—	326	8	—	—	8	98	—	—
United Arab Emirates	2	666	—	—	—	668	12	—	—	12	144	—	—
United Kingdom	4,228	245,502	—	—	3,131	252,861	5,957	—	52	6,009	75,115	—	—
United States	149	1,633	—	—	—	1,782	66	—	—	66	823	—	—
Virgin Islands, British	—	226	—	—	—	226	10	—	—	10	124	—	—
Other Countries	26	2,410	—	—	—	2,436	59	—	—	59	744	—	—
Total	**4,417**	**254,553**	**—**	**—**	**3,131**	**262,101**	**6,246**	**—**	**52**	**6,298**	**78,725**	**—**	

Table 53: Amount of institution-specific countercyclical capital buffer (UK CCyB2)

	2022
Total Risk Exposure Amount (£m)	92,413
Institution specific countercyclical capital buffer rate (%)	0.96
Institution specific countercyclical capital buffer requirement (£m	888

Appendix II

Asset encumbrance

Table 54: Encumbered and unencumbered assets (UK AE1)[1]

		Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
		Total	*of which: notionally eligible EHQLA and HQLA*	Total	*of which: notionally eligible EHQLA and HQLA*	Total	*of which: EHQLA and HQLA*	Total	*of which: EHQLA and HQLA*
		010	*030*	040	*050*	060	*080*	090	*100*
		£m	*£m*	£m	*£m*	£m	*£m*	£m	*£m*
010	**Assets of the reporting institution**	**27,967**	***8,375***			**314,561**	***101,369***		
020	Loans on demand	**4,700**	**—**			**95,264**	***93,819***		
030	Equity instruments	**—**	**—**	**—**	**—**	**36**	**—**	**36**	**—**
040	Debt securities	**8,375**	***8,375***	**8,375**	***8,375***	**7,717**	***6,934***	**7,328**	***6,544***
	– *of which:*								
050	*covered bonds*	**—**	**—**	**—**	**—**	***1,206***	**1,206**	***1,206***	**1,206**
060	*securitisations*	**—**	**—**	**—**	**—**	***5***	**—**	***5***	**—**
070	*issued by general governments*	***8,375***	**8,375**	***8,375***	**8,375**	***5,057***	**4,512**	***4,667***	**4,121**
080	*issued by financial corporations*	**—**	**—**	**—**	**—**	***2,383***	**2,146**	***2,384***	**2,147**
090	*issued by non-financial corporations*	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
120	Other assets	**14,892**	**—**			**211,544**	***615***		

Table 55: Collateral received and own debt securities issued (UK AE2)[1]

				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	
		Total	*of which: notionally eligible EHQLA and HQLA*	Total	*of which: EHQLA and HQLA*
		010	*030*	040	*060*
		£m	*£m*	£m	*£m*
130	**Collateral received by the reporting institution**	**5,967**	***5,838***	**4,117**	***3,886***
140	Loans on demand	**—**	**—**	**—**	**—**
150	Equity instruments	**—**	**—**	**—**	**—**
160	Debt securities	**5,967**	***5,838***	**4,117**	***3,886***
170	– *of which:* *covered bonds*	**—**	**—**	***108***	**108**
180	*securitisations*	**—**	**—**	**—**	**—**
190	*issued by general governments*	***5,350***	**5,239**	***3,589***	**3,464**
200	*issued by financial corporations*	***617***	**599**	***528***	**423**
210	*issued by non-financial corporations*	**—**	**—**	**—**	**—**
220	Loans and advances other than loans on demand	**—**	**—**	**—**	**—**
230	Other collateral received	**—**	**—**	**—**	**—**
240	**Own debt securities issued other than own covered bonds or securitisations**	**—**	**—**	**—**	**—**
241	**Own covered bonds and asset-backed securities issued and not yet pledged**			**—**	**—**
250	**Total assets, collateral received and own debt securities issued**	**33,934**	***14,213***		

Table 56: Sources of encumbrance (UK AE3)[1]

		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and securitisations encumbered
		010	030
		£m	£m
010	Carrying amount of selected financial liabilities	**20,435**	**26,728**

1 *The values in these tables are the average of quarterly data points in the year.*

Importance of encumbrance

We are a deposit-led bank and hence the majority of our funding is from customer current accounts and customer savings deposits payable on demand or at short notice. Given this structural unsecured funding position, we have less requirement to fund ourselves in secured markets, and therefore our overall low level of encumbrance reflects this position. There is monitoring against a limit on the level of asset encumbrance.

Other Information

Abbreviations

The following abbreviated terms are used throughout this document.

A	
AC	Audit Committee
AIRB[1]	Advanced internal ratings based approach
ALCO	Asset and Liability Management Committee
ASF	Available Stable Funding
AT1	Additional tier 1
AVA	Additional value adjustment
B	
Basel	Basel Committee on Banking Supervision
C	
CCB[1]	Capital conservation buffer
CCF	Credit conversion factor
CCP[1]	Central counterparty
CCR[1]	Counterparty credit risk
CCyB[1]	Countercyclical capital buffer
CET1[1]	Common equity tier 1
CRA	Credit risk adjustment
CRD IV[1]	Capital Requirements Regulation and Directive
CRE[1]	Commercial real estate
CRM[1]	Credit risk mitigation/mitigant
CRO	Chief Risk Officer
CRR[1]	Customer risk rating
CRR II	Revised Capital Requirements Regulation, as implemented
CSA[1]	Credit Support Annex
CVA[1]	Credit valuation adjustment
E	
EAD[1]	Exposure at default
EBA	European Banking Authority
EC	European Commission
ECA	Export Credit Agency
ECAI	External Credit Assessment Institution
ECL[1]	Expected credit losses. In the income statement, ECL is recorded as a change in expected credit losses and other credit impairment charges. In the balance sheet, ECL is recorded as an allowance for financial instruments to which only the impairment requirements in IFRS 9 are applied
EEA	European Economic Area
EL[1]	Expected loss
EHQLA	Extremely high-quality liquid assets
ELBE	Expected Loss Best Estimate
ESG	Environmental, Social and Governance
EU	European Union
EVE	Economic value of equity
F	
Fitch	Fitch Ratings
FIRB	Foundation internal ratings based approach
FVOCI[1]	Fair value through other comprehensive income
G	
G-SIB[1]	Global systemically important bank
G-SII	Global systemically important institution
H	
HQLA	High-quality liquid assets
HTC&S	Hold to collect and sell
I	
IAA	Internal assessment approach
ICAAP[1]	Internal capital adequacy assessment process
ICR	Individual capital requirement
IFRS	International Financial Reporting Standards
ILAA	Individual liquidity adequacy assessment
IMA[1]	Internal models approach
IMM[1]	Internal model method
IRB[1]	Internal ratings-based approach
IRC	Incremental Risk Charge
IRRBB	Interest rate risk in the banking book
ISSB	International Sustainability Standards Board
L	
LCR[1]	Liquidity coverage ratio
LGD[1]	Loss given default
M	
MOF	Model Oversight Forum
Moody's	Moody's Investor Service
MRC	Model Risk Committee
MREL	Minimum requirements for own funds and eligible liabilities
MTM	Mark-to-Market
N	
NCOA	Non-credit obligation asset
NII	Net interest income
NMD	Non-maturity deposits
NPE	Non-performing exposures
NPL	Non-performing loan
NSFR[1]	Net stable funding ratio
O	
OTC[1]	Over-the-counter
P	
PD1	Probability of default
PFE	Potential future exposure
PIT	Point-in-time
POCI	Purchased or originated credit impaired loans
PP&E	Property, plant and equipment
PRA1	Prudential Regulation Authority (UK)
PVA	Prudent valuation adjustment
Q	
QCCP	Qualifying central counterparty
R	
RAS	Risk appetite statement
RC	Risk Committee
Retail IRB1	Retail internal ratings-based approach
RMF	Risk Management Framework
RMM	Risk Management Meeting
RSF	Required stable funding
S	
SA/STD[1]	Standardised approach
SA-CCR	Standardised approach for counterparty credit risk
S&P	Standard and Poor's rating agency
SEC-ERBA	Securitisation internal rating-based approach
SEC-IRBA	Securitisation external rating-based approach
SEC-SA	Securitisation standardised approach
SFT	Securities financing transactions
SME	Small and medium-sized enterprise
SPE[1]	Special purpose entity
SREP	Supervisory review and evaluation process
SRT	Significant Risk Transfer
STS	Simple transparent and Standardised
T	
TLAC[1]	Total Loss Absorbing Capacity
TTC	Through-the-cycle
T1 capital[1]	Tier 1 capital
T2 capital[1]	Tier 2 capital
U	
UK	United Kingdom
V	
VaR[1]	Value at risk

1 *Full definition included in the Glossary published on HSBC website www.hsbc.com*

HSBC UK Bank plc

1 Centenary Square
Birmingham B1 1HQ
United Kingdom
Telephone: 03456 040 626
www.hsbc.co.uk