

HSBC UK Bank plc

Pillar 3 Disclosures at 31 December 2020

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Presentation of information

This document comprises the 2020 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. References to 'HSBC Group' or 'the Group' within this document mean 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.

Tables

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HSBC UK has adopted the European Union's ('EU') regulatory transitional arrangements for International Financial Reporting Standard ('IFRS') 9 Financial Instruments. A number of the tables in this document report under this arrangement, as follows:

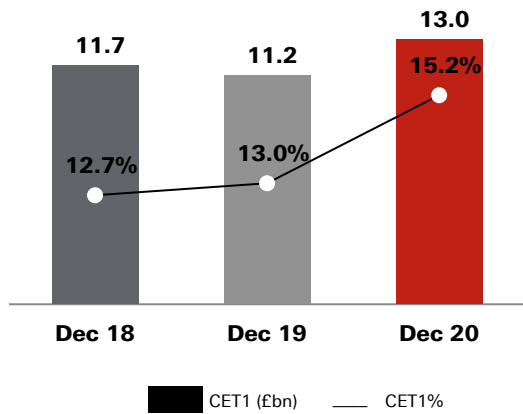
- a. Some figures, indicated with ^, have been prepared on an IFRS 9 transitional basis.
- b. All figures within this table have been prepared on an IFRS 9 transitional basis.

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

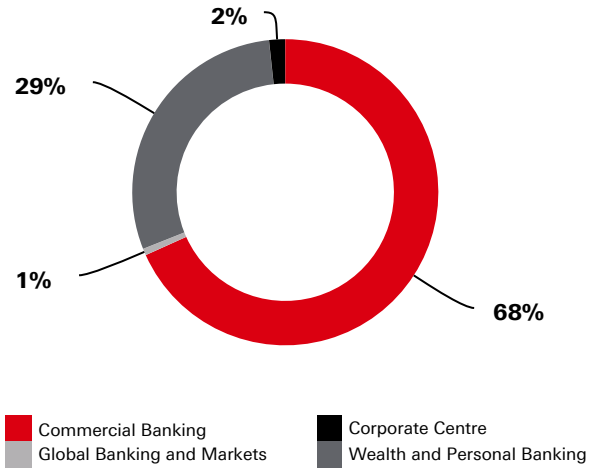
Highlights

Common equity tier 1 ('CET1') ratio further strengthened during 2020 to 15.2% driven by an increase in capital due to the add-back of loan loss allowances recognised on the non-credit-impaired book as per IFRS9 transitional rules, a decrease in excess expected loss deduction and changes to the capital treatment of software assets.

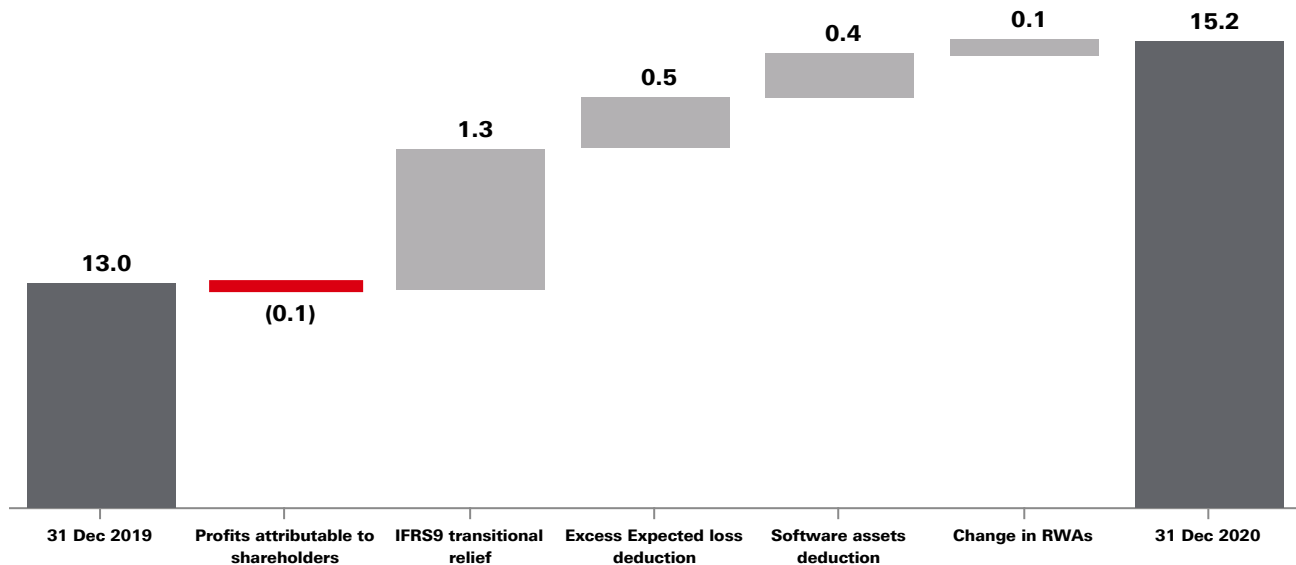
Common equity tier 1: £13.0bn and 15.2%



Risk-weighted assets % by global business £85.5bn



Common equity tier 1 ratio movement, %



Key metrics

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

Ref*		Footnotes	At 31 December	
			2020	2019
	Available capital (£m)	1		
1	Common equity tier 1 capital	^	12,963	11,202
2	CET1 capital as if IFRS 9 transitional arrangements had not been applied		11,856	11,186
3	Tier 1 capital	^	15,197	13,453
4	Tier 1 capital as if IFRS 9 transitional arrangements had not been applied		14,091	13,437
5	Total regulatory capital	^	18,171	16,462
6	Total capital as if IFRS 9 transitional arrangements had not been applied		17,505	16,446
	Risk-weighted assets ('RWAs') (£m)			
7	Total RWAs	^	85,477	85,881
8	Total RWAs as if IFRS 9 transitional arrangements had not been applied		85,530	85,866
	Capital ratios (%)	1		
9	CET1	^	15.2	13.0
10	CET1 as if IFRS 9 transitional arrangements had not been applied		13.9	13.0
11	Total Tier 1	^	17.8	15.7
12	Tier 1 as if IFRS 9 transitional arrangements had not been applied		16.5	15.6
13	Total capital	^	21.3	19.2
14	Total capital as if IFRS 9 transitional arrangements had not been applied		20.5	19.1
	Additional CET1 buffer requirements as a percentage of RWA (%)			
	Capital conservation buffer requirement		2.50	2.50
	Countercyclical buffer requirement		0.00	0.97
	Other Systemically Important Institutions ('O-SII') buffer requirement	1	1.00	1.00
	Total of bank CET1 specific buffer requirements		3.50	4.47
	Total capital requirement (%)	2		
	Total capital requirement (Pillar 1 + Pillar 2A)		12.5	12.2
	CET1 available after meeting the bank's minimum capital requirements		8.1	6.2
	Leverage ratio	3		
15	Total leverage ratio exposure measure (£m)		317,196	268,271
16	Leverage ratio (%)	^	4.8	5.0
17	Leverage ratio as if IFRS 9 transitional arrangements had not been applied (%)		4.5	5.0

* The references in this and subsequent tables identify the lines prescribed in the European Banking Authority ('EBA') templates where applicable and where there is a value.

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

1 The PRA re-designated ring-fenced banks buffers from Systemic Risk Buffer ('SyRB') into Other Systemically Important Institutions ('O-SII') buffer in December 2020.

2 Total capital requirement is defined as the sum of Pillar 1 and Pillar 2A capital requirements set by the Prudential Regulation Authority ('PRA'). Our Pillar 2A requirement at 31 December 2020, as per the PRA's Individual Capital Guidance based on a point in time assessment, was 4.51% of RWAs, of which 2.53% was met by CET1.

3 The leverage ratio is calculated using the Revised Capital Requirements Regulation and Directive as implemented ('CRR II') end point basis for capital.

We have adopted the regulatory transitional arrangements for IFRS 9 'Financial Instruments', including paragraph four within Article 473a of the Capital Requirements Regulation, published by the EU on 27 December 2017. These transitional arrangements permit banks to add back to their capital base a proportion of the impact that IFRS 9 has upon their loan loss allowances during the first five years of use. The impact of IFRS 9 on loan loss allowances 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 capital deduction thresholds, 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 enacted in June 2020 increased from 70% to 100% the relief that banks may take for loan loss allowances recognised since 1 January 2020 on the non-credit-impaired book. This relief will reduce to 75% in 2022, 50% in 2023, and 25% in 2024.

In the current period (31 December 2020), the add-back to the capital base amounted to £1,074m under the IRB approach and £32m under the STD approach.

At 31 December 2019, the add-back to the capital base was nil under the IRB approach and £16m under the STD approach.

Where applicable, our reporting throughout this document also reflects government relief schemes intended to mitigate the impact of the Covid-19 outbreak.

Pillar 3 Disclosures at 31 December 2020

Table 2: Reconciliation of capital with and without IFRS 9 transitional arrangements applied

	CET1 £m	T1 £m	Total own funds £m
Reported balance using IFRS 9 transitional arrangements	12,963	15,197	18,171
ECL reversed under transitional arrangements for IFRS 9	1,106	1,106	666
– Standardised approach	32	32	18
– IRB approach	1,074	1,074	648
Reported balance excluding IFRS 9 transitional arrangements at 31 December 2020	11,857	14,091	17,505
Reported balance using IFRS 9 transitional arrangements	11,202	13,453	16,462
ECL reversed under transitional arrangements for IFRS 9	16	16	16
– Standardised approach	16	16	16
– IRB approach	–	–	–
Reported balance excluding IFRS 9 transitional arrangements at 31 December 2019	11,186	13,437	16,446

Table 3: Pillar 1 overview

	At 31 December 2020		At 31 December 2019	
	RWAs £m	Capital required ¹ £m	RWAs £m	Capital required ¹ £m
Credit risk	74,690	5,975	75,353	6,028
Counterparty credit risk	122	10	198	16
Market risk	156	12	27	2
Operational risk	10,509	841	10,303	824
Total	85,477	6,838	85,881	6,870

¹ 'Capital required', here and in all tables where the term is used, represents the minimum total capital charge set at 8% of RWAs by article 92 of the Capital Requirements Regulation.

Table 4: RWAs by global business¹

	At 31 December 2020		At 31 December 2019	
	RWAs £m	Capital required £m	RWAs £m	Capital required £m
Wealth and Personal Banking ('WPB')	25,061	2,005	23,860	1,909
Commercial Banking ('CMB')	58,362	4,669	59,677	4,774
Global Banking and Markets ('GBM')	600	48	365	29
Corporate Centre	1,454	116	1,979	158
Total	85,477	6,838	85,881	6,870

¹ Please refer to page 6 of our Annual Report and Accounts 2020 for a description of the activities of our global businesses.

Pillar 3 disclosures

Regulatory framework for disclosures

We are supervised on a consolidated basis in the UK by the PRA.

We have calculated capital for prudential regulatory reporting purposes using the Basel III framework of the Basel Committee on Banking Supervision ('Basel') as implemented by the EU in CRR II.

The Basel framework is structured around three 'pillars': the Pillar 1 minimum capital requirements and Pillar 2 supervisory review process are complemented by Pillar 3 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 framework and the rules in their jurisdiction, their capital condition, risk exposures and risk management processes, and hence their capital adequacy.

Following the end of the transitional period, any reference to EU regulation (including technical standards) should be read as a reference to the UK's version of that regulation as modified by Parliament, Her Majesty's Treasury ('HMT'), or the relevant regulators.

Our Pillar 3 Disclosures at 31 December 2020 comprises both quantitative and qualitative information required under Pillar 3. They are made in accordance with Part Eight of CRR II and the EBA guidelines on disclosure requirements.

These disclosures are supplemented by specific additional requirements of the PRA and discretionary disclosures on our part.

Comparatives

To give insight into movements during the year, we provide comparative figures for the previous year or period. The references in tables identify the lines prescribed in the relevant EBA template where applicable and where there is a value.

Where disclosures have been enhanced, or are new, we do not generally restate nor provide prior year comparatives. Wherever specific rows and columns in the tables prescribed by the EBA or Basel are not applicable or are immaterial to our activities, we omit them and follow the same approach for comparative disclosures.

Frequency and location

We publish comprehensive Pillar 3 disclosures annually on the Group website www.hsbc.com, concurrently with the release of our Annual Report and Accounts, and summarised Pillar 3 disclosures at the half year in the HSBC UK Bank plc Interim Report.

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 our Annual Report and Accounts 2020 or other locations. We continue to engage in the work of the UK authorities and industry associations to improve the transparency and comparability of our disclosures.

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 in our Annual Report and Accounts 2020.

Capital buffers

The geographical breakdown and institution specific countercyclical buffer disclosure is provided in Appendix II. The HSBC Group G-SIB indicators disclosure is published annually on the HSBC website www.hsbc.com.

Regulatory developments

The UK's withdrawal from the EU

At 11pm on 31 December 2020, the UK ceased to be subject to the EU's legal and regulatory framework. In preparation for this, HMT, the Prudential Regulation Authority ('PRA') and the Financial Conduct Authority undertook an exercise of converting all of the EU's existing legislation into UK law, regulatory rules and guidance. Broadly, these entered into force on 31 December 2020.

Only those parts of the EU's framework that were published and in force on 31 December 2020 have been imported into the UK's framework. This includes any rules contained in EU Directives, Regulations, Regulatory Technical Standards and Implementing Technical Standards. In some circumstances, the EU's framework has been amended, principally to make the legislation operable in the UK, but also to reflect the EU's new status as a 'third country' under UK law. Any legislation that was published but not in force on or before the 31 December 2020 has not been incorporated into UK law.

In November 2020, the UK made a series of equivalence decisions in relation to the EU, which applied from 31 December 2020. The decisions serve to negate potential RWA uplifts in relation to risk weights for exposures to financial institutions in the EU.

In December 2020, the Bank of England and the PRA published changes to their rules and technical standards in preparation for the UK ceasing to be subject to EU law. As part of this, the PRA exercised temporary transitional powers to delay the implementation of any rule changes arising from the UK's withdrawal from the EU. The transitional provisions are wide reaching, with limited exemptions, and expire on 31 March 2022.

Covid-19

The Covid-19 pandemic has created an unprecedented challenge to the global economy. Governments, central banks and regulatory authorities have responded to this challenge with a number of customer support and operational capacity measures, and amendments to the RWA, capital and liquidity frameworks.

In the EU, the measures included a package known as the 'CRR Quick Fixes' that was enacted in June 2020. This implemented some of the beneficial elements of the amendments to the Capital Requirements Regulation ('CRR II'), which were originally scheduled for June 2021, together with other amendments to mitigate any undue volatility in capital ratios arising from the pandemic. This included the amended transitional provisions on the regulatory capital treatment of IFRS 9, the revised small- and medium-sized enterprise ('SME') and infrastructure supporting factors, and changes to the capital treatment of software assets. In large part, the package came into effect in 2020 and therefore has been transposed into UK law, following the UK's withdrawal from the EU.

While the PRA confirmed in December 2020 that the revised treatment of software assets had been onshored into UK law, it issued a consultation in February 2021 on the CRR II, which includes a proposal to reverse the EU's changes on software assets. In the meantime, it has recommended that firms not base their distribution decisions on any capital increase from applying the EU's changes.

The Basel III Reforms

The Basel Committee on Banking Supervision ('Basel') completed the Basel III Reforms in July 2020 when it published the final revisions to the credit valuation adjustment ('CVA') framework. The package is scheduled to be implemented on 1 January 2023, with a five-year transitional provision for the output floor. This floor ensures that, at the end of the transitional period, banks' total RWAs will be no lower than 72.5% of those generated by the

standardised approaches. The final standards will need to be transposed into the relevant local law before coming into effect.

In June 2019, the EU enacted the CRR II. This implemented changes to the own funds regime and to the Financial Stability Board's ('FSB') requirements for total loss-absorbing capacity ('TLAC'), known in the EU as the minimum requirements for own funds and eligible liabilities ('MREL'). It also included the first tranche of changes to the EU's legislation to reflect the Basel III Reforms, including the changes to market risk rules under the Fundamental Review of the Trading Book, revisions to the standardised approach for measuring counterparty risk, changes to the equity investments in funds rules, amendments to the large exposures rules, the new leverage ratio rules and the implementation of the net stable funding ratio.

Given that many of the CRR II changes do not enter into force until June 2021, these were not transposed into UK law on 31 December 2020 and therefore will be implemented separately in the UK. In February 2021, the PRA issued a consultation on the implementation of the CRR II, which covers all of the key elements with the exception of the changes relating to the leverage ratio. Final rules are expected to be published by the end of June 2021, with a target implementation date of 1 January 2022.

The PRA has confirmed that its proposed changes to the leverage ratio will be published once a review by the Financial Policy Committee and Prudential Regulation Committee has been completed in the summer of 2021.

The remaining elements of the Basel III Reforms will be implemented separately in the UK; however, the PRA has yet to consult on these. There remains a significant degree of uncertainty in the impact of the Basel III Reforms due to the number of national discretions and the need for further supporting technical standards to be developed. The UK's implementation of the remaining elements of the Basel III Reforms is expected to be on 1 January 2023, consistent with Basel's timeline.

The Fifth Capital Requirements Directive ('CRD V') and the Second Bank Recovery and Resolution Directive ('BRRD II')

The CRD V and BRRD II were implemented in the EU on 28 December 2020. The UK's approach was to enact only those elements that came into force before it ceased to be subject to EU law. For CRD V, this includes the changes to the structure of capital buffers that apply to ring-fenced banks and the regulation of financial holding companies.

In support of this, the PRA published its final CRD V rules in December 2020. This included the implementation of Basel's standards on interest rate risk in the banking book ('IRRBB'); changes to the calculation of the maximum distributable amount ('MDA'); the introduction of regulation for bank holding companies; and the re-designation of ring-fenced banks' buffers from Systemic Risk Buffers ('SyRB') into Other Systemically Important Institutions ('O-SII') buffers. The changes are subject to a phased implementation.

Although the UK implemented the changes in BRRD II, a sunset clause was built into the legislation, so that some of the requirements were revoked when the UK ceased to be subject to EU law on 31 December 2020. This included the restrictions on dividends as a result of a breach of the combined buffer requirement, pre-resolution moratorium powers and the contractual recognition of bail-in. The restrictions on selling of subordinated eligible liabilities to retail clients were retained in UK law.

Credit Risk

To address concerns about the variability and comparability of the capital requirements under the IRB Approach to credit risk, the EU has undertaken a review of the requirements and proposed a series of changes to the framework. This includes changes to the definition of default and to the methodologies for risk parameter estimation. Broadly, these changes are being implemented in the UK and will take effect from 1 January 2022.

In September 2020, the PRA published a consultation to introduce risk-weight floors for UK mortgages subject to the IRB approach. The PRA has proposed that each individual mortgage should be subject to a 7% risk-weight floor. In addition, there will be an exposure-weighted average portfolio risk-weight of at least 10% for all IRB UK residential mortgage exposures. The PRA is also proposing to implement the changes from 1 January 2022.

Capital Buffers

In its December 2020 Financial Stability Report, the Financial Policy Committee updated its guidance on the path for the UK Countercyclical Capital Buffer ('CCyB') rate. It now expects this rate to remain at 0% until at least the last quarter of 2021 meaning that any subsequent increase is not expected to take effect until the last quarter of 2022 at the earliest given the 12-month implementation lag.

In December 2020, the PRA announced its decision to maintain ring-fenced banks SyRB rates at the level set in December 2019 for a further year, in response to the ongoing economic shock from Covid-19. The SyRB was converted to an O-SII buffer in December, in line with the CRD V. The PRA will next reassess firms' rates in December 2022, based on balance sheet positions at 31 December 2021. Any decision taken at that time will take effect from January 2024.

Other Developments

In October 2020, HMT published a consultation launching the second phase of its Future Regulatory Framework review of how the UK's regulatory framework needs to adapt long term. This proposes a framework where detailed prudential rules are designed and implemented by the PRA, based upon high-level principles set by the UK's Parliament and government. Furthermore, there will be improvements to the accountability of the PRA to Parliament, HMT and the industry.

In December 2020, the PRA published a Dear CEO letter setting out its six 2021 supervisory priorities; namely, financial and operational resilience, credit and operational risk, transition from Libor and financial risks arising from climate change. The PRA also stressed that the submission of complete, timely and accurate regulatory returns continues to be the foundation of effective supervision and that the pilot project it has been running to assess the standard of regulatory returns will continue into 2021.

In parallel with similar developments in Europe, it is anticipated that the PRA will review the requirements for the capitalisation of structural FX risk to align to a Pillar 1 approach.

Risk management

Our risk management framework

We use an enterprise-wide risk management framework across the organisation and across all risk types.

The framework fosters continuous monitoring of the risk environment, and promotes risk awareness and sound operational and strategic decision making. It also ensures we have a consistent approach to monitoring, managing and mitigating the risks we accept and incur in our activities.

Further information on our risk management framework, and the management and mitigation is set out from page 19 of our Annual Report and Accounts 2020.

Risk culture

We recognise the importance of a strong risk culture, the fostering of which is a key responsibility of senior executives. Our risk culture is reinforced by our values and the Global Standards programme. 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.

Our risk culture is further reinforced by our approach to remuneration. Individual awards, including those for senior executives, are based on compliance with the Group Values and

the achievement of financial and non-financial objectives that are aligned to our risk appetite and strategy.

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. The Risk Committee met formally eight times during 2020.

Executive accountability for the ongoing monitoring, assessment and management of the risk environment, and the effectiveness of the risk management framework resides with HSBC UK's Chief Risk Officer ('CRO'). He is supported by the Risk Management Meeting ('RMM') of HSBC UK's Executive Committee. The HSBC UK RMM is chaired by the HSBC UK CRO and membership includes the Chief Executive Officer ('CEO'), the Business heads of CMB, WPB, GMB and senior executives from Risk, Finance, Audit and Regulatory Compliance.

Regular Financial Crime Risk Management meetings of the Executive Committee, chaired by the CEO, are held to ensure effective enterprise wide management of financial crime risk within HSBC UK and to support the CEO in discharging these financial crime responsibilities.

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 employees have a role to play in risk management. These roles are defined using the three lines of defence model, which delineates management accountabilities and responsibilities for risk management and the control environment.

Our executive risk governance structures ensure appropriate oversight and accountability for risk, which facilitates the reporting and escalation to the RMM.

The activities of the Risk Committee are set out from page 64 of our Annual Report and Accounts 2020.

Risk appetite

Risk appetite is a key component of our management of risk. It describes the type and quantum of risk that HSBC UK is willing to accept in achieving its medium and long-term strategic goals. In HSBC UK, risk appetite is managed through a risk appetite framework and articulated in a risk appetite statement ('RAS'), which is approved annually by the Board on the advice of the Risk Committee.

HSBC UK's risk appetite informs our strategic and financial planning process, defining our desired forward-looking risk profile. It is also integrated within other risk management tools, such as the top and emerging risks report and stress testing, to ensure consistency in risk management.

Further information about our risk appetite is set out on page 19 of our Annual Report and Accounts 2020.

Stress testing

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

Our testing programme assesses our capital strength, ability to maintain adequate liquidity resources and our resilience to external shocks. It also helps us understand and mitigate risks, and informs our decision about capital levels and contingency funding plans. As well as taking part in regulatory driven stress tests, we conduct our own internal stress tests.

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 and details of HSBC UK's regulatory stress test results are set out from page 20 of our Annual Report and Accounts 2020.

HSBC UK Risk function

We have a dedicated Risk function, headed by the CRO, which is responsible for our risk management framework. This includes establishing policy, monitoring risk profiles, and forward-looking risk identification and management. HSBC UK Risk is structured to ensure appropriate coverage across our operations. It is independent from the global businesses, including sales and trading functions, helping to ensure balance in risk/ 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 providing entrepreneurial leadership of the bank within a framework of prudent and effective controls which enables risks to be assessed and managed. This includes providing ongoing assurance that the risk management systems put in place within HSBC UK are appropriate to match its risk profile and strategy. On behalf of the Board, the Audit Committee has responsibility for oversight of internal controls over financial reporting, and the Risk Committee has responsibility for oversight of risk management and internal controls other than for financial reporting.

Further information on our key risk management and internal control procedures is set out on page 64 of our Annual Report and Accounts 2020, where the Report of the Directors on the effectiveness of internal controls can also be found.

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 systems development is a key responsibility of the Group's Global Risk 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 Group continues to invest significant resources in IT systems and processes in order to maintain and improve its risk management capabilities. A number of key initiatives and projects to enhance consistent data aggregation, reporting and management, and work towards meeting the Group's Basel Committee data obligations are in progress. Group standards govern the procurement and operation of systems used in its subsidiaries including HSBC UK, to process risk information within business lines and risk functions.

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 functions in respect of risk governance and oversight, compliance risks, 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, develop risk models, and oversee model development and use toward our implementation targets for IRB approaches.

HSBC UK's Chief Risk Officer formally advises the Risk Committee on any material model related issues, which are discussed in the HSBC UK Risk Management Meeting before being advised to the Risk Committee. HSBC UK's Chief Risk Officer chairs a quarterly Model Risk Committee where the Model Risk owners attend as well as the model development areas, to review, challenge and escalate model related issues within HSBC UK.

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. It also ensures that the performance of those models is transparent and that their limitations are visible to key stakeholders.

Linkage to the Annual Report and Accounts 2020

Structure of the regulatory group

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

Pillar 3 Disclosures at 31 December 2020

Table 5: Reconciliation of balance sheets – financial accounting to regulatory scope of consolidation

	Ref ^t	Accounting balance sheet £m	Deconsolidation of securitisation entities £m	Consolidation of banking associates / joint ventures £m	Regulatory balance sheet £m
Assets					
Cash and balances at central banks		76,429	–	84	76,513
Items in the course of collection from other banks		253	–	–	253
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss		26	–	–	26
Derivatives		155	–	–	155
Loans and advances to banks		1,514	–	–	1,514
Loans and advances to customers		191,233	–	–	191,233
– of which: expected credit losses on IRB portfolios	f	(3,142)	–	–	(3,142)
Reverse repurchase agreements – non-trading		2,485	–	–	2,485
Financial investments		19,309	–	–	19,309
Capital invested in insurance and other entities		–	–	–	–
Prepayments, accrued income and other assets		9,310	–	21	9,331
– of which: retirement benefit assets	g	6,957	–	–	6,957
Current tax assets		49	–	–	49
Interests in joint ventures		8	–	(8)	–
Goodwill and intangible assets	d	4,093	–	–	4,093
Total assets at 31 Dec 2020		304,864	–	97	304,961
Liabilities and equity					
Liabilities					
Deposits by banks		540	–	84	624
Customer accounts		259,341	225	–	259,566
Repurchase agreements – non-trading		6,150	–	–	6,150
Items in the course of transmission to other banks		132	–	–	132
Derivatives		365	–	–	365
Debt securities in issue		866	(225)	–	641
Accruals, deferred income and other liabilities		1,941	–	13	1,954
Current tax liabilities		–	–	–	–
Provisions		979	–	–	979
– of which: credit-related contingent liabilities and contractual commitments on IRB portfolios	f	223	–	–	223
Deferred tax liabilities		1,677	–	–	1,677
Subordinated liabilities		10,015	–	–	10,015
– of which: included in Tier 2	j	2,967	–	–	2,967
Total liabilities at 31 Dec 2020		282,006	–	97	282,103
Equity					
Share premium account	a	9,015	–	–	9,015
Other equity instruments	h	2,196	–	–	2,196
Other reserves	b, c, e	7,838	–	–	7,838
Retained earnings	b, c	3,749	–	–	3,749
Total shareholders' equity		22,798	–	–	22,798
Non-controlling interests	i	60	–	–	60
Total equity at 31 Dec 2020		22,858	–	–	22,858
Total liabilities and equity at 31 Dec 2020		304,864	–	97	304,961

^t The references (a) – (j) identify balance sheet components that are used in the calculation of regulatory capital in table 7.

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 our *Annual Report and Accounts 2020*.

The *Pillar 3 Disclosures at 31 December 2020* are prepared in accordance with regulatory capital adequacy concepts and rules, while the *Annual Report and Accounts 2020* are prepared in accordance with International Financial Reporting Standards ('IFRSs'). The purpose of the regulatory balance sheet is to provide a point-in-time ('PIT') value of all on-balance sheet assets.

The regulatory exposure value includes an estimation of risk, and is expressed as the amount expected to be outstanding if or when the counterparty defaults.

Moreover, regulatory exposure classes are based on different criteria from accounting asset types and are therefore not comparable on a line by line basis.

Table 6 shows the difference between the accounting and regulatory scope of consolidation.

The regulatory consolidation also 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 / joint ventures are proportionally consolidated for regulatory purposes by including our share of assets, liabilities, profit and loss, and RWAs in accordance with the PRA's application of EU legislation.

A full list of entities included in the scope of consolidation is set out on page 126 of our Annual Report and Accounts 2020.

Table 6: Outline of the differences in the scopes of consolidation (entity by entity) (LI3)

			At 31 December 2020			
			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 management services	Equity		●		
SPEs excluded from the regulatory consolidation						
Neon Portfolio Distribution DAC	Securitisation	Fully			●	

Capital and Leverage

Capital management

Approach and policy

HSBC UK's objective in managing capital is to maintain appropriate levels of capital to support our business strategy and meet regulatory and stress testing related requirements.

HSBC UK manages its capital to ensure that it exceeds current and expected future requirements. Throughout 2020, the group complied with the PRA's regulatory capital adequacy requirements, including those relating to stress testing.

The policy on capital management is underpinned by the capital management framework and the internal capital adequacy assessment process ('ICAAP'), which enable the group to manage its capital in a consistent manner. The framework incorporates a number of different capital measures that govern the management and allocation of capital within HSBC Group. These capital measures are defined as follows:

- invested capital is the equity capital provided to the group by HSBC Group;
- economic capital is the internally calculated capital requirement that is deemed necessary by the group to support the risks to which it is exposed; and
- regulatory capital is the minimum level of capital that the group is required to hold in accordance with the rules established by the PRA.

The following risks managed through the capital management framework have been identified as material: credit, market, operational, interest rate risk in the banking book, pensions and residual risks.

Stress testing

Stress testing is incorporated into the capital management framework, and is an important component of understanding the sensitivity of the core assumptions in the group's capital plans to the adverse effect of extreme, but plausible, events. Stress testing allows senior management to formulate its response, including risk mitigating actions, in advance of conditions starting to reflect the stress scenarios identified.

Actual market stresses in the past and prevailing economic and political risks have been used to inform the capital planning process and further develop the scenarios employed by the group in its internal stress tests.

Other stress tests are also carried out, both at the request of regulators and by the regulators themselves, using their prescribed assumptions. The group takes into account the results of all such regulatory stress testing when assessing its internal capital requirements.

During the three quarters to September 2020, in light of the Covid-19 outbreak, we carried out additional internal testing on a baseline and stressed scenario. The results of these stress tests were considered in determining capital actions to manage the group's position.

Additionally, further stress testing was carried out to include scenarios relating to the impact of the UK's withdrawal from the EU without a trade agreement.

Risks to capital

Outside the stress testing framework, a list of principal risks is regularly evaluated for their effect on our capital ratios. In addition, other risks may be identified that have the potential to affect our RWAs and/or capital position. The downside or upside scenarios are assessed against our capital management objectives and mitigating actions are assigned as necessary.

The group's approach to managing its capital position has been to ensure the bank, its regulated subsidiaries and the group exceed current regulatory requirements, and that it is well placed to meet expected future capital requirements.

Risk-weighted asset targets

We establish RWA targets for our business lines through our annual planning process in accordance with HSBC Group's strategic direction and risk appetite. As these targets are deployed to lower levels of management, action plans for implementation are developed. These may include growth strategies, active portfolio management, restructuring, business and/or customer-level reviews, RWA accuracy and allocation initiatives and risk mitigation.

Business performance against RWA targets is monitored through regular reporting to the Asset and Liability Committee ('ALCO').

Capital generation

HSBC UK Holdings Limited, a 100% subsidiary of 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 requirements is returned to the shareholder in the form of dividends.

Overview of regulatory capital framework

Main features of CET1, AT1 and T2 instruments issued by HSBC UK

All capital securities included in the regulatory capital base of the group have been issued as fully compliant CRD IV securities under the Fourth Capital Requirements Regulation and Directive ('CRD IV'). For regulatory purposes, the group's capital base is divided into three main categories, namely Common Equity Tier 1, Additional Tier 1 and Tier 2, depending on the degree of permanence and loss absorbency exhibited. The main features of capital securities issued by the group are described below.

Tier 1 capital ('T1')

Tier 1 capital comprises shareholders' equity, related non-controlling interests (subject to limits) and qualifying capital instruments, after certain regulatory adjustments.

Common Equity Tier 1 ('CET1')

Called up ordinary shares issued by the bank to its parent are fully paid up and the proceeds of issuance are immediately and fully available. There is no obligation to pay a coupon or dividend to the shareholder arising from this type of capital. The share capital is available for unrestricted and immediate use to cover any risks and losses.

Additional Tier 1 capital ('AT1')

Qualifying AT1 instruments are perpetual securities on which there is no obligation to apply a coupon and, if not paid, the coupon is not cumulative. Such securities do not carry voting rights but rank higher than ordinary shares for coupon payments and in the event of a winding up. Fully compliant CRD IV AT1 instruments issued by the group include a provision whereby the instrument will be written down in whole in the event that either the bank's or group's CET1 ratio falls below 7.00%.

These instruments are accounted for as equity. Further details of qualifying CRR II AT1 instruments can be found in Note 23 – Called up share capital and other equity instruments of the Notes on the Financial Statements on page 120 of our Annual Report and Accounts 2020.

Tier 2 capital ('T2')

Tier 2 capital comprises eligible capital securities and other qualifying Tier 2 capital securities subject to limits.

Perpetual and term subordinated debt

Tier 2 capital securities are either perpetual subordinated securities or dated securities on which there is an obligation to pay coupons.

These instruments or subordinated loans comprise dated loan capital repayable at par on maturity and must have an original maturity of at least five years. Some subordinated loan capital may be called and redeemed by the issuer subject to prior consent from the PRA. If not redeemed, interest coupons payable may step up or become floating rate related to interbank offered rates. For regulatory purposes, it is a requirement that Tier 2 instruments are amortised on a straight-line basis in their final five years to maturity, thus reducing the amount of capital that is recognised for regulatory purposes.

Further details of these instruments can be found in Note 20 – Subordinated Liabilities of the Notes on the Financial Statements on page 114 of our Annual Report and Accounts 2020.

A list of the main features of our capital instruments in accordance with Annex III of the Commission Implementing Regulation 1423/2013 is published on the HSBC Group website, www.hsbc.com with reference to our balance sheet on 31 December 2020.

Table 7: Own funds disclosure

Ref*	Ref †	At 31 December	
		2020 £m	2019 £m
Common equity tier 1 ('CET1') capital: instruments and reserves			
1		9,015	9,015
		9,015	9,015
2	<i>a</i>	9,015	9,015
2	<i>b</i>	12,040	10,978
3	<i>c</i>	700	(211)
5a	<i>b</i>	(46)	161
6		21,709	19,943
Common equity tier 1 capital before regulatory adjustments			
Common equity tier 1 capital: regulatory adjustments			
7		(4)	(5)
8	<i>d</i>	(3,662)	(3,972)
11	<i>e</i>	(1)	14
12	<i>f</i>	0	(401)
15	<i>g</i>	(5,079)	(4,377)
28		(8,746)	(8,741)
29		12,963	11,202
Additional tier 1 ('AT1') capital: instruments			
30		2,196	2,196
31	<i>h</i>	2,196	2,196
34	<i>i</i>	38	55
36		2,234	2,251
44		2,234	2,251
45		15,197	13,453
Tier 2 capital: instruments and provisions			
46		2,915	2,935
48		52	74
51	<i>j</i>	2,967	3,009
57		7	–
58		2,974	3,009
59		18,171	16,462
60		85,477	85,881
Capital ratios and buffers			
61		15.2 %	13.0 %
62		17.8 %	15.7 %
63		21.3 %	19.2 %
64		3.50 %	4.47 %
65		2.50 %	2.50 %
66		– %	0.97 %
67		1.00 %	1.00 %
68		10.7 %	8.5 %
Amounts below the threshold for deduction (before risk weighting)			
75		200	231
Applicable caps on the inclusion of provisions in tier 2			
77		25	25
79		422	430

* The references identify the lines prescribed in the EBA template that are applicable and where there is a value.

† The references (a) – (j) identify balance sheet components in table 5 that are used in the calculation of regulatory capital.

1 Additional value adjustments are calculated on all assets measured at fair value and subsequently deducted from CET1.

Pillar 3 Disclosures at 31 December 2020

Leverage ratio

The leverage ratio was introduced into the Basel III framework as a non-risk-based limit, to supplement risk-based capital requirements. It aims to constrain the build-up of excess leverage in the banking sector, introducing additional safeguards against model risk and measurement errors. This ratio has been implemented in the EU for reporting and disclosure purposes but, at this stage, has not been set as a binding requirement.

The PRA's leverage ratio requirement applies to UK ring-fenced banks.

The risk of excess leverage is managed as part of the global risk appetite framework and monitored using a leverage ratio metric within the 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, to ensure that any excessive risk is highlighted, assessed and mitigated

appropriately. The risk appetite profile report is presented monthly to the RMM.

Our leverage ratio calculated in accordance with the Capital Requirements Regulation was 4.8% at 31 December 2020, down from 5.0% at 31 December 2019. The decrease was largely due to growth in the balance sheet. The change in the treatment of software assets benefited our leverage ratio by 0.1%.

At 31 December 2020, our leverage ratio measured under the PRA's UK leverage framework was 6.5%. This measure excludes qualifying central bank balances and loans under the UK Bounce Back Loan scheme from the calculation of exposure.

At 31 December 2020, 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 0.4% and a countercyclical leverage ratio buffer of 0%. These additional buffers translated into capital values of £824m. We exceeded these leverage requirements.

Table 8: Summary reconciliation of accounting assets and leverage ratio exposures (LRSum)

Ref*	At 31 December	
	2020 £m	2019 £m
1	304,864	257,102
Adjustments for:		
2	97	78
4	107	81
5	395	383
6	18,407	18,003
7	(6,674)	(7,376)
8	317,196	268,271

* The references identify the lines prescribed in the EBA template. Lines represented in this table are those lines which are applicable and where there is a value.

Table 9: Leverage ratio common disclosure (LRCom)

Ref*	At 31 December	
	2020 £m	2019 £m
On-balance sheet exposures (excluding derivatives and SFTs)		
1	303,282	255,420
2	(7,635)	(8,751)
3	295,647	246,669
Derivative exposures		
4	49	38
5	213	164
6	300	168
7	(300)	(168)
11	262	202
Securities financing transaction exposures		
12	2,620	3,697
13	(135)	(683)
14	395	383
16	2,880	3,397
Other off-balance sheet exposures		
17	75,860	71,815
18	(57,453)	(53,812)
19	18,407	18,003
Capital and total exposures		
20	15,197	13,454
21	317,196	268,271
22	4.8	5.0
EU-23	Fully phased-in	Fully phased-in

* The references identify the lines prescribed in the EBA template. Lines represented in this table are those lines which are applicable and where there is a value.

Table 10: Leverage ratio – Split of on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures) (LRSpl)

Ref [*]	At 31 December	
	2020 £m	2019 £m
EU-1 Total on-balance sheet exposures (excluding derivatives, SFTs and exempted exposures)	302,983	255,252
EU-2 Trading book exposures	–	–
EU-3 Banking book exposures	302,983	255,252
– of which:		
EU-5 exposures treated as sovereigns	97,596	56,171
EU-7 institutions	1,841	1,660
EU-8 secured by mortgage of immovable property	110,420	102,265
EU-9 retail exposures	20,548	16,688
EU-10 corporate	54,569	60,908
EU-11 exposures in default	2,523	2,188
EU-12 other exposures (e.g. equity, securitisations and other non-credit obligation assets)	15,486	15,372

* The references identify the lines prescribed in the EBA template. Lines represented in this table are those lines which are applicable and where there is a value.

Table 11: UK Leverage ratio

	For the period ending		
	31 December 2020 £m	30 September 2020 £m	31 December 2019 £m
UK leverage ratio exposure – quarterly average	236,674	239,531	230,376
	%	%	%
UK leverage ratio – quarterly average	6.2	6.0	5.8
UK leverage ratio – quarter end	6.5	6.0	5.8

Pillar 1

Pillar 1 covers the capital resources 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. The table provides information on the scope of permissible approaches and our adopted approach by risk type.

Risk category	Scope of permissible approaches	Approach adopted by HSBC UK
Credit risk	The Basel 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: <ul style="list-style-type: none"> pending the issuance of local regulations or model approval; following the supervisory prescription of a non-IRB approach; or under exemptions from IRB treatment. On 1 January 2020, exposures subject to the UK corporate loss-given-default model moved from the advanced to the foundation approach.
Counterparty credit risk	Four approaches to calculating CCR and determining exposure values are defined by the Basel framework: mark-to-market, original exposure, standardised and Internal Model Method. These exposure values are used to determine capital requirements under one of the credit risk approaches: standardised, FIRB or AIRB.	HSBC UK uses the mark-to-market approach for CCR.
Equity	For the non-trading book, equity exposures can be assessed under standardised or IRB approaches.	For HSBC UK, all equity exposures are assessed under the standardised approach.
Securitisation	The Basel Framework specifies two methods for calculating credit risk requirements for securitisation positions in the non-trading book: the standardised approach and the IRB approach, which incorporates the Ratings Based Method, the Internal Assessment Approach and the Supervisory Formula Method. Securitisation positions in the trading book are treated within market risk, using the CRD IV standard rules.	For the positions in the securitisation non-trading book, HSBC UK uses the IRB approach, and within this the Ratings Based Method.
Market risk	Market risk capital requirements can be determined under either the standard rules or the Internal Models Approach. The latter involves the use of internal Value at Risk models to measure market risks and determine the appropriate capital requirement.	For HSBC UK, the market risk capital requirement is measured using the standardised rules.
Operational risk	The Basel framework 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 requirement.

Pillar 2 and ICAAP

Pillar 2

We conduct an ICAAP to determine a forward-looking assessment of our capital requirements given our business strategy, risk profile, risk appetite and capital plan. This process incorporates the group'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 ('Board'), which has the ultimate responsibility for the effective management of risk and approval of our risk appetite.

The ICAAP is reviewed by the PRA as part of its supervisory review and evaluation process, which occurs periodically to enable the regulator to define the total capital requirement ('TCR') or minimum capital requirements for the group, and to define the PRA buffer, where required. Under the PRA's revised Pillar 2 regime, the capital planning buffer has been replaced with a PRA buffer. This is not intended to duplicate the CRD IV buffers and, where necessary will be set according to the vulnerability of a bank in a stress scenario, as 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 TCR and any PRA buffer that may be required.

Within Pillar 2, 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 to be 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 TCR 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 a firm's risk management and governance to be 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 Board approves the group ICAAP, and together with RMM, it examines the group's risk profile from both regulatory and economic capital viewpoints, aiming 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 influence shaping the

business planning process, in which RWA targets are established for the global businesses in accordance with the group's strategic direction and risk appetite.

The economic capital assessment is a more risk-sensitive measure than the regulatory minimum, as it covers a wide range of risks accruing from our operations. Both the regulatory and the economic capital assessments rely upon the use of models that are integrated into our management of risk. 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, and to a 99.5% level of confidence for our pension risks.

The ICAAP and its constituent economic capital calculations are examined by the PRA as part of its supervisory review and evaluation process. This examination informs the regulator's view of our Pillar 2 capital requirements.

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 and operational risk, non-trading book interest rate risk, pension risk, residual 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.

The tables below set out details of the credit risk exposures by exposure class and approach.

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 impairment) can be found from page 28 of our Annual Report and Accounts 2020;

Table 12: Overview of RWAs (OV1)

	At 31 December 2020		At 31 December 2019	
	RWAs £m	Capital required £m	RWAs £m	Capital required £m
1 Credit risk (excluding counterparty credit risk)	73,287	5,863	74,220	5,937
2 – standardised approach	1,461	117	1,376	110
3 – foundation IRB approach	43,389	3,471	5,665	453
4 – advanced IRB approach	28,437	2,275	67,179	5,374
6 Counterparty credit risk	122	10	198	16
7 – mark-to-market	70	5	60	5
8 – original exposure	11	1	84	7
11 – risk exposure amount for contributions to the default fund of a central counterparty	21	2	31	2
12 – credit valuation adjustment	20	2	23	2
14 Securitisation exposures in the non-trading book¹	904	72	596	48
15 – Internal Rating Based Approach (Sec-IRBA)	699	56	520	42
18 – Standardised Approach (Sec-IAA)	205	16	–	–
14a – exposures subject to old securitisation framework	–	–	76	6
19 Market risk	156	12	27	2
20 – standardised approach	156	12	27	2
23 Operational risk	10,509	841	10,303	824
25 – standardised approach	10,509	841	10,303	824
27 Amounts below the thresholds for deduction (subject to 250% risk weight)	499	40	537	43
Total	85,477	6,838	85,881	6,870

1 On 1 January 2019, a new securitisation framework came into force in the EU for new transactions. Existing positions were subject to 'grandfathering' provisions and were reported under the old approach at 31 December 2019. These exposures were transferred to the new framework on 1 January 2020.

Further information on the movement in RWAs can be found on page 57 of our Annual Report and Accounts 2020.

Table 13: Credit risk exposure – summary (CRB-B)

	At 31 December 2020					At 31 December 2019				
	Net carrying value £m	Average net carrying values £m	RWAs ^A £m	Capital required ^A £m	RWA Density %	Net carrying value £m	Average net carrying values £m	RWAs ^A £m	Capital required ^A £m	RWA Density %
IRB advanced approach	193,138	188,769	26,887	2,151	15	245,612	240,215	65,900	5,272	30
Central governments and central banks	7,348	7,328	807	65	11	6,596	6,817	683	55	10
Institutions	1,387	1,264	220	17	17	1,007	981	134	11	14
Corporates ¹	12,071	24,608	6,237	499	56	78,988	80,236	45,008	3,600	68
Total retail	172,332	155,569	19,623	1,570	12	159,021	152,181	20,075	1,606	13
Secured by mortgages on immovable property – small- and medium sized enterprises ('SME')	56	376	58	5	97	1,714	1,673	830	66	54
Secured by mortgages on immovable property non-SME	118,164	106,071	6,740	540	6	107,495	101,543	5,404	433	5
Qualifying revolving retail	38,767	36,621	5,430	434	20	38,625	38,313	5,708	457	22
Other SME	8,967	6,125	2,202	176	105	4,055	3,985	2,905	232	96
Other non-SME	6,378	6,376	5,193	415	79	7,132	6,667	5,228	418	71
IRB securitisation positions	2,277	2,328	699	56	31	3,177	1,398	596	48	19
IRB non-credit obligation assets	2,280	1,952	1,550	124	68	2,011	2,025	1,279	102	64
IRB foundation approach	76,469	59,992	43,389	3,471	72	11,415	10,105	5,665	453	61
Corporates	76,469	59,992	43,389	3,471	72	11,415	10,105	5,665	453	61
Standardised approach	92,908	69,126	2,165	173	2	53,212	45,000	1,913	153	4
Central governments and central banks	86,869	63,070	498	39	1	48,245	40,463	537	43	1
Regional government or local authorities	226	237	–	–	–	256	210	–	–	–
Public sector entities	663	885	–	–	–	1,023	1,051	–	–	–
International organisations	28	16	–	–	–	–	–	–	–	–
Institutions	667	693	182	15	27	776	739	163	13	21
Corporates	444	427	183	15	61	476	510	294	24	78
Retail	1,994	2,012	827	66	64	865	837	340	27	70
Secured by mortgages on immovable property	329	568	124	10	38	977	447	353	28	37
Exposures in default	50	75	72	6	141	72	64	101	8	142
Items associated with particularly high risk	9	8	14	1	150	8	8	12	1	150
Securitisation positions	1,367	815	205	16	15	–	–	–	–	–
Other items	262	320	60	5	23	514	671	113	9	22
Total	367,072	322,167	74,690	5,975	22	315,427	298,743	75,353	6,028	26

1 Corporates includes specialised lending exposures which are reported in more detail in Table 40.

Pillar 3 Disclosures at 31 December 2020

Credit quality

The following tables present information on the credit quality of exposures by exposure class and by industry.

Table 14: Credit quality of exposures by exposure classes and instruments¹ (CR1-A)

	Gross carrying values of		Specific credit risk adjustments	Write-offs in the year	Credit risk adjustment charges of the period	Net carrying values
	Defaulted exposures	Non-defaulted exposures				
	£m	£m	£m	£m	£m	£m
1 Central governments and central banks	–	7,349	1	–	5	7,348
2 Institutions	–	1,395	7	–	2	1,388
3 Corporates	2,574	87,575	1,609	341	1,096	88,540
4 – of which: specialised lending	503	10,088	190	–	34	10,401
6 – of which: Others	2,071	77,487	1,419	341	1,062	78,139
7 Retail	1,264	172,843	1,775	167	1,002	172,332
8 – Secured by real estate property - SME	13	44	–	–	(9)	57
9 – Secured by real estate property - Non-SME	693	117,641	171	2	73	118,163
10 – Qualifying revolving retail	264	39,259	756	97	424	38,767
11 – Other retail	294	15,899	848	68	514	15,345
12 – of which SME	142	9,166	341	14	179	8,967
13 – of which Non-SME	152	6,733	507	54	335	6,378
15 Total IRB approach	3,838	269,162	3,392	508	2,105	269,608
16 Central governments and central banks	–	86,870	1	–	1	86,869
17 Regional governments or local authorities	–	226	–	–	–	226
18 Public sector entities	–	663	–	–	–	663
20 International organisations	–	28	–	–	–	28
21 Institutions	–	667	–	–	–	667
22 Corporates	–	445	1	–	(7)	444
24 Retail	–	2,017	23	–	13	1,994
25 – of which: SMEs	–	1,147	10	–	–	1,137
26 Secured by mortgages on immovable property	–	329	–	–	–	329
28 Exposures in default	58	–	8	2	3	50
29 Items associated with particularly high risk	–	9	–	–	–	9
34 Other exposures	–	262	–	–	–	262
35 Total standardised approach	58	91,516	33	2	10	91,541
36 Total at 31 December 2020	3,896	360,678	3,425	510	2,115	361,149
– of which: loans	3,558	267,048	3,209	510	2,000	267,397
– of which: debt securities	–	19,120	6	–	4	19,114
– of which: off-balance sheet exposures	337	74,049	210	–	111	74,176
1 Central governments and central banks	–	6,596	–	–	–	6,596
2 Institutions	–	1,008	1	–	1	1,007
3 Corporates	1,961	89,292	850	190	216	90,403
4 – of which: specialised lending	581	11,327	194	–	26	11,714
5 – of which: SME	–	–	–	–	–	–
6 – of which: Others	1,380	77,954	656	190	190	78,678
7 Retail	1,194	158,715	888	278	458	159,021
8 – Secured by real estate property – SME	35	1,691	12	–	(6)	1,714
9 – Secured by real estate property – Non-SME	733	106,874	112	2	7	107,495
10 – Qualifying revolving retail	219	38,814	408	126	226	38,625
11 – Other retail	207	11,336	356	150	231	11,187
12 – of which SME	122	4,088	155	85	113	4,055
13 – of which Non-SME	85	7,248	201	65	118	7,132
15 Total IRB approach	3,155	255,611	1,739	468	675	257,027
16 Central governments and central banks	–	48,245	–	–	–	48,245
17 Regional governments or local authorities	–	256	–	–	–	256
18 Public sector entities	–	1,023	–	–	–	1,023
21 Institutions	–	776	–	–	–	776
22 Corporates	–	486	10	–	7	476
24 Retail	–	868	3	–	(1)	865
25 – of which: SMEs	–	157	–	–	–	157
26 Secured by mortgages on immovable property	–	977	–	–	–	977
28 Exposures in default	72	3	3	3	4	72
29 Items associated with particularly high risk	8	–	–	1	1	8
34 Other exposures	–	514	–	–	–	514
35 Total standardised approach	80	53,148	16	4	11	53,212
36 Total at 31 December 2019	3,235	308,759	1,755	472	686	310,239
– of which: loans	2,960	218,866	1,696	472	696	220,130
– of which: debt securities	–	19,445	1	–	–	19,444
– of which: off-balance sheet exposures	275	69,672	58	–	(10)	69,889

1 Securitisation positions and non-credit obligation assets are not included in this table.

Table 15: Credit quality of exposures by industry or counterparty types¹ (CR1-B)

		Gross carrying values of					Net carrying values £m
		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustments	Write-offs in the year	Credit risk adjustment charges of the period	
		£m	£m	£m	£m	£m	
1	Agriculture	134	4,511	32	—	(4)	4,613
2	Mining & oil extraction	114	1,157	32	—	19	1,239
3	Manufacturing	233	13,770	496	230	423	13,507
4	Utilities	4	807	5	—	(9)	806
5	Water supply	—	405	—	—	—	405
6	Construction	81	4,568	69	—	(68)	4,580
7	Wholesale & retail trade	416	19,454	193	8	58	19,677
8	Transportation & storage	99	2,922	63	—	20	2,958
9	Accommodation & food services	314	9,175	212	—	167	9,277
10	Information & communication	14	587	13	—	8	588
11	Financial & insurance	14	84,038	19	—	10	84,033
12	Real estate	635	16,612	241	—	124	17,006
13	Professional activities	98	5,684	86	3	58	5,696
14	Administrative service	344	9,204	358	—	262	9,190
15	Public admin & defence	—	14,787	2	—	(32)	14,785
16	Education	18	1,321	21	—	11	1,318
17	Human health & social work	75	2,525	36	—	3	2,564
18	Arts & entertainment	155	1,926	88	57	167	1,993
19	Other services	14	1,432	15	—	4	1,431
20	Personal	1,134	164,690	1,444	212	894	164,380
21	Extraterritorial bodies	—	1,103	—	—	—	1,103
22	Total at 31 December 2020	3,896	360,678	3,425	510	2,115	361,149
1	Agriculture	91	4,130	16	2	(8)	4,205
2	Mining & oil extraction	2	1,635	7	—	(6)	1,630
3	Manufacturing	177	13,604	260	71	139	13,521
4	Utilities	77	762	14	—	3	825
5	Water supply	—	524	—	—	—	524
6	Construction	253	3,341	127	2	12	3,467
7	Wholesale & retail trade	304	16,214	131	9	19	16,387
8	Transportation & storage	89	2,572	42	—	27	2,619
9	Accommodation & food services	98	7,943	38	87	62	8,003
10	Information & communication	9	570	5	—	1	574
11	Financial & insurance	6	43,127	4	—	(1)	43,129
12	Real estate	603	18,006	170	18	48	18,439
13	Professional activities	45	5,909	34	—	(33)	5,920
14	Administrative service	131	8,794	75	—	(25)	8,850
15	Public admin & defence	—	16,819	1	—	21	16,818
16	Education	9	1,367	10	—	(6)	1,366
17	Human health & social work	102	1,828	28	—	(7)	1,902
18	Arts & entertainment	18	1,921	11	39	42	1,928
19	Other services	11	1,039	8	—	—	1,042
20	Personal	1,210	157,907	774	244	398	158,343
21	Extraterritorial bodies	—	747	—	—	—	747
22	Total at 31 December 2019	3,235	308,759	1,755	472	686	310,239

¹ Securitisation positions and non-credit obligation assets are not included in this table.

Pillar 3 Disclosures at 31 December 2020

Table 16: Credit quality of exposures by geography^{1,2} (CR1-C)

	Gross carrying values of				Credit risk adjustment charges of the period ³	Net carrying values
	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustments	Write-offs in the year ³		
	£m	£m	£m	£m	£m	£m
United Kingdom	3,691	341,461	3,364	510	2,088	341,789
Other Europe	119	5,992	38	—	10	6,073
United States of America	30	7,427	12	—	6	7,445
Other	56	5,797	12	—	10	5,841
Total at 31 December 2020	3,896	360,678	3,425	510	2,115	361,149
United Kingdom	3,079	289,403	1,715	472	687	290,767
Other Europe	108	9,549	30	—	7	9,627
United States of America	7	6,835	5	—	(1)	6,837
Other	41	2,972	5	—	(7)	3,008
Total at 31 December 2019	3,235	308,759	1,755	472	686	310,239

1 Amounts shown by geographical region and country/territory in this table are based on the country/territory of residence of the counterparty.

2 Securitisation positions and non-credit obligation assets are not included in this table.

3 Presented on a year-to-date basis.

Past due unimpaired and credit-impaired exposures

The table below analyses past due unimpaired and credit-impaired exposures on a regulatory consolidation basis using accounting values. There are no material differences between the regulatory and accounting scope of consolidation.

All amounts past due more than 90 days are considered credit impaired even where regulatory rules deem default as 180 days past due.

Table 17: Amount of past due, impaired exposures and related allowances by industry sector and by geographical region

	At 31 December	
	2020	2019
	United Kingdom ¹	United Kingdom ¹
	£m	£m
Past due but not impaired exposures	494	575
– personal	442	391
– corporate and commercial	52	184
– financial	—	—
Impaired exposures	3,971	3,626
– personal	1,270	1,282
– corporate and commercial	2,651	2,315
– financial	50	29
Impairment allowances and other credit risk provisions	(3,424)	(1,755)
– personal	(1,468)	(744)
– corporate and commercial	(1,909)	(994)
– financial	(47)	(17)

1 Amounts shown by geographical region in this table are based on the country of the lender.

Table 18: Movement in specific credit risk adjustments by industry sector and by geographical region

	At 31 December	
	2020	2019
	United Kingdom ¹	United Kingdom ¹
	£m	£m
Specific credit risk adjustments at 1 January	1,755	1,544
Amounts written off	(510)	(472)
– personal	(181)	(199)
– corporate and commercial	(329)	(272)
– financial	—	(1)
Recoveries of amounts written off in previous years	83	78
– personal	71	66
– corporate and commercial	12	12
Charge to income statement	2,175	686
– personal	902	374
– corporate and commercial	1,239	310
– financial	34	2
Exchange and other movements	(79)	(81)
Specific credit risk adjustments at 31 December	3,424	1,755

1 Amounts shown by geographical region in this table are based on the country of the lender.

Expected loss ('EL') and credit risk adjustments ('CRAs')

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 EL with measures of expected credit losses ('ECL') under IFRS 9, it is necessary to take into account differences in the definition and scope of each. Below are examples of matters that 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, a PD, an EAD and an LGD.

ECL includes impairment allowances (or provision in the case of commitments and guarantees) for the 12-month ECL and lifetime ECL, and on financial assets that are considered to be in default or otherwise credit impaired.

ECL resulting from default events that are possible within the next 12 months are recognised for financial instruments in stage 1.

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.

ECL resulting from default events that are possible beyond 12 months ('Lifetime ECL') are recognised for financial instruments in stages 2 & 3.

Changes in ECL and other credit impairment charges represent 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.

CRAs encompass the impairment allowances or provisions balances, and changes in expected credit losses and other credit impairment charges.

Table 19 sets out for IRB credit exposures the EL, CRA balances and actual loss experience reflected in the charges for CRAs.

The group leverages the Basel IRB framework where possible, with re-calibration to meet the differing IFRS 9 requirements as follows:

Model	Regulatory capital	IFRS 9
PD	<ul style="list-style-type: none"> 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, particularly UK mortgages 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Represents the current balance including any interest accrued to date plus the expected balance not currently utilised (off-balance sheet amount) that would be utilised at the time of default and appropriate for an economic downturn 	<ul style="list-style-type: none"> Amortisation captured for term products
LGD	<ul style="list-style-type: none"> Downturn LGD (consistent losses expected to be suffered 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 	<ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> Discounted back from point of default to balance sheet date

Table 19: IRB expected loss and CRA – by exposure class and by region

	At 31 December 2020			At 31 December 2019		
	Expected loss ¹	CRA ¹		Expected loss ¹	CRA ¹	
		Balances	Charge for the year		Balances	Charge for the year
	£m	£m	£m	£m	£m	£m
IRB exposure classes						
Institutions	–	5	2	–	1	1
Corporates	1,498	1,146	1,096	1,309	850	216
Retail	813	1,167	1,002	799	888	458
– secured by mortgages on immovable property SME	11	–	(9)	27	12	(6)
– secured by mortgages on immovable property non-SME	79	132	73	64	112	7
– qualifying revolving retail	351	488	424	333	408	226
– other SME	149	216	179	205	155	113
– other non-SME	223	331	335	170	201	118
Total	2,311	2,318	2,105	2,108	1,739	675

¹ Excludes securitisation exposures because EL is not calculated for this exposure class.

Based on the country of the lender, all amounts shown in the above table are in the UK.

Table 20: Changes in stock of general and specific credit risk adjustments (CR2-A)

	Footnotes	12 months to 31 December 2020		12 months to 31 December 2019	
		Accumulated specific credit risk adjustments £m	Accumulated general credit risk adjustments £m	Accumulated specific credit risk adjustments £m	Accumulated general credit risk adjustments £m
1		1,755	—	1,544	—
2	Increases due to amounts set aside for estimated loan losses during the period	1	2,307	—	836
3	Decreases due to amounts reversed for estimated loan losses during the period	1	(128)	—	(153)
4	Decreases due to amounts taken against accumulated credit risk adjustments		(510)	—	(472)
9	Closing balance at the end of the period		3,424	—	1,755
10	Recoveries on credit risk adjustments recorded directly to the statement of profit or loss		83	—	78

1 Following adoption of IFRS 9 'Financial Instruments', the movement due to amounts set aside for estimated loan losses during the period has been reported on a net basis.

Table 21: Changes in stock of defaulted loans and debt securities (CR2-B)

	12 months to 31 December	
	2020	2019
	Gross carrying value £m	Gross carrying value £m
1	Defaulted loans and debt securities at the beginning of the period	2,604
2	Loans and debt securities that have defaulted since the last reporting period	1,785
3	Returned to non-defaulted status	(416)
4	Amounts written off	(472)
7	Repayments	(295)
6	Defaulted loans and debt securities at the end of the period	3,591

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 SMEs are commonly granted against guarantees given by their owners and/or directors.

Further information regarding charges held over residential and commercial property can be found from page 47 of our Annual Report and Accounts 2020.

Financial collateral

HSBC UK provides customers with working capital management products. Some of these products have loans and advances to customers and customer accounts where we have rights of offset, and comply with the regulatory requirements for on-balance sheet

netting. Under on-balance sheet netting, the customer accounts are treated as cash collateral and the effects of this collateral are incorporated in our LGD estimates. For risk management purposes, the net exposures are subject to limits that are monitored, and the relevant customer agreements are subject to review and update, as necessary, 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 continue to provide the anticipated secure secondary repayment source. In the residential mortgage business, HSBC UK policy prescribes revaluation at intervals of up to three years, or more frequently 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.

Local market conditions determine the frequency of valuation for CRE. Revaluations are sought where, for example, as part of the regular credit assessment of the obligor, material concerns arise in relation to the performance of the collateral. CRE revaluation also commonly occurs where a decline in the obligor's credit quality gives cause for 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: first, those that reduce the intrinsic PD of an obligor; and second, those that affect the estimated recoverability of obligations and thus LGD.

The first typically include full parental guarantees – where one obligor within a group of companies guarantees another. This is usually factored into the estimate of the latter's PD, as it is expected that the guarantor will intervene to prevent a default. PD estimates are also subject to a 'sovereign ceiling', constraining the risk ratings assigned to obligors in higher risk countries if only partial parental support exists. In certain jurisdictions, typically those on the Foundation IRB approach, certain types of third-party guarantee are also recognised through substitution of the obligor's PD by the guarantor's PD.

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 taken into consideration in LGD estimates where there is evidence that they reduce loss expectation.

The main providers of guarantees are banks, other financial institutions and corporates, the latter typically in support of subsidiaries of their company group. The nature of such customers and transactions is very diverse and the creditworthiness of guarantors accordingly spans a wide spectrum. The creditworthiness of providers of unfunded credit risk mitigation is taken into consideration as part of the guarantor's risk profile when; for example, assessing the risk of other exposures such as direct lending to the guarantor. 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 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;
- eligible financial collateral is taken into account in LGD models (under Advanced IRB) or by adjusting regulatory LGD values (under Foundation IRB). The adjustment to LGD for the latter is based on the degree to which the exposure value would be adjusted if the Financial Collateral Comprehensive Method were applied; and
- for all other types of collateral, including real estate, the LGD for exposures calculated 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 mitigant recognised under the IRB foundation approach are more limited.

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 credit derivatives, the exposure is divided into covered and uncovered portions. The covered portion, which is determined after applying an appropriate 'haircut' for currency and maturity mismatches (and for omission of restructuring clauses for credit derivatives, where appropriate) to the amount of the protection provided, attracts the risk weight of the protection provider. The uncovered portion attracts the risk weight of the obligor. For exposures fully or partially covered by eligible financial collateral, the value of the exposure is adjusted under the financial collateral comprehensive method using supervisory volatility adjustments, including those arising from currency mismatch, which are determined by the specific type of collateral (and, in the case of eligible debt securities, their credit quality) and its liquidation period. The adjusted exposure value is subject to the risk weight of the obligor.

Pillar 3 Disclosures at 31 December 2020

Table 22: 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 classes¹						
1 Central governments or central banks	86,870	–	96,035	66	498	1
2 Regional governments or local authorities	226	–	226	–	–	–
3 Public sector entities	663	–	663	–	–	–
6 Institutions	667	–	667	–	182	27
7 Corporates	370	75	296	4	183	61
8 Retail	1,378	639	1,258	39	827	64
9 Secured by mortgage on immovable property	329	–	329	–	124	38
10 Exposures in default	50	7	49	2	72	141
11 Higher-risk categories	9	–	9	–	14	150
16 Other items	262	–	262	–	60	23
17 At 31 December 2020	90,852	721	99,822	111	1,960	2
1 Central governments or central banks	48,244	1	48,244	1	537	1
2 Regional governments or local authorities	257	–	257	–	–	–
3 Public sector entities	1,023	–	1,023	–	–	–
6 Institutions	776	–	776	–	163	21
7 Corporates	286	191	286	91	294	78
8 Retail	485	379	485	–	340	70
9 Secured by mortgage on immovable property	957	20	957	4	353	37
10 Exposures in default	71	–	71	–	101	142
11 Higher-risk categories	8	–	8	–	12	150
16 Other items	516	–	516	–	113	22
17 At 31 December 2019	52,623	591	52,623	96	1,913	4

1 Securitisation positions are not included in this table.

2 Central governments and central banks – Exposures post-CCF and CRM include guarantees provided as part of the UK Government COVID support programmes.

Table 23: Credit risk mitigation techniques – IRB and Standardised (CR3)

	Footnotes	Exposures unsecured: carrying amount £m	Exposures secured: carrying amount £m	Secured by:		
				collateral £m	financial guarantees £m	credit derivatives £m
Exposures under the IRB approach	1,2					
Central governments and central banks		7,412	1	–	1	–
Institutions		1,281	45	37	9	–
Corporates		42,337	46,666	41,615	5,051	–
Retail		47,225	125,714	117,427	8,287	–
Total		98,255	172,426	159,079	13,348	–
Exposures under the STD approach	1,2					
Central governments and central banks	3	86,670	–	–	–	–
Institutions		667	–	–	–	–
Corporates		68	376	36	340	–
Retail		1,599	419	–	419	–
Secured by mortgages on immovable property		–	329	329	–	–
Exposures in default		50	7	–	7	–
Items associated with particularly high risk	4	9	–	–	–	–
Regional governments or local authorities		226	–	–	–	–
Public sector entities		663	–	–	–	–
International Organisations		28	–	–	–	–
At 31 December 2020		89,980	1,131	365	766	–
Exposures under the IRB approach	1,2					
Central governments and central banks		6,596	–	–	–	–
Institutions		986	21	21	–	–
Corporates		44,797	45,605	43,216	2,389	–
Retail		48,530	110,492	110,394	98	–
Total		100,909	156,118	153,631	2,487	–
Exposures under the STD approach	1,2					
Central governments and central banks	3	48,030	–	–	–	–
Institutions		775	–	–	–	–
Corporates		366	110	8	102	–
Retail		862	3	3	–	–
Secured by mortgages on immovable property	5	–	977	977	–	–
Exposures in default		66	6	6	–	–
Items associated with particularly high risk	4	–	8	8	–	–
Regional governments or local authorities		257	–	–	–	–
Public sector entities		1,023	–	–	–	–
At 31 December 2019		52,342	141	39	102	–

1 This table includes both on and off-balance sheet exposures.

2 Securitisation positions are not included in this table.

3 Deferred tax assets are excluded from the exposure.

4 Equities are excluded from the exposure.

5 The secured and unsecured classifications has been revised. 31 December 2019 data has been restated to be on a consistent basis with the current year.

Asset encumbrance

Table 24: Asset encumbrance A – Assets¹

	Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
	Total	Of which: notional eligible EHQLA and HQLA	Total	Of which: notional eligible EHQLA and HQLA	Total	Of which: EHQLA and HQLA	Total	Of which: EHQLA and HQLA
		£m		£m		£m		£m
At 31 December 2020								
010 Assets of the reporting institution	6,270	6,018			280,125	73,470		
020 Loans on demand	–	–			55,239	54,733		
030 Equity instruments	–	–	–	–	5	–	5	–
040 Debt securities	6,136	6,018	6,136	6,018	20,005	18,042	20,005	18,043
– of which:								
050 – covered bonds	–	–	–	–	–	–	–	–
060 – asset-backed securities	–	–	–	–	723	–	723	–
070 – issued by general governments	6,110	6,000	6,110	6,000	16,300	15,253	16,300	15,253
080 – issued by financial corporations	26	18	26	18	3,575	2,733	3,575	2,733
090 – issued by non-financial corporations	–	–	–	–	–	–	–	–
100 Loans and advances other than loans on demand	–	–	–	–	190,862	–	–	–
110 – of which: mortgage loans	–	–	–	–	134,103	–	–	–
120 Other assets	134	–	–	–	14,014	695	–	–
At 31 December 2019								
010 Assets of the reporting institution	3,043	2,444			248,125	45,938		
020 Loans on demand	–	–			34,159	32,107		
030 Equity instruments	–	–			8	–		
040 Debt securities	2,854	2,444	2,854	2,444	14,820	13,197	14,820	13,197
– of which:								
050 – covered bonds	–	–	–	–	–	–	–	–
060 – asset-backed securities	263	–	263	–	690	–	690	–
070 – issued by general governments	2,229	2,229	2,229	2,229	11,434	11,434	11,434	11,434
080 – issued by financial corporations	621	215	620	215	2,997	1,763	2,997	1,763
090 – issued by non-financial corporations	4	–	4	–	360	–	360	–
100 Loans and advances other than loans on demand	–	–	–	–	186,162	–	186,162	–
110 – of which: mortgage loans	–	–	–	–	124,868	–	124,868	–
120 Other assets	189	–	–	–	12,976	634	–	–

Table 25: Asset encumbrance B – Collateral received¹

	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: notional eligible EHQLA and HQLA	Total	Of which: EHQLA and HQLA
		£m		£m
At 31 December 2020				
130 Assets of the reporting institution	876	1,016	2,957	1,349
160 Debt securities	876	1,016	2,780	1,349
– of which:				
190 – issued by general governments	827	998	2,763	1,347
200 – issued by financial corporations	49	18	15	2
210 – issued by non-financial corporations	–	–	2	–
230 Other collateral received	–	–	177	–
250 Total assets, collateral received and own debt securities issued	7,147	6,437	–	–
At 31 December 2019				
130 Assets of the reporting institution	–	–	6,372	4,821
160 Debt securities	–	–	4,989	4,821
– of which:				
190 – issued by general governments	–	–	3,085	2,918
200 – issued by financial corporations	–	–	1,898	1,898
210 – issued by non-financial corporations	–	–	6	5
230 Other collateral received	–	–	1,383	–
250 Total assets, collateral received and own debt securities issued	3,043	2,444	–	–

Table 26: Asset encumbrance C – Encumbered assets/collateral received and associated liabilities¹

		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
		£m	£m
At 31 December 2020			
010	Carrying amount of selected financial liabilities	4,659	5,118
At 31 December 2019			
010	Carrying amount of selected financial liabilities	716	1,295

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.

Non-performing and forborne exposures

The following tables are presented in accordance with the EBA's 'Final guidelines on disclosure of 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. 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 2020* does not define non-performing

exposures, however the definition of credit impaired (stage 3) is aligned to the EBA's definition of non-performing exposures.

The EBA defines forborne exposures as exposures where the bank has made concessions toward a debtor that is experiencing or about to experience financial difficulties in meeting its financial commitments. In our *Annual Report and Accounts 2020*, forborne exposures are reported as 'renegotiated loans'. This term is aligned to the EBA definition of forborne exposure except in its treatment of 'cures'.

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 our *Annual Report and Accounts 2020*, renegotiated loans retain this classification until maturity or de-recognition.

Table 27: Credit quality of forborne exposures

	Gross carrying amount/nominal amount				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions ¹		Collateral received and financial guarantees received on forborne exposures		
	Performing forborne	Non-performing forborne			On performing forborne exposures	On non-performing forborne exposures	Total	Of which: forborne non-performing exposures	
		Total	Of which: defaulted	Of which: impaired					£m
	£m	£m	£m	£m	£m	£m	£m	£m	
1	Loans and advances	252	1,407	1,407	1,407	(10)	(276)	855	743
2	Central banks	–	–	–	–	–	–	–	–
3	General governments	–	–	–	–	–	–	–	–
4	Credit institutions	–	–	–	–	–	–	–	–
5	Other financial corporations	–	–	–	–	–	–	–	–
6	Non-financial corporations	252	862	862	862	(10)	(156)	513	401
7	Households	–	545	545	545	–	(120)	342	342
10	At 31 December 2020	252	1,407	1,407	1,407	(10)	(276)	855	743
1	Loans and advances	522	1,408	1,408	1,408	(19)	(364)	968	735
2	Central banks	–	–	–	–	–	–	–	–
3	General governments	–	–	–	–	–	–	–	–
4	Credit institutions	–	–	–	–	–	–	–	–
5	Other financial corporations	–	2	2	2	–	–	2	2
6	Non-financial corporations	522	934	934	934	(19)	(277)	653	420
7	Households	–	472	472	472	–	(87)	313	313
10	At 31 December 2019	522	1,408	1,408	1,408	(19)	(364)	968	735

¹ The analysis of Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions at 31 December 2019 has been revised in order to report on the appropriate rows.

Pillar 3 Disclosures at 31 December 2020

The following table presents an analysis of performing and non-performing exposures by days past due. The gross non-performing loan ratio at 31 December 2020 was 1.3%.

Table 28: Credit quality of performing and non-performing exposures by past due days

	Gross carrying amount/nominal amount											
	Performing exposures			Non-performing exposures								
	Total	Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days	Total	Unlikely to pay but not past due or 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
£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
1 Loans and advances	270,448	270,288	160	3,591	2,716	192	375	9	282	15	2	3,591
2 Central banks	77,182	77,182	–	–	–	–	–	–	–	–	–	–
3 General governments	1	1	–	–	–	–	–	–	–	–	–	–
4 Credit institutions	259	259	–	–	–	–	–	–	–	–	–	–
5 Other financial corporations	5,309	5,309	–	30	21	–	–	–	9	–	–	30
6 Non-financial corporations	64,656	64,640	16	2,358	2,182	44	30	8	86	7	1	2,358
8 Households	123,041	122,897	144	1,203	513	148	345	1	187	8	1	1,203
9 Debt securities	19,736	19,736	–	–	–	–	–	–	–	–	–	–
10 Central banks	28	28	–	–	–	–	–	–	–	–	–	–
11 General governments	16,422	16,422	–	–	–	–	–	–	–	–	–	–
12 Credit institutions	2,619	2,619	–	–	–	–	–	–	–	–	–	–
13 Other financial corporations	667	667	–	–	–	–	–	–	–	–	–	–
14 Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–
15 Off-balance-sheet exposures	73,120	N/A	N/A	374	N/A	N/A	N/A	N/A	N/A	N/A	N/A	374
16 Central banks	–	N/A	N/A	–	–	–	–	–	–	–	–	–
17 General governments	–	N/A	N/A	–	–	–	–	–	–	–	–	–
18 Credit institutions	17	N/A	N/A	–	N/A	N/A	N/A	N/A	N/A	N/A	N/A	–
19 Other financial corporations	1,154	N/A	N/A	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12
20 Non-financial corporations	32,181	N/A	N/A	295	N/A	N/A	N/A	N/A	N/A	N/A	N/A	295
21 Households	39,768	N/A	N/A	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	67
22 At 31 December 2020	363,304	290,024	160	3,965	2,716	192	375	9	282	15	2	3,965
1 Loans and advances	222,316	222,105	211	3,206	2,288	326	251	100	220	16	5	3,206
2 Central banks	36,936	36,936	–	–	–	–	–	–	–	–	–	–
3 General governments	5	5	–	–	–	–	–	–	–	–	–	–
4 Credit institutions	1,140	1,140	–	–	–	–	–	–	–	–	–	–
5 Other financial corporations	5,664	5,664	–	20	13	–	4	2	1	–	–	20
6 Non-financial corporations	62,104	62,042	62	1,984	1,659	131	53	42	97	2	–	1,984
8 Households	116,467	116,318	149	1,202	616	195	194	56	122	14	5	1,202
9 Debt securities	20,269	20,269	–	–	–	–	–	–	–	–	–	–
10 Central banks	531	531	–	–	–	–	–	–	–	–	–	–
11 General governments	17,058	17,058	–	–	–	–	–	–	–	–	–	–
12 Credit institutions	2,311	2,311	–	–	–	–	–	–	–	–	–	–
13 Other financial corporations	369	369	–	–	–	–	–	–	–	–	–	–
14 Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–
15 Off-balance-sheet exposures	66,875	N/A	N/A	410	N/A	N/A	N/A	N/A	N/A	N/A	N/A	410
16 Central banks	–	–	–	–	–	–	–	–	–	–	–	–
17 General governments	–	–	–	–	–	–	–	–	–	–	–	–
18 Credit institutions	31	N/A	N/A	–	N/A	N/A	N/A	N/A	N/A	N/A	N/A	–
19 Other financial corporations	1,212	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1
20 Non-financial corporations	28,263	N/A	N/A	330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	330
21 Households	37,369	N/A	N/A	79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	79
22 At 31 December 2019	309,460	242,374	211	3,616	2,288	326	251	100	220	16	5	3,616

The following table provides information on the instruments that were cancelled in exchange for collateral obtained by taking possession and on the value of the collateral obtained by taking possession. The value at initial recognition represents the gross carrying amount of the collateral obtained by taking possession at initial recognition on the balance sheet. Accumulated negative

changes is the accumulated impairment or negative change on the initial recognition value of the collateral obtained by taking possession including amortisation in the case of property, plant and equipment and investment properties.

Table 29: Collateral obtained by taking possession and execution processes

		At 31 December 2020		At 31 December 2019	
		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	–	–	–	–
2	Other than Property, plant and equipment	1	–	3	–
3	– residential immovable property	–	–	3	–
4	– commercial Immovable property	–	–	–	–
5	– movable property (auto, shipping, etc.)	–	–	–	–
6	– equity and debt instruments	–	–	–	–
7	– other	–	–	–	–
8	Total	1	–	3	–

The following table provides information on 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: unimpaired and without significant increase in credit risk on which a 12-month allowance for ECL is recognised;
- stage 2: a significant increase in credit risk has been experienced since initial recognition on which a lifetime ECL is recognised;
- stage 3: objective evidence of impairment, and are therefore considered to be in default or otherwise credit impaired on which a lifetime ECL is recognised. Purchased or originated credit-impaired exposures are included in stage 3.

Refer to the section 'EL and credit risk adjustments' on page 17 for further information on IFRS 9.

Credit-impaired (stage 3) exposures are disclosed on page 35 of our Annual Report and Accounts 2020.

Pillar 3 Disclosures at 31 December 2020

Table 30: Performing and non-performing exposures and related provisions

	Gross carrying amount/nominal amount												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			Accumulated partial write-off	On performing exposures	On 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					
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	
1 Loans and advances	270,448	241,642	28,806	3,591	–	3,591	(2,118)	(467)	(1,651)	(1,074)	–	(1,074)	(237)	150,631	1,340	
2 Central banks	77,182	77,180	2	–	–	–	(1)	(1)	–	–	–	–	–	–	–	
3 General governments	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	
4 Credit institutions	259	259	–	–	–	–	–	–	–	–	–	–	–	80	–	
5 Other financial corporations	5,309	4,530	779	30	–	30	(35)	(5)	(30)	(7)	–	(7)	–	3,114	7	
6 Non-financial corporations	64,656	43,501	21,155	2,358	–	2,358	(1,028)	(300)	(728)	(673)	–	(673)	(237)	37,111	675	
8 Households	123,041	116,171	6,870	1,203	–	1,203	(1,054)	(161)	(893)	(394)	–	(394)	–	110,326	658	
9 Debt securities	19,736	19,736	–	–	–	–	(7)	(7)	–	–	–	–	–	–	–	
10 Central banks	28	28	–	–	–	–	–	–	–	–	–	–	–	–	–	
11 General governments	16,422	16,422	–	–	–	–	(6)	(6)	–	–	–	–	–	–	–	
12 Credit institutions	2,619	2,619	–	–	–	–	(1)	(1)	–	–	–	–	–	–	–	
13 Other financial corporations	667	667	–	–	–	–	–	–	–	–	–	–	–	–	–	
14 Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
15 Off-balance-sheet exposures	73,120	64,119	6,723	374	–	310	(173)	(88)	(85)	(49)	–	(49)	–	11,489	45	
16 Central banks	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
17 General governments	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
18 Credit institutions	17	16	–	–	–	–	–	–	–	–	–	–	–	–	–	
19 Other financial corporations	1,154	1,064	84	12	–	12	(2)	(1)	(1)	–	–	–	–	136	–	
20 Non-financial corporations	32,181	23,574	6,337	295	–	231	(155)	(72)	(83)	(49)	–	(49)	–	5,500	38	
21 Households	39,768	39,465	302	67	–	67	(16)	(15)	(1)	–	–	–	–	5,853	7	
22 At 31 December 2020	363,304	325,497	35,529	3,965	–	3,901	(2,298)	(562)	(1,736)	(1,123)	–	(1,123)	(237)	162,120	1,385	
1 Loans and	222,316	209,137	13,179	3,206	–	3,206	(842)	(216)	(626)	(839)	–	(839)	(45)	134,937	1,419	
2 Central banks	36,936	36,936	–	–	–	–	–	–	–	–	–	–	–	–	–	
3 General governments	5	5	–	–	–	–	–	–	–	–	–	–	–	–	–	
4 Credit institutions	1,140	1,140	–	–	–	–	(1)	(1)	–	–	–	–	–	–	–	
5 Other financial corporations	5,664	5,266	398	20	–	20	(6)	(3)	(3)	(1)	–	(1)	–	3,901	10	
6 Non-financial corporations	62,104	53,391	8,713	1,984	–	1,984	(373)	(135)	(238)	(561)	–	(561)	(45)	29,736	715	
8 Households	116,467	112,399	4,068	1,202	–	1,202	(462)	(77)	(385)	(277)	–	(277)	–	101,300	694	
9 Debt securities	20,269	20,269	–	–	–	–	–	–	–	–	–	–	–	–	–	
10 Central banks	531	531	–	–	–	–	–	–	–	–	–	–	–	–	–	
11 General governments	17,058	17,058	–	–	–	–	–	–	–	–	–	–	–	–	–	
12 Credit institutions	2,311	2,311	–	–	–	–	–	–	–	–	–	–	–	–	–	
13 Other financial corporations	369	369	–	–	–	–	–	–	–	–	–	–	–	–	–	
14 Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
15 Off-balance-sheet exposures	66,875	62,068	2,609	410	–	384	(48)	(28)	(20)	(20)	–	(20)	–	10,834	18	
16 Central banks	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
17 General governments	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
18 Credit institutions	31	29	–	–	–	–	–	–	–	–	–	–	–	–	–	
19 Other financial corporations	1,212	1,073	101	1	–	1	–	–	–	–	–	–	–	61	–	
20 Non-financial corporations	28,263	23,968	2,138	330	–	304	(42)	(22)	(20)	(20)	–	(20)	–	5,965	14	
21 Households	37,369	36,998	370	79	–	79	(6)	(6)	–	–	–	–	–	4,808	4	
22 At 31 December 2019	309,460	291,474	15,788	3,616	–	3,590	(890)	(244)	(646)	(859)	–	(859)	(45)	145,771	1,437	

Concentration risk

Concentrations of credit risk arise when a number of counterparties or exposures have comparable economic characteristics, or such counterparties 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 use a number of controls and measures to minimise undue concentration of exposure in our portfolios across industries. 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 31: Geographical breakdown of exposures (CRB-C)

		Net carrying values ^{1,2}				
		UK	Other Europe	United States of America	Other geographical areas	Total
		£m	£m	£m	£m	£m
IRB approach exposure classes						
1	Central governments and central banks	54	—	6,094	1,200	7,348
2	Institutions	1,025	125	1	237	1,388
3	Corporates	83,755	2,740	915	1,130	88,540
4	Retail	168,464	662	368	2,838	172,332
6	Total IRB approach	253,298	3,527	7,378	5,405	269,608
Standardised approach exposure classes						
7	Central governments and central banks	85,312	1,557	—	—	86,869
8	Regional governments or local authorities	—	226	—	—	226
9	Public sector entities	—	663	—	—	663
11	International organisations	—	—	—	28	28
12	Institutions	124	81	67	395	667
13	Corporates	419	16	—	9	444
14	Retail	1,987	4	—	3	1,994
15	Secured by mortgages on immovable property	328	—	—	1	329
16	Exposures in default	50	—	—	—	50
17	Items associated with particularly high risk	9	—	—	—	9
22	Other items	262	—	—	—	262
23	Total standardised approach	88,491	2,547	67	436	91,541
At 31 Dec 2020		341,789	6,074	7,445	5,841	361,149
IRB approach exposure classes						
1	Central governments and central banks	102	—	5,630	864	6,596
2	Institutions	838	95	—	74	1,007
3	Corporates	84,579	3,564	918	1,342	90,403
4	Retail	158,366	212	114	329	159,021
6	Total IRB approach	243,885	3,871	6,662	2,609	257,027
Standardised approach exposure classes						
7	Central governments and central banks	43,831	4,414	—	—	48,245
8	Regional governments or local authorities	—	256	—	—	256
9	Public sector entities	—	1,023	—	—	1,023
12	Institutions	210	19	173	374	776
13	Corporates	416	44	2	14	476
14	Retail	855	—	—	10	865
15	Secured by mortgages on immovable property	976	—	—	1	977
16	Exposures in default	72	—	—	—	72
17	Items associated with particularly high risk	8	—	—	—	8
22	Other items	514	—	—	—	514
23	Total standardised approach	46,882	5,756	175	399	53,212
At 31 Dec 2019		290,767	9,627	6,837	3,008	310,239

¹ Amounts shown by geographical region in this table are based on the country of residence of the counterparty.

² Securitisation positions and non-credit obligation assets are not included in this table.

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Table 32: Concentration of exposures by industry or counterparty types (CRB-D)

Net carrying values ¹		Agriculture	Mining and oil extraction	Manu- facturing	Utilities	Water supply	Construc- tion	Wholesale & retail trade	Transporta- tion & storage	Accom- modation & food services	Informa- tion & communi- cation	Financial & insurance
		£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB approach												
1	Central governments and central banks	–	–	–	–	–	–	–	–	–	–	578
2	Institutions	–	–	–	–	–	–	–	–	–	–	1,388
3	Corporates	3,851	1,233	12,359	788	401	2,599	16,095	2,566	8,503	510	2,247
4	Retail	403	6	852	12	4	1,926	3,173	357	681	73	139
6	Total IRB approach	4,254	1,239	13,211	800	405	4,525	19,268	2,923	9,184	583	4,352
STD approach												
7	Central governments and central banks	–	–	–	–	–	–	–	–	–	–	78,287
8	Regional governments or local authorities	–	–	–	–	–	–	–	–	–	–	–
9	Public sector entities	–	–	–	–	–	–	–	–	–	–	388
10	Multilateral development banks	–	–	–	–	–	–	–	–	–	–	–
11	International organisations	–	–	–	–	–	–	–	–	–	–	–
12	Institutions	–	–	–	–	–	–	–	–	–	–	667
13	Corporates	–	–	171	–	–	16	51	8	6	1	63
14	Retail	359	–	122	6	–	38	349	26	82	4	14
15	Secured by mortgages on immovable property	–	–	–	–	–	–	–	–	–	–	–
16	Exposures in default	–	–	3	–	–	1	9	1	5	–	–
17	Items associated with particularly high risk	–	–	–	–	–	–	–	–	–	–	–
18	Covered bonds	–	–	–	–	–	–	–	–	–	–	–
19	Claims on institutions and corporates with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–
20	Collective investment undertakings	–	–	–	–	–	–	–	–	–	–	–
21	Equity exposures	–	–	–	–	–	–	–	–	–	–	–
22	Other exposures	–	–	–	–	–	–	–	–	–	–	262
23	Total STD approach	359	–	296	6	–	55	409	35	93	5	79,681
24	At 31 Dec 2020	4,613	1,239	13,507	806	405	4,580	19,677	2,958	9,277	588	84,033

Net carrying values ¹		Real estate	Professional activities	Adminis- trative service	Public admin & defence	Education	Human health & social work	Arts & entertainment	Other services	Personal	Extra- territorial bodies	Total
		£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB approach												
1	Central governments and central banks	–	–	–	5,678	–	82	–	–	–	1,010	7,348
2	Institutions	–	–	–	–	–	–	–	–	–	–	1,388
3	Corporates	16,964	5,632	9,015	80	1,129	2,032	1,658	876	–	2	88,540
4	Retail	–	–	–	7	169	381	305	534	163,310	–	172,332
6	Total IRB approach	16,964	5,632	9,015	5,765	1,298	2,495	1,963	1,410	163,310	1,012	269,608
STD approach												
7	Central governments and central banks	–	–	–	8,519	–	–	–	–	–	63	86,869
8	Regional governments or local authorities	–	–	–	226	–	–	–	–	–	–	226
9	Public sector entities	–	–	–	275	–	–	–	–	–	–	663
12	Institutions	–	–	–	–	–	–	–	–	–	–	667
13	Corporates	10	26	79	–	2	5	3	3	–	–	444
14	Retail	31	37	93	–	18	63	25	18	709	–	1,994
15	Secured by mortgages on immovable property	–	–	–	–	–	–	–	–	329	–	329
16	Exposures in default	1	1	3	–	–	1	2	–	23	–	50
17	Items associated with particularly high risk	–	–	–	–	–	–	–	–	9	–	9
22	Other exposures	–	–	–	–	–	–	–	–	–	–	262
23	Total STD approach	42	64	175	9,020	20	69	30	21	1,070	91	91,541
24	At 31 Dec 2020	17,006	5,696	9,190	14,785	1,318	2,564	1,993	1,431	164,380	1,103	361,149

Table 32: Concentration of exposures by industry or counterparty types (CRB-D)

Net carrying values ¹		Agriculture	Mining and oil extraction	Manufacturing	Utilities	Water supply	Construction	Wholesale & retail trade	Transportation & storage	Accommodation & food services	Information & communication	Financial & insurance
		£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB approach exposure classes												
1	Central governments and central banks	—	—	—	—	—	—	—	—	—	—	140
2	Institutions	—	—	—	—	—	—	—	—	—	—	935
3	Corporates	3,463	1,623	12,956	816	522	3,384	15,817	2,552	7,763	564	2,091
4	Retail	728	6	375	9	2	76	444	46	218	9	81
6	Total IRB approach	4,191	1,629	13,331	825	524	3,460	16,261	2,598	7,981	573	3,247
Standardised approach exposure classes												
7	Central governments and central banks	—	—	—	—	—	—	—	—	—	—	37,896
8	Regional governments or local authorities	—	—	—	—	—	—	—	—	—	—	38
9	Public sector entities	—	—	—	—	—	—	—	—	—	—	581
12	Institutions	—	—	—	—	—	—	—	—	—	—	776
13	Corporates	10	—	138	—	—	3	86	2	20	1	77
14	Retail	4	1	52	—	—	4	40	19	2	—	—
15	Secured by mortgages on immovable property	—	—	—	—	—	—	—	—	—	—	—
16	Exposures in default	—	—	—	—	—	—	—	—	—	—	—
17	Items associated with particularly high risk	—	—	—	—	—	—	—	—	—	—	—
22	Other exposures	—	—	—	—	—	—	—	—	—	—	514
23	Total STD approach	14	1	190	—	—	7	126	21	22	1	39,882
24	At 31 Dec 2019	4,205	1,630	13,521	825	524	3,467	16,387	2,619	8,003	574	43,129

Net carrying values ¹		Real estate	Professional activities	Administrative service	Public admin & defence	Education	Human health & social work	Arts & entertainment	Other services	Personal	Extra-territorial bodies	Total
		£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB approach exposure classes												
1	Central governments and central banks	—	—	—	5,784	—	—	—	—	—	672	6,596
2	Institutions	—	—	—	—	—	—	—	—	—	72	1,007
3	Corporates	18,295	5,912	8,825	24	1,177	1,790	1,853	973	—	3	90,403
4	Retail	—	—	—	2	189	110	71	65	156,590	—	159,021
6	Total IRB approach	18,295	5,912	8,825	5,810	1,366	1,900	1,924	1,038	156,590	747	257,027
STD approach exposure classes												
7	Central governments and central banks	—	—	—	10,348	—	—	1	—	—	—	48,245
8	Regional governments or local authorities	—	—	—	218	—	—	—	—	—	—	256
9	Public sector entities	—	—	—	442	—	—	—	—	—	—	1,023
12	Institutions	—	—	—	—	—	—	—	—	—	—	776
13	Corporates	132	1	3	—	—	1	1	1	—	—	476
14	Retail	—	7	22	—	—	1	2	3	708	—	865
15	Secured by mortgages on immovable property	—	—	—	—	—	—	—	—	977	—	977
16	Exposures in default	12	—	—	—	—	—	—	—	60	—	72
17	Items associated with particularly high risk	—	—	—	—	—	—	—	—	8	—	8
22	Other exposures	—	—	—	—	—	—	—	—	—	—	514
23	Total STD approach	144	8	25	11,008	—	2	4	4	1,753	—	53,212
24	At 31 Dec 2019	18,439	5,920	8,850	16,818	1,366	1,902	1,928	1,042	158,343	747	310,239

¹ Securitisation positions and non-credit obligation assets are not included in this table.

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Table 33: Maturity of on-balance sheet exposures

	On demand	Less than 1 year £m	Between 1 and 5 years £m	More than 5 years £m	Undated £m	Total £m
IRB approach						
1	Central governments and central banks	—	322	3,955	3,071	7,348
2	Institutions	121	156	873	86	1,236
3	Corporates	6,839	11,459	29,894	9,923	58,115
4	Retail	5,994	1,854	10,768	110,837	129,453
6	Total IRB approach	12,954	13,791	45,490	123,917	196,152
Standardised approach						
7	Central governments and central banks	75,719	3,470	1,889	5,591	86,669
8	Regional government or local authorities	—	25	201	—	226
9	Public sector entities	—	15	648	—	663
12	Institutions	—	667	—	—	667
13	Corporates	15	218	27	109	369
14	Retail	132	90	286	847	1,355
15	Secured by mortgages on immovable property	—	13	9	307	329
16	Exposures in default	11	5	10	18	44
17	Items associated with particularly high risk	—	9	—	—	9
21	Equity	—	—	—	—	—
22	Other items	—	245	17	—	262
23	Total standardised approach	75,877	4,757	3,115	6,872	90,821
24	At 31 Dec 2020	88,831	18,548	48,605	130,789	286,973
IRB approach						
1	Central governments and central banks	—	186	4,587	1,823	6,596
2	Institutions	123	53	680	28	884
3	Corporates	9,239	12,072	31,970	8,614	61,895
4	Retail	8,451	1,139	8,242	100,519	118,351
6	Total IRB approach	17,813	13,450	45,479	110,984	187,726
Standardised approach						
7	Central governments and central banks	33,735	7,961	2,004	4,329	48,244
8	Regional government or local authorities	—	38	218	—	256
9	Public sector entities	—	170	853	—	1,023
12	Institutions	—	776	—	—	776
13	Corporates	10	188	71	17	286
14	Retail	69	105	291	21	486
15	Secured by mortgages on immovable property	—	23	5	930	958
16	Exposures in default	3	18	43	7	71
17	Items associated with particularly high risk	—	8	—	—	8
22	Equity	—	—	—	—	—
23	Other items	—	504	10	2	516
24	Total standardised approach	33,817	9,791	3,495	5,304	52,624
24	At 31 Dec 2019	51,630	23,241	48,974	116,288	240,350

1 Securitisation positions and non-credit obligation assets are not included in this table.

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 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

Dominion Bond Rating Service ('DBRS') specifically for securitisation positions.

We have not nominated 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 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+ to BBB-	BBB+ to BBB-	BBBH to 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 European Economic Area ('EEA') states and denominated in local currency are risk-weighted at 0% using the standardised approach, provided they would be eligible under that approach for a 0% risk weighting.

Table 41 provides further detail on the risk weighting of our standardised non-counterparty credit exposures.

Application of the IRB Approach

Our IRB credit risk rating framework incorporates obligor likelihood to default expressed in PD, and loss severity in the event of default expressed in EAD and LGD. These measures are used to calculate regulatory EL and capital requirements. They are also used with other inputs to inform rating assessments for the purposes of credit approval and many other purposes, 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 facility, 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 the HSBC Group.

Credit risk models governance

All new or materially changed IRB capital models require the PRA's approval, and such models fall directly under the remit of the business and functional Model Oversight Committees (MOCs), operating in line with HSBC UK's model risk policy. Additionally, the business and functional MOCs are responsible for the approval of stress testing models used for regulatory stress testing exercises such as those carried out by the Bank of England.

Both the Wholesale and Retail MOCs require all credit risk models for which they are responsible to be approved by delegated senior managers with notification to the committees that retain the responsibility for oversight.

Model Risk Management sets internal standards for the development, validation, independent review, approval, implementation and performance monitoring of credit risk rating models. Independent reviews of our models are performed by our Independent Model Review function which is separate from our Risk Analytics functions that are responsible for the development of models.

Compliance with standards is subject to examination by Risk oversight and review from within the Risk function itself, and by Internal Audit.

Utilisation of the IRB approach

At 31 December 2020, 51% of the exposures were treated under AIRB, 19% under FIRB and 30% under the standardised approach.

From 1 January 2020 exposures subject to the UK corporate Loss Given Default model moved from the advanced to the foundation approach.

Dilution risk

Dilution risk is the risk that an amount receivable is reduced through cash or non-cash credit to the obligor, and arises mainly from factoring and invoice discounting transactions.

Where there is recourse to the seller, we treat these transactions as loans secured by the collateral of the debts purchased and do not report dilution risk for them. For our non-recourse portfolio, we do not report any dilution risk as we obtain an indemnity from the seller that indemnifies us against this risk. Moreover, factoring transactions involve lending at a discount to the face value of the receivables that provides protection against dilution risk.

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 (that is 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 corresponding PD and master-scale CRR. The CRR is then reviewed by a credit approver who, taking into account information such as the most recent events and market data, makes the final decision on the rating. The rating assigned reflects 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.

Relationship managers may 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 assigned at an obligor level, which means that separate exposures to the same obligor are generally subject to a single, consistent rating. Unfunded credit risk mitigants, such as guarantees, 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 23.

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

Under the IRB approach, obligors are grouped into grades that have similar PD or anticipated default frequency. The anticipated default frequency may be estimated using all relevant information at the relevant date (PIT rating system) or be free of the effects of the credit cycle (TTC rating system).

We generally utilise a hybrid approach of PIT and through the cycle ('TTC'). That is, while models are calibrated to long-run default rates, obligor ratings are reviewed annually, or more frequently if necessary, to reflect 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. This leads to expected defaults typically exceeding actual defaults.

For EAD and LGD estimation, operating entities are permitted, subject to regulatory permissions and overview by Risk, to use our own modelling approaches to suit conditions in their jurisdictions. Risk provides co-ordination, benchmarks, and promotion of best practice on EAD and LGD estimation. Where the exposures are subject to the Foundation IRB approach EAD and LGD estimates are determined using regulatory parameters.

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 is based on 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. It is expressed as a percentage of EAD.

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 customer segment and/or customer size. For example, PD models are differentiated

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for all of our key customer segments, including 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 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 considered income-producing real estate to be an asset class that would be difficult to model. As a result, RWAs for our UK 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 has fixed pre-determined RWA and EL percentages.

Table 34 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.

Table 34: Wholesale IRB credit risk models

Portfolio	Exposure class	RWA £bn	Component model	Number of material component models	Model description and methodology	Number of years loss data	Regulatory Floors
Large corporates (HSBC Group-wide Model)	Corporates, institutions	44.3	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 >0.03%
UK corporates			PD	3	Corporates that fall below the global large corporate threshold are rated through UK PD models, which reflect UK country 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 >0.03%

The UK corporate models are used by all UK subsidiaries of HSBC Group (including HSBC UK Bank plc and HSBC Bank plc) and therefore information provided in the following table is on this basis.

Table 35: IRB models – estimated and actual values (wholesale)¹

	Footnotes	PD ²	
		Estimated %	Actuals %
At 31 December 2020			
Corporates models	3	1.49	1.43
At 31 December 2019			
Corporates models	3	1.54	1.49

¹ Data represents an annual view, analysed at 30 September.

² Estimated PD for all models is average PD calculated on the number of obligors covered by the model(s).

³ Covers the combined populations of the global large corporates model, all UK IRB models for large, medium and small corporates, and non-bank financial institutions. The estimated and observed PDs were calculated only for unique obligors.

The following table sets out IRB exposures by obligor grade for central governments and central banks, institutions and corporates, all of which are assessed using our 23-grade CRR master scale. We benchmark the master scale against the ratings of external rating agencies. Each CRR band is associated with an external rating grade by reference to long-run default rates for that grade, represented by the average of issuer-weighted historical default rates. The correspondence between the agency long-run

default rates and the PD ranges of our master scale is obtained by matching a smoothed curve based on those default rates with our master scale reference PDs. This association between internal and external ratings is indicative and may vary over time. In these tables, the ratings of S&P are cited for illustration purposes, although we also benchmark against other agencies' ratings in an equivalent manner.

Table 36: Wholesale IRB exposure – by obligor grade

Default risk	CRR	PD range %	Central governments and central banks			Institutions			Corporates ²		
			Average net carrying values ¹ £m	Undrawn commitments £m	Mapped external rating	Average net carrying values ¹ £m	Undrawn commitments £m	Mapped external rating	Average net carrying values ¹ £m	Undrawn commitments £m	Mapped external rating
Default risk											
Minimal	0.1	0.000 to 0.010	6,772	–	AAA	93	–	AAA	1	–	AAA
	1.1	0.011 to 0.028	556	–	AA+ to AA	420	22	AA+ to AA	329	1	AA+ to AA
	1.2	0.029 to 0.053	–	–	AA- to A+	306	33	AA- to A+	1,015	526	AA- to A+
Low	2.1	0.054 to 0.095	–	–	A	70	32	A	2,367	1,377	A
	2.2	0.096 to 0.169	–	–	A-	346	51	A-	8,093	4,071	A-
Satisfactory	3.1	0.170 to 0.285	–	–	BBB+	13	–	BBB+	11,500	4,748	BBB+
	3.2	0.286 to 0.483	–	–	BBB	–	–	BBB	9,131	3,230	BBB
	3.3	0.484 to 0.740	–	–	BBB-	3	1	BBB-	8,430	3,884	BBB-
Fair	4.1	0.741 to 1.022	–	–	BB+	1	1	BB+	6,354	2,195	BB+
	4.2	1.023 to 1.407	–	–	BB	–	–	BB	5,659	1,994	BB
	4.3	1.408 to 1.927	–	–	BB-	13	8	BB-	5,498	2,295	BB-
Moderate	5.1	1.928 to 2.620	–	–	BB-	–	–	BB-	4,513	1,237	BB-
	5.2	2.621 to 3.579	–	–	B+	1	4	B+	3,375	1,360	B+
	5.3	3.580 to 4.914	–	–	B	–	–	B	2,827	1,028	B
Significant	6.1	4.915 to 6.718	–	–	B	–	–	B	1,906	464	B
	6.2	6.719 to 8.860	–	–	B-	–	–	B-	894	218	B-
High	7.1	8.861 to 11.402	–	–	CCC+	–	–	CCC+	995	337	CCC+
	7.2	11.403 to 15.000	–	–	CCC+	–	–	CCC+	257	53	CCC+
Special Management	8.1	15.001 to 22.000	–	–	CCC+	–	–	CCC+	250	125	CCC+
	8.2	22.001 to 50.000	–	–	CCC+	–	–	CCC+	88	12	CCC+
	8.3	50.001 to 99.999	–	–	CCC to C	–	–	CCC to C	89	32	CCC to C
Default	9/10	100.000	–	–	Default	–	–	Default	1,231	279	Default
At 31 December 2020			7,328	–		1,266	152		74,802	29,466	
Default risk											
Minimal	0.1	0.000 to 0.010	6,219	–	AAA	95	–	AAA	–	–	AAA
	1.1	0.011 to 0.028	598	–	AA+ to AA	190	21	AA+ to AA	84	1	AA+ to AA
	1.2	0.029 to 0.053	–	–	AA- to A+	178	49	AA- to A+	1,025	458	AA- to A+
Low	2.1	0.054 to 0.095	–	–	A	87	–	A	2,860	2,360	A
	2.2	0.096 to 0.169	–	–	A-	408	51	A-	8,270	4,295	A-
Satisfactory	3.1	0.170 to 0.285	–	–	BBB+	17	–	BBB+	12,704	5,009	BBB+
	3.2	0.286 to 0.483	–	–	BBB	2	–	BBB	11,568	3,331	BBB
	3.3	0.484 to 0.740	–	–	BBB-	–	–	BBB-	8,749	2,901	BBB-
Fair	4.1	0.741 to 1.022	–	–	BB+	–	–	BB+	7,655	1,388	BB+
	4.2	1.023 to 1.407	–	–	BB	2	2	BB	6,454	1,466	BB
	4.3	1.408 to 1.927	–	–	BB-	–	–	BB-	5,394	1,522	BB-
Moderate	5.1	1.928 to 2.620	–	–	BB-	–	–	BB-	4,356	1,369	BB-
	5.2	2.621 to 3.579	–	–	B+	–	–	B+	3,438	1,087	B+
	5.3	3.580 to 4.914	–	–	B	–	–	B	2,674	828	B
Significant	6.1	4.915 to 6.718	–	–	B	–	–	B	1,321	366	B
	6.2	6.719 to 8.860	–	–	B-	2	–	B-	798	134	B-
High	7.1	8.861 to 11.402	–	–	CCC+	–	–	CCC+	477	73	CCC+
	7.2	11.403 to 15.000	–	–	CCC+	–	–	CCC+	190	34	CCC+
Special Management	8.1	15.001 to 22.000	–	–	CCC+	–	–	CCC+	165	40	CCC+
	8.2	22.001 to 50.000	–	–	CCC+	–	–	CCC+	56	28	CCC+
	8.3	50.001 to 99.999	–	–	CCC to C	–	–	CCC to C	45	8	CCC to C
Default	9/10	100.000	–	–	Default	–	–	Default	997	185	Default
At 31 December 2019			6,817	–		981	123		79,280	26,883	

1 Average net carrying value are calculated by aggregating the net carrying values of the last five quarters and dividing by five.

2 Corporates excludes specialised lending exposures subject to supervisory slotting approach.

Pillar 3 Disclosures at 31 December 2020

PD, LGD, RWA and exposure by country/territory

The following tables analyse the exposure-weighted average PD, exposure-weighted average LGD, RWAs and exposure by location of the lending subsidiary or branch. They exclude specialised

lending exposures subject to the supervisory slotting approach, securitisation exposures and non-credit obligations. All exposures are reported as UK, based on the location of the lender.

Table 37: PD, LGD, RWA and exposure by country/territory

	Exposure-weighted average PD	Exposure-weighted average LGD	Exposure value	RWAs
	%	%	£m	£m
At 31 December 2020				
Wholesale IRB Advanced approach				
All asset classes	0.98	38.8	10,339	1,823
Central governments and central banks	0.01	45.0	7,349	807
Institutions	0.07	26.0	1,277	220
Corporates	5.80	22.0	1,713	796
Wholesale IRB Foundation approach				
All asset classes	4.71	38.1	60,562	43,389
Central governments and central banks	–	–	–	–
Institutions	–	–	–	–
Corporates	4.71	38.1	60,562	43,389
Retail IRB approach				
All asset classes	1.28	30.0	157,669	19,624
Retail secured by mortgages on immovable property SME	33.36	50.1	60	58
Retail secured by mortgages on immovable property Non-SME	0.86	15.7	122,334	6,741
Retail QRRE	1.82	79.6	26,618	5,430
Other SME	7.31	85.2	2,090	2,202
Other non-SME	4.67	78.1	6,567	5,193
At 31 December 2019				
Wholesale IRB Advanced approach				
All asset classes	3.00	38.1	63,434	39,784
Central governments and central banks	0.01	45.0	6,596	683
Institutions	0.07	27.4	938	134
Corporates	3.40	37.5	55,900	38,967
Wholesale IRB Foundation approach				
All asset classes	2.83	39.5	9,280	5,665
Central governments and central banks	–	–	–	–
Institutions	–	–	–	–
Corporates	2.83	39.5	9,280	5,665
Retail IRB approach				
All asset classes	1.35	31.3	149,241	20,075
Retail secured by mortgages on immovable property SME	4.25	36.8	1,528	830
Retail secured by mortgages on immovable property Non-SME	0.94	15.4	111,175	5,404
Retail QRRE	1.69	79.3	26,185	5,708
Other SME	8.10	81.3	3,028	2,905
Other non-SME	2.99	79.5	7,325	5,228

Table 38: IRB Advanced – Credit risk exposures by portfolio and PD range (CR6)

PD scale	Original on-balance sheet gross exposure £m	Off-balance sheet exposures pre-CCF £m	Average CCF %	EAD post-CRM and post-CCF £m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs £m	RWA density %	Expected loss £m	Value adjustments and provisions £m
AIRB – Central government and central banks												
0.00 to <0.15	7,349	–	24.8	7,349	0.01	74	45.0	3.6	807	11.0	–	–
0.15 to <0.25	–	–	–	–	–	1	45.0	4.9	–	59.8	–	–
0.25 to <0.50	–	–	–	–	–	–	–	–	–	–	–	–
0.50 to <0.75	–	–	–	–	–	–	–	–	–	–	–	–
0.75 to <2.50	–	–	–	–	1.20	2	45.0	2.4	–	94.9	–	–
2.50 to <10.00	–	–	–	–	4.20	1	45.0	2.4	–	148.3	–	–
10.00 to <100.00	–	–	–	–	–	–	–	–	–	–	–	–
100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	–
Sub-total	7,349	–	24.8	7,349	0.01	78	45.0	3.6	807	11.0	–	–
AIRB – Institutions												
0.00 to <0.15	1,172	138	25.5	1,208	0.06	1,555	25.0	2.1	153	12.6	–	1
0.15 to <0.25	66	–	73.7	66	0.22	6	45.0	4.9	65	98.2	–	4
0.25 to <0.50	–	–	51.2	–	0.37	6	45.0	4.9	–	91.6	–	–
0.50 to <0.75	3	1	2.2	1	0.63	7	45.0	1.2	1	75.2	–	–
0.75 to <2.50	1	9	10.5	1	0.88	15	45.0	1.0	1	82.9	–	–
2.50 to <10.00	–	4	–	–	3.25	2	45.0	1.0	–	117.5	–	–
10.00 to <100.00	–	–	–	–	–	–	–	–	–	–	–	–
100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	–
Sub-total	1,242	152	23.8	1,276	0.07	1,591	26.0	2.2	220	17.2	–	5
AIRB – Corporate – Specialised Lending (excluding Slotting)¹												
0.00 to <0.15	7	6	57.0	11	0.13	1	18.0	1.0	1	7.1	–	–
0.15 to <0.25	136	141	57.0	216	0.22	6	32.0	3.9	83	38.6	–	–
0.25 to <0.50	–	–	–	–	–	–	–	–	–	–	–	–
0.50 to <0.75	76	12	57.0	83	0.63	6	19.0	3.8	29	35.3	–	–
0.75 to <2.50	42	29	44.2	54	1.25	2	20.0	4.4	31	56.4	–	–
2.50 to <10.00	–	–	–	–	–	–	–	–	–	–	–	–
10.00 to <100.00	–	–	–	–	–	–	–	–	–	–	–	–
100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	–
Sub-total	261	188	55.0	364	0.46	15	27.0	3.9	144	39.6	–	–
AIRB – Corporate – Other												
0.00 to <0.15	180	133	84.0	292	0.08	67	19.0	1.9	39	13.5	–	–
0.15 to <0.25	166	21	46.1	175	0.21	100	17.0	2.2	32	18.3	–	–
0.25 to <0.50	129	4	81.1	131	0.37	50	25.0	1.8	41	31.0	–	–
0.50 to <0.75	191	2	88.1	193	0.63	47	18.0	1.3	54	28.2	–	1
0.75 to <2.50	413	160	34.8	375	1.49	8,625	22.0	1.8	187	49.7	2	2
2.50 to <10.00	89	102	0.5	90	4.05	46	28.0	1.5	74	82.6	1	–
10.00 to <100.00	8	–	44.0	8	14.81	10	14.0	1.0	5	57.0	–	–
100.00 (Default)	77	5	161.0	85	100.00	27	26.0	1.2	220	259.4	5	5
Sub-total	1,253	427	44.5	1,349	7.24	8,940	21.0	1.7	652	48.4	8	8
Wholesale AIRB – Total at 31 December 2020²												
	10,105	767	43.0	10,338	0.98	10,623	39.0	3.0	1,823	17.6	8	13

Pillar 3 Disclosures at 31 December 2020

Table 38: IRB Advanced – Credit risk exposures by portfolio and PD range (CR6) (continued)

PD scale	Original on-balance sheet gross exposure £m	Off-balance sheet exposures pre-CCF £m	Average CCF %	EAD post-CRM and post-CCF £m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs £m	RWA density %	Expected loss £m	Value adjustments and provisions £m
AIRB – Central government and central banks												
0.00 to <0.15	6,596	–	24.6	6,596	0.01	17	45.0	3.57	683	10	–	–
0.15 to <0.25	–	–	–	–	–	–	–	–	–	–	–	–
0.25 to <0.50	–	–	–	–	–	–	–	–	–	–	–	–
0.50 to <0.75	–	–	–	–	–	–	–	–	–	–	–	–
0.75 to <2.50	–	–	–	–	1.20	1	45.0	1.00	–	96	–	–
2.50 to <10.00	–	–	–	–	–	–	–	–	–	–	–	–
10.00 to <100.00	–	–	–	–	–	–	–	–	–	–	–	–
100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	–
Sub-total	6,596	–	24.6	6,596	0.01	18	45.0	3.57	683	10	–	–
AIRB – Institutions												
0.00 to <0.15	884	122	43.4	937	0.07	281	27.4	2.15	133	14	–	1
0.15 to <0.25	–	–	57.0	–	0.22	3	47.1	1.00	–	40	–	–
0.25 to <0.50	–	–	50.0	–	0.37	5	45.0	5.00	–	93	–	–
0.50 to <0.75	–	–	–	–	0.63	3	45.0	1.00	–	71	–	–
0.75 to <2.50	–	2	7.1	1	1.20	5	44.9	1.96	1	110	–	–
2.50 to <10.00	–	–	–	–	3.05	1	45.0	1.00	–	133	–	–
10.00 to <100.00	–	–	–	–	–	–	–	–	–	–	–	–
100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	–
Sub-total	884	124	43.0	938	0.07	298	27.4	2.15	134	14	–	1
AIRB – Corporate – Specialised Lending (excluding Slotting)¹												
0.00 to <0.15	7	6	57.0	10	0.13	1	18.0	1.82	1	12	–	–
0.15 to <0.25	158	59	4.5	161	0.22	3	27.6	4.68	70	43	–	–
0.25 to <0.50	57	75	42.8	89	0.37	1	35.0	2.81	38	42	–	–
0.50 to <0.75	104	6	24.9	105	0.63	6	18.4	4.32	45	43	–	–
0.75 to <2.50	30	73	54.2	69	1.52	3	37.9	4.94	80	116	1	1
2.50 to <10.00	–	–	–	–	–	–	–	–	–	–	–	–
10.00 to <100.00	–	–	–	–	–	–	–	–	–	–	–	–
100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	–
Sub-total	356	219	36.2	434	0.56	14	28.3	4.18	234	54	1	1
AIRB – Corporate – Other												
0.00 to <0.15	5,673	6,962	53.3	9,407	0.11	2,900	37.7	2.57	2,807	30	5	4
0.15 to <0.25	6,935	4,656	49.7	9,289	0.22	4,596	39.0	2.70	4,425	48	10	8
0.25 to <0.50	5,847	2,944	47.9	7,251	0.37	4,749	36.5	2.60	4,084	56	12	11
0.50 to <0.75	4,101	1,982	46.2	4,969	0.63	3,486	37.9	2.60	3,524	71	14	11
0.75 to <2.50	13,704	5,184	47.0	16,148	1.41	18,115	37.0	2.57	14,537	90	97	107
2.50 to <10.00	5,409	2,293	45.8	6,442	4.65	4,278	35.5	2.27	7,509	117	110	89
10.00 to <100.00	747	174	45.0	825	18.01	798	40.9	2.35	1,587	192	71	54
100.00 (Default)	1,060	170	43.9	1,135	100.00	1,218	46.6	2.16	260	23	559	284
Sub-total	43,476	24,365	49.2	55,466	3.42	40,140	37.5	2.55	38,733	70	878	568
Wholesale AIRB – Total at 31 Dec 2019												
	51,312	24,708	49.1	63,434	3.00	40,470	38.1	2.66	39,784	63	879	570

1 Slotting exposures are disclosed in Table 40: Specialised lending on slotting approach (CR10).

2 The Wholesale AIRB Total includes non-credit obligation assets amounting to £2,011m of original exposure and EAD, and £1,279m of RWAs.

Table 39: IRB Foundation – Credit risk exposures by portfolio and PD range (CR6)

PD scale	Original on-balance sheet gross exposure £m	Off-balance sheet exposures pre-CCF £m	Average CCF %	EAD post-CRM and post-CCF £m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs £m	RWA density %	Expected loss £m	Value adjustments and provisions [^] £m
FIRB – Corporate – Other												
0.00 to <0.15	4,169	5,884	66.1	8,143	0.1	3,719	41.0	2.4	2,557	31	4	3
0.15 to <0.25	6,114	4,591	54.8	8,540	0.2	4,881	35.0	2.2	3,245	38	8	6
0.25 to <0.50	5,450	3,227	48.5	6,908	0.4	4,815	38.4	2.3	3,654	53	12	10
0.50 to <0.75	4,665	2,713	46.0	5,644	0.6	4,086	37.9	2.4	3,716	66	16	12
0.75 to <2.50	16,948	8,547	37.0	18,594	1.4	37,093	38.1	2.3	16,096	87	116	221
2.50 to <10.00	8,023	3,056	45.7	8,922	4.4	6,618	38.5	2.4	11,152	125	168	208
10.00 to <100.00	1,942	559	27.8	2,000	14.8	1,408	33.7	1.8	2,969	148	122	95
100.00 (Default)	1,715	275	47.8	1,811	100.0	1,619	42.2	2.1	–	–	768	404
Sub-total	49,026	28,852	48.8	60,562	4.7	64,239	38.1	2.3	43,389	72	1,214	959
FIRB – Total at 31 Dec 2020	49,026	28,852	49.0	60,562	5.0	64,239	38.0	2.0	43,389	72	1,214	959

FIRB – Corporate – Other

0.00 to <0.15	1,238	147	18.9	1,296	0.09	254	43.7	1.99	321	25	1	1
0.15 to <0.25	1,149	295	0.7	1,148	0.22	792	39.6	1.22	388	34	1	1
0.25 to <0.50	1,526	311	8.1	1,544	0.37	947	38.1	1.12	691	45	3	2
0.50 to <0.75	1,322	913	1.9	1,332	0.63	659	39.2	0.97	760	57	4	2
0.75 to <2.50	2,686	487	1.7	2,681	1.38	2,707	38.8	0.98	2,065	77	18	13
2.50 to <10.00	953	122	4.6	959	4.46	464	38.7	0.83	1,124	117	19	11
10.00 to <100.00	185	9	1.9	185	16.06	111	37.8	0.75	316	171	14	6
100.00 (Default)	135	15	–	135	100.00	116	40.2	1.59	–	–	55	41
Sub-total	9,194	2,299	3.7	9,280	2.83	6,050	39.5	1.16	5,665	61	115	77
FIRB – Total at 31 Dec 2019	9,194	2,299	3.7	9,280	2.83	6,050	39.5	1.16	5,665	61	115	77

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

Table 40: Specialised lending on slotting approach (CR10)

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 – Strong	Less than 2.5 years	4,486	404	50	4,637	2,308	–
	Equal to or more than 2.5 years	2,179	465	70	2,349	1,619	9
Category 2 – Good	Less than 2.5 years	1,254	191	70	1,333	920	5
	Equal to or more than 2.5 years	435	66	90	441	394	4
Category 3 – Satisfactory	Less than 2.5 years	66	1	115	66	73	2
	Equal to or more than 2.5 years	42	4	115	42	46	1
Category 4 – Weak	Less than 2.5 years	29	1	250	30	73	2
	Equal to or more than 2.5 years	3	–	250	3	8	–
Category 5 – Default	Less than 2.5 years	319	2	–	473	–	237
	Equal to or more than 2.5 years	17	–	–	29	–	15
At 31 December 2020	Less than 2.5 years	6,154	599		6,539	3,374	246
	Equal to or more than 2.5 years	2,676	535		2,864	2,067	29
Category 1 – Strong	Less than 2.5 years	4,836	807	50	5,231	2,615	–
	Equal to or more than 2.5 years	2,988	729	70	3,320	2,314	14
Category 2 – Good	Less than 2.5 years	690	64	70	721	503	3
	Equal to or more than 2.5 years	372	58	90	391	347	3
Category 3 – Satisfactory	Less than 2.5 years	95	6	115	97	103	3
	Equal to or more than 2.5 years	53	2	115	54	55	2
Category 4 – Weak	Less than 2.5 years	40	1	250	41	97	3
	Equal to or more than 2.5 years	3	–	250	3	7	–
Category 5 – Default	Less than 2.5 years	371	9	–	549	–	274
	Equal to or more than 2.5 years	15	–	–	27	–	13
At 31 December 2019	Less than 2.5 years	6,032	887		6,639	3,318	283
	Equal to or more than 2.5 years	3,431	789		3,795	2,723	32

Table 41: Standardised exposure – by credit quality step

	At 31 December 2020			At 31 December 2019		
	Original exposure ¹ £m	Exposure value £m	RWAs [^] £m	Original exposure ¹ £m	Exposure value £m	RWAs [^] £m
Central governments and central banks						
Credit quality step 1	86,670	95,900	–	48,024	48,024	–
Credit quality step unrated	201	201	499	220	220	537
Total	86,871	96,101	499	48,244	48,244	537
Institutions						
Credit quality step unrated	667	667	182	776	776	163
Total	667	667	182	776	776	163
Corporates						
Credit quality step 1	–	127	25	–	97	19
Credit quality step 3	130	3	3	–	–	–
Credit quality step unrated	315	170	155	476	280	275
Total	445	300	183	476	376	294

¹ Figures presented are based on the credit quality step of the immediate borrower.

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

Retail risk

Retail risk rating systems

The most material risk rating systems for which we disclose details of modelling methodology and performance data represent RWAs of £14.0bn or 71% of the total retail IRB RWA.

PD models are developed using statistical estimation based on a minimum of five years of historical data. 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 facility for additional drawdowns, EAD is estimated as the outstanding balance of accounts at the time of observation.
- For products with the facility 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 42: Material retail IRB risk rating systems

Portfolio	Exposure class	RWA £bn	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	5.30	PD	1	Statistical model built on internal behavioural data and credit 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 historically observed misalignment of the underlying model and expert judgement.	7–10	PD floor of 0.03%
			LGD	1	Statistical estimates of loss and probability of possession in combination with the workout process and using the 1990's recession in benchmarking the downturn LGD.	> 10	LGD floor of 10% at portfolio level
			EAD	1	EAD is equal to the sum of the balance at observation plus further unpaid interest that could accrue before default (up to six payments).	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	0.61	PD	2	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	Underlying model is component based (LGD, forced sale haircut and the time between default and property sale). A downturn adjustment is applied through a 30% drop from peak house price plus adjustments to the other components in the model, including a 10% forced sale.	> 10	LGD floor of 10% at portfolio level
			EAD	2	There are two separate EAD models – one for standard capital repayment mortgages and one for offset mortgages which offers a revolving loan facility.	7–10	EAD must at least be equal to current balance
UK HSBC credit cards	Retail – qualifying revolving	2.07	PD	1	Statistical model built on internal behavioural data and credit bureau information. Underlying PiT model is calibrated to latest observed PD. An adjustment is then applied to generate the long run PD based on historically 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 and segmented by default status.	7–10	
			EAD	1	Statistical model which directly estimates the EAD for different segments of the portfolio using either balance or limit as key input.	7–10	EAD must at least be equal to current balance
UK HSBC personal loans	Retail – other non-SME	3.78	PD	1	Statistical model built on internal behavioural data and credit bureau information. Underlying PiT model is calibrated to latest observed PD. An adjustment is then applied to generate the long run PD based on historic 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 and segmented by default status.	7–10	
			EAD	1	EAD = Current Balance, as this has been shown to provide suitable conservatism and accuracy	7–10	EAD must at least be equal to current balance
UK business banking	Retail – other SME	2.21	PD	1	Statistical model built on internal behavioural data and credit bureau information. Underlying PiT model is calibrated to latest observed PD. An adjustment is then applied to generate the long run PD based on historically observed misalignment of the underlying model.	7–10	PD floor of 0.03%
			LGD	2	Two sets of models – one for secured and another for unsecured exposures. The secured model uses the value to loan as a key component for estimation, while 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

Retail credit models

We disclose information on our most material models. The actual and estimated values are derived from 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.

The following table presents estimated and actual values from the back-testing of our material IRB models.

The PD presented here is expressed on an obligor count basis consisting of non-defaulted obligors at the time of observation. The LGD and EAD refer to observations for the defaulted population, being the appropriate focus of an assessment of these models' performance. The LGD values represent the amount of loss as a percentage of EAD, and are calculated based on

defaulted accounts that were fully resolved or have completed the modelled recovery outcome period at the reporting date. The EAD values of the defaulted exposures are presented as a percentage of the total EAD, which includes all defaulted and non-defaulted exposures for the relevant population. The regulatory PD and LGD floors (0.03% and 10% respectively) are only applied during final capital calculation and are not reflected in the estimates below.

For our residential mortgage portfolios, the estimates include required regulatory downturn adjustments. In conducting the back-testing, our 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 2020.

Table 43: IRB models – estimated and actual values (retail)¹

	PD		LGD		EAD	
	Estimated %	Actuals %	Estimated %	Actuals %	Estimated %	Actuals %
At 31 December 2020						
UK						
– HSBC residential mortgage	0.32	0.31	7.94	0.32	0.25	0.24
– first direct residential mortgages	0.39	0.29	5.94	1.74	0.83	0.64
– HSBC credit card	1.08	1.25	91.30	88.71	1.77	1.69
– HSBC personal loans	2.99	2.67	84.31	71.14	2.89	2.70
– Business Banking (Retail SME)	2.86	2.45	78.06	58.03	2.26	1.93
At 31 December 2019						
UK						
– HSBC residential mortgage	0.33	0.29	9.17	0.32	0.29	0.28
– first direct residential mortgages	0.42	0.34	7.42	1.85	0.93	0.74
– HSBC credit card	1.06	1.05	91.29	88.58	1.51	1.48
– HSBC personal loans	2.54	2.19	83.61	61.79	2.26	2.10
– Business Banking (Retail SME)	2.95	2.92	78.23	55.48	2.54	2.31

¹ Data represents an annual view, analysed at September 2020.

Table 44: Retail IRB exposure – by internal PD band

PD range %	At 31 December 2020		At 31 December 2019	
	Average net carrying values ¹	Undrawn commitments	Average net carrying values ¹	Undrawn commitments
	£m	£m	£m	£m
Retail SME exposure secured by mortgages on immovable property	376	4	1,673	314
Band 1	83	1	363	93
Band 2	105	1	440	99
Band 3	149	1	715	101
Band 4	17	–	81	15
Band 5	7	–	32	3
Band 6	3	1	7	1
Band 7	12	–	35	2
Retail non-SME exposure secured by mortgages on immovable property	106,106	7,536	101,543	6,919
Band 1	100,527	7,044	95,923	6,420
Band 2	2,335	223	2,356	226
Band 3	1,858	220	1,832	222
Band 4	259	20	280	21
Band 5	138	3	145	3
Band 6	315	7	300	8
Band 7	673	20	707	19
Qualifying revolving retail exposure	36,761	33,182	38,313	31,065
Band 1	30,794	30,470	30,913	28,168
Band 2	2,820	1,622	3,460	1,847
Band 3	2,475	944	3,230	876
Band 4	278	67	333	70
Band 5	116	29	126	31
Band 6	99	21	108	32
Band 7	179	29	143	41
Other retail SME exposure	6,181	1,693	3,985	2,225
Band 1	674	335	818	753
Band 2	455	258	604	482
Band 3	3,828	954	1,883	793
Band 4	472	72	324	85
Band 5	271	27	150	38
Band 6	399	38	151	43
Band 7	82	9	55	31
Other retail non-SME exposure	6,473	497	6,667	148
Band 1	2,977	422	3,515	130
Band 2	1,386	28	1,210	5
Band 3	1,667	45	1,623	11
Band 4	216	1	175	–
Band 5	83	–	55	–
Band 6	46	–	25	–
Band 7	98	1	64	2
Total retail exposure	155,896	42,913	152,181	40,671
Band 1	135,055	38,272	131,532	35,564
Band 2	7,101	2,132	8,070	2,659
Band 3	9,977	2,164	9,283	2,003
Band 4	1,242	160	1,193	191
Band 5	615	59	508	75
Band 6	862	67	591	84
Band 7	1,044	59	1,004	95

1 Average net carrying values are calculated by aggregating the net carrying values of the last five quarters and dividing by five.

Pillar 3 Disclosures at 31 December 2020

Table 45: IRB – Credit risk exposures by portfolio and PD range (CR6)

PD scale	Original on-balance sheet gross exposure £m	Off-balance sheet exposures pre-CCF £m	Average CCF %	EAD post-CRM and post-CCF £m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs £m	RWA density %	Expected loss £m	Value adjustments and provisions ^A £m
AIRB – Secured by mortgages on immovable property SME												
0.00 to <0.15	4	–	–	4	0.13	21	70.0	–	1	21	–	–
0.15 to <0.25	1	–	47.7	1	0.22	3	41.2	–	–	16	–	–
0.25 to <0.50	8	1	47.5	9	0.37	46	35.0	–	2	21	–	–
0.50 to <0.75	5	–	11.8	5	0.63	28	38.3	–	2	35	–	–
0.75 to <2.50	11	2	29.9	11	1.35	59	37.6	–	6	57	–	–
2.50 to <10.00	2	–	–	2	4.66	9	59.9	–	3	158	–	–
10.00 to <100.00	10	1	9.1	10	12.48	53	49.6	–	21	212	1	–
100.00 (Default)	12	–	263.1	18	100.00	97	63.4	–	23	125	10	–
Sub-total	53	4	37.4	60	33.36	314	50.1	–	58	97	11	–
AIRB – Secured by mortgages on immovable property non-SME												
0.00 to <0.15	92,089	5,513	103.7	100,960	0.06	585,434	15.5	–	3,053	3	11	12
0.15 to <0.25	8,081	1,133	106.7	9,522	0.21	55,215	18.0	–	770	8	4	5
0.25 to <0.50	4,719	399	110.7	5,296	0.36	30,711	16.7	–	607	11	3	4
0.50 to <0.75	1,799	145	106.8	2,001	0.60	11,605	14.6	–	282	14	2	2
0.75 to <2.50	2,177	233	113.1	2,480	1.36	14,382	14.3	–	573	23	5	7
2.50 to <10.00	660	85	114.3	769	4.69	4,459	9.1	–	258	34	4	5
10.00 to <100.00	598	10	116.8	625	29.69	3,626	10.2	–	349	56	19	14
100.00 (Default)	675	18	24.9	681	100.00	3,947	13.5	–	849	125	31	84
Sub-total	110,798	7,536	104.8	122,334	0.86	709,380	15.7	–	6,741	6	79	133
AIRB – Qualifying revolving retail exposures												
0.00 to <0.15	2,064	24,816	60.1	16,987	0.06	9,649,670	77.7	–	568	3	8	22
0.15 to <0.25	373	2,462	67.8	2,042	0.22	1,160,028	82.3	–	251	12	4	9
0.25 to <0.50	582	3,193	56.0	2,329	0.34	1,323,222	84.1	–	434	19	7	15
0.50 to <0.75	705	1,249	58.7	1,440	0.58	818,108	85.0	–	415	29	8	25
0.75 to <2.50	1,425	1,109	70.0	2,216	1.41	1,259,139	82.7	–	1,156	52	28	108
2.50 to <10.00	690	279	111.9	1,025	4.58	582,264	79.0	–	1,134	111	39	93
10.00 to <100.00	235	52	99.0	302	32.44	171,712	79.9	–	901	298	97	59
100.00 (Default)	267	22	53.6	277	100.00	157,302	85.8	–	570	206	160	157
Sub-total	6,341	33,182	61.1	26,618	1.82	15,121,446	79.6	–	5,429	20	351	488
AIRB – Other SME												
0.00 to <0.15	3	51	70.6	39	0.10	14,382	94.5	–	8	19	–	78
0.15 to <0.25	6	84	50.0	47	0.21	17,462	94.7	–	15	32	–	1
0.25 to <0.50	21	199	63.6	147	0.37	54,035	94.8	–	67	46	1	1
0.50 to <0.75	21	132	69.4	112	0.61	41,312	93.2	–	67	60	1	1
0.75 to <2.50	3,815	919	43.8	1,047	1.54	385,200	84.0	–	918	88	15	19
2.50 to <10.00	2,213	240	48.4	480	4.79	176,791	82.4	–	565	118	24	30
10.00 to <100.00	1,403	59	47.1	133	20.37	48,932	88.3	–	281	212	36	24
100.00 (Default)	134	8	55.3	85	100.00	31,384	75.0	–	281	329	72	62
Sub-total	7,616	1,692	50.1	2,090	7.31	769,498	85.2	–	2,202	105	149	216
AIRB – Other non-SME												
0.00 to <0.15	339	337	50.1	508	0.08	63,016	21.9	–	26	5	–	–
0.15 to <0.25	1,236	48	27.6	1,247	0.21	154,603	80.9	–	452	36	2	4
0.25 to <0.50	656	36	11.2	661	0.39	81,993	72.9	–	304	46	2	3
0.50 to <0.75	838	23	14.0	839	0.60	104,072	85.5	–	588	70	4	10
0.75 to <2.50	2,061	36	10.0	2,057	1.36	255,233	84.2	–	2,005	97	23	56
2.50 to <10.00	884	15	89.2	892	4.79	110,622	86.1	–	1,153	129	34	95
10.00 to <100.00	222	1	82.3	220	37.28	27,228	85.9	–	365	166	66	49
100.00 (Default)	151	1	49.5	143	100.00	17,750	84.0	–	300	210	92	113
Sub-total	6,387	497	41.7	6,567	4.67	814,516	78.1	–	5,193	79	223	330
Retail AIRB – Total at 31 Dec 2020												
	131,195	42,911	68.0	157,669	1.00	17,415,154	30.0	–	19,623	12	813	1,167

Table 45: IRB – Credit risk exposures by portfolio and PD range (CR6) (continued)

PD scale	Original on-balance sheet gross exposure £m	Off-balance sheet exposures pre-CCF £m	Average CCF %	EAD post-CRM and post-CCF £m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs £m	RWA density %	Expected loss £m	Value adjustments and provisions [^] £m
AIRB – Secured by mortgages on immovable property SME												
0.00 to <0.15	5	1	19.0	6	0.13	174	35.6	–	1	9	–	–
0.15 to <0.25	85	27	36.3	94	0.22	2,217	35.8	–	13	14	–	–
0.25 to <0.50	189	65	41.6	216	0.37	4,869	36.7	–	46	21	–	–
0.50 to <0.75	205	59	37.4	227	0.63	5,294	36.6	–	70	31	1	–
0.75 to <2.50	577	113	36.8	620	1.44	12,706	36.7	–	326	53	4	2
2.50 to <10.00	278	43	33.1	292	4.33	5,523	37.0	–	297	102	6	4
10.00 to <100.00	38	5	35.4	39	18.12	902	36.9	–	65	165	3	1
100.00 (Default)	33	2	34.8	34	100.00	713	39.3	–	12	35	13	4
Sub-total	1,410	315	37.3	1,528	4.25	32,398	36.8	–	830	54	27	11
AIRB – Secured by mortgages on immovable property non-SME												
0.00 to <0.15	86,480	5,270	103.1	94,884	0.06	793,380	15.7	–	2,602	3	10	11
0.15 to <0.25	5,840	840	103.1	6,885	0.23	43,472	14.9	–	469	7	2	3
0.25 to <0.50	3,072	309	103.2	3,486	0.38	23,372	14.0	–	322	9	2	2
0.50 to <0.75	1,486	149	103.2	1,682	0.62	11,216	11.9	–	185	11	1	2
0.75 to <2.50	1,925	229	103.2	2,210	1.37	15,186	10.6	–	368	17	3	4
2.50 to <10.00	683	91	103.2	797	4.67	7,210	7.6	–	205	26	3	4
10.00 to <100.00	488	11	102.6	513	31.12	5,842	9.6	–	256	50	15	12
100.00 (Default)	714	19	90.4	719	100.00	8,828	8.0	–	996	138	28	73
Sub-total	100,688	6,918	103.1	111,176	0.94	908,506	15.3	–	5,403	5	64	111
AIRB – Qualifying revolving retail exposures												
0.00 to <0.15	2,318	22,312	58.4	15,357	0.06	9,407,351	77.4	–	605	4	11	32
0.15 to <0.25	476	2,786	62.2	2,209	0.22	1,554,487	81.4	–	253	11	5	4
0.25 to <0.50	694	3,079	52.3	2,304	0.35	1,268,072	82.6	–	419	18	7	8
0.50 to <0.75	1,037	1,412	50.4	1,698	0.64	659,689	84.5	–	482	28	10	12
0.75 to <2.50	1,980	1,072	78.1	2,817	1.46	1,173,986	82.4	–	1,462	52	37	86
2.50 to <10.00	975	300	91.1	1,249	4.51	526,167	78.6	–	1,370	110	49	98
10.00 to <100.00	285	76	90.7	354	32.61	228,596	80.1	–	725	205	102	76
100.00 (Default)	193	27	26.9	197	100.00	150,172	77.5	–	392	199	112	81
Sub-total	7,958	31,064	58.8	26,185	1.69	14,968,520	79.3	–	5,708	22	333	397
AIRB – Other SME												
0.00 to <0.15	49	260	36.6	141	0.09	98,846	90.6	–	23	16	–	–
0.15 to <0.25	33	173	44.0	108	0.23	75,913	85.7	–	34	31	–	–
0.25 to <0.50	67	321	50.6	226	0.38	134,189	87.3	–	103	45	1	1
0.50 to <0.75	61	261	56.4	205	0.61	124,095	87.1	–	119	58	1	1
0.75 to <2.50	546	706	49.1	881	1.52	319,158	81.3	–	728	83	12	9
2.50 to <10.00	880	392	45.0	1,048	4.68	169,295	78.8	–	1,138	109	49	37
10.00 to <100.00	255	83	59.6	300	20.59	74,165	83.6	–	463	154	58	48
100.00 (Default)	93	28	98.3	118	100.00	15,854	60.8	–	298	251	84	56
Sub-total	1,984	2,224	48.6	3,027	8.10	1,011,515	81.3	–	2,906	96	205	152
AIRB – Other non-SME												
0.00 to <0.15	1,131	108	100.0	1,237	0.11	138,546	68.3	–	325	26	2	10
0.15 to <0.25	1,082	15	100.0	1,097	0.22	147,462	79.0	–	450	41	3	4
0.25 to <0.50	1,418	8	100.0	1,426	0.37	155,085	79.6	–	758	53	5	7
0.50 to <0.75	694	3	100.0	698	0.61	69,156	84.8	–	499	72	4	7
0.75 to <2.50	2,061	8	92.9	2,069	1.32	249,918	82.8	–	2,002	97	24	25
2.50 to <10.00	524	5	65.9	527	4.67	74,888	86.0	–	702	133	21	40
10.00 to <100.00	186	–	100.0	186	37.17	27,951	86.2	–	315	169	59	44
100.00 (Default)	83	2	99.7	85	100.00	9,913	66.1	–	177	208	52	59
Sub-total	7,179	149	98.4	7,325	2.99	872,919	79.5	–	5,228	71	170	196
Retail AIRB – Total at 31 Dec 2019												
	119,219	40,670	65.8	149,241	1.35	17,793,858	31.2	–	20,075	13	799	867

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

Model performance

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

- investigation of model stability;
- model performance measured through testing the model's outputs against actual outcomes; and

- 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 validated against a series of metrics and triggers approved by the appropriate governance committee. Model performance metrics, and any remedial actions in the event of a trigger breach, are reported at the Wholesale and Retail MOCs that are responsible for overseeing the models used within HSBC UK.

Counterparty credit risk

Overview

Counterparty credit risk ('CCR') is the risk that the counterparty to a transaction 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.

Four approaches may be used under CRR to calculate exposure values for CCR: mark-to-market, original exposure, standardised and Internal Model Method ('IMM'). HSBC UK uses the mark-to-market approach to determine CCR exposures. Under this approach, EAD is calculated as current exposure plus regulatory add-ons.

Table 46: Counterparty credit risk – RWAs by exposure class and product

	At 31 December					
	2020			2019		
	EAD pre CRM £m	RWAs £m	Capital required £m	EAD pre CRM £m	RWAs £m	Capital required £m
By exposure class						
IRB advanced approach	45	14	1	89	44	4
– institutions	45	14	1	33	12	1
IRB foundation approach	70	43	3	–	–	–
– corporates	70	43	3	–	–	–
Standardised approach	32	7	1	388	78	6
– institutions	32	7	1	388	78	6
Credit Valuation Adjustment ('CVA') standardised	–	20	2	–	23	2
CCP standardised	883	38	3	1,079	53	4
Total	1,030	122	10	1,556	198	16
By Product						
– derivatives	619	70	5	710	60	5
– SFTs	411	11	1	846	84	7
– CVA standardised	–	20	2	–	23	2
– CCP default funds	–	21	2	–	31	2
Total	1,030	122	10	1,556	198	16

Credit valuation adjustment

CVA represent the risk of loss as a result of adverse changes to the credit quality of counterparties in derivative transactions. HSBC UK applies the standardised approach for CVA. Certain counterparty exposures are exempt from CVA, such as non-financial counterparties and sovereigns.

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 and receiving collateral and investigating disputes and non-receipts.

Table 47: Impact of netting and collateral held on exposure values (CCR5-A)

	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
	£m	£m	£m	£m	£m
1 Derivatives	2,658	2,038	620	–	620
2 SFTs	9,924	–	9,924	9,513	411
3 At 31 December 2020	12,582	2,038	10,544	9,513	1,031
1 Derivatives	1,575	865	710	–	710
2 SFTs	5,130	–	5,130	4,284	846
3 At 31 December 2019	6,705	865	5,840	4,284	1,556

Credit rating downgrade

A credit rating downgrade clause in a Master Agreement or a credit rating downgrade threshold clause in a credit support annex 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.

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.

- 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.

Securitisation

Securitisation strategy

HSBC UK acts as originator, sponsor, 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, regulatory treatments and other conditions are suitable, and for customer facilitation.

Securitisations on the banking book follow a detailed due diligence framework in accordance with the new securitisation framework. Wholesale credit risk conduct the credit approval process in line with HSBC Group policies and procedures. HSBC UK 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; and
- investor: where we hold a legacy investment in a securitisation transaction.

HSBC UK as originator

We use SPEs 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. In such cases, we transfer the loans and advances to the SPEs for cash, and the SPEs issue debt securities to investors to fund the cash purchases.

In addition, we use SPEs to mitigate the capital absorbed by some of the customer loans and advances we have originated. Credit derivatives and financial guarantees are used to transfer the credit risk associated with such customer loans and advances, using an approach commonly known as synthetic securitisation.

HSBC UK as investor

We have exposure to third-party securitisations in residential mortgage, consumer and trade receivables segments.

Monitoring of securitisation positions

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

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

Valuation of securitisation positions

The process of valuing 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 exposures, is to continually review our positions.

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.

Securitisation regulatory treatment

For regulatory purposes, any reduction in RWAs that would be achieved by our own originated securitisations must receive the PRA's permission and be justified by a commensurate transfer of credit risk to third parties. If achieved, 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').

The new securitisation framework came into force in the EU for new transactions from 1 January 2019. Existing positions were subject to 'grandfathering' provisions and were reported under the old approach at 31 December 2019. These exposures were transferred to the new framework on 1 January 2020.

Analysis of securitisation exposures

Table 48: Securitisation exposure – movement in the year

	Total at 1 Jan £m	Movement in year		Total at 31 Dec £m
		As originator £m	As investor £m	
Aggregate amount of securitisation exposures				
Residential mortgages	899	–	(233)	666
Loans to corporates and SMEs	2,278	–	–	2,278
Consumer loans	–	–	550	550
Trade receivables	–	–	150	150
Total	3,177	–	467	3,644
Aggregate amount of securitisation exposures				
Residential mortgages	1,017	–	(118)	899
Loans to corporates and SMEs	–	2,278	–	2,278
2019	1,017	2,278	(118)	3,177

Table 49: Securitisation – asset values and impairments

	At 31 December 2020			At 31 December 2019		
	Underlying assets		Securitisation exposures impairment £m	Underlying assets		Securitisation exposures impairment £m
	Total £m	Impaired and past due £m		Total £m	Impaired and past due £m	
As originator	2,500	–	–	2,500	–	–
– loans to corporates and SMEs	2,500	–	–	2,500	–	–
Total	2,500	–	–	2,500	–	–

Table 50: Securitisation exposures in the non-trading book (SEC1)

	Bank acts as originator			Bank acts as investor		
	Traditional £m	Synthetic £m	Sub-total £m	Traditional £m	Synthetic £m	Sub-total £m
1 Retail (total)	–	–	–	1,366	–	1,366
2 – residential mortgage	–	–	–	666	–	666
4 – other retail exposures	–	–	–	700	–	700
6 Wholesale (total)	–	2,278	2,278	–	–	–
7 – loans to corporates	–	2,278	2,278	–	–	–
Total at Total 31 December 2020	–	2,278	2,278	1,366	–	1,366
1 Retail (total)	–	–	–	899	–	899
2 – residential mortgage	–	–	–	899	–	899
6 Wholesale (total)	–	2,278	2,278	–	–	–
7 – loans to corporates	–	2,278	2,278	–	–	–
Total at Total 31 December 2019	–	2,278	2,278	899	–	899

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

Table 51: Securitisation exposures in the non-trading book and associated capital requirements – bank acting as originator (under the new framework) (SEC3)

	Exposure values (by risk weight bands)					Exposure values (by regulatory approach)				
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to 1,250% RW	1,250% RW	SEC-IRBA	SEC-ERBA	SEC IAA	SEC-SA	1,250%
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
9 Synthetic securitisation	–	2,264	–	3	11	2,267	–	–	–	11
10 Securitisation	–	2,264	–	3	11	2,267	–	–	–	11
12 – wholesale	–	2,264	–	3	11	2,267	–	–	–	11
1 At 31 December 2020	–	2,264	–	3	11	2,267	–	–	–	11
9 Synthetic securitisation	2,263	–	–	2	13	2,265	–	–	–	13
10 Securitisation	2,263	–	–	2	13	2,265	–	–	–	13
12 – wholesale	2,263	–	–	2	13	2,265	–	–	–	13
At 31 December 2019	2,263	–	–	2	13	2,265	–	–	–	13

	RWAs (by regulatory approach)					Capital charge after cap				
	SEC-IRBA	SEC-ERBA	SEC IAA	SEC-SA	1,250%	SEC-IRBA	SEC-ERBA	SEC IAA	SEC-SA	1,250%
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
9 Synthetic securitisation	557	–	–	–	142	45	–	–	–	11
10 Securitisation	557	–	–	–	142	45	–	–	–	11
12 – wholesale	557	–	–	–	142	45	–	–	–	11
1 At 31 December 2020	557	–	–	–	142	45	–	–	–	11
9 Synthetic securitisation	364	–	–	–	156	29	–	–	–	13
10 Securitisation	364	–	–	–	156	29	–	–	–	13
12 – wholesale	364	–	–	–	156	29	–	–	–	13
1 At 31 December 2019	364	–	–	–	156	29	–	–	–	13

The following table presents our exposure in the non-trading book and associated regulatory capital requirements where we act as an investor, firstly under the pre-existing framework followed by the revised framework.

Table 52: Securitisation exposures in the non-trading book and associated capital requirements – bank acting as investor (under the pre-existing framework) (SEC4)¹

	Exposure values (by risk weight bands)					Exposure values (by regulatory approach)				
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to 1,250% RW	1,250% RW	SEC-IRBA	SEC-ERBA	SEC IAA	SEC-SA	1,250%
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
2 Traditional securitisation	1,366	–	–	–	–	–	–	–	1,366	–
3 Securitisation	1,366	–	–	–	–	–	–	–	1,366	–
4 – retail underlying	1,366	–	–	–	–	–	–	–	1,366	–
1 At 31 December 2020	1,366	–	–	–	–	–	–	–	1,366	–

	RWAs (by regulatory approach)					Capital charge after cap				
	SEC-IRBA	SEC-ERBA	SEC IAA	SEC-SA	1,250%	SEC-IRBA	SEC-ERBA	SEC IAA	SEC-SA	1,250%
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
2 Traditional securitisation	–	–	–	205	–	6	–	–	16	–
3 Securitisation	–	–	–	205	–	6	–	–	16	–
4 – retail underlying	–	–	–	205	–	6	–	–	16	–
1 At 31 December 2020	–	–	–	205	–	6	–	–	16	–

¹ These exposures were transferred to the new securitisation framework on 1 January 2020 and hence not comparable to 31 December 2019 reported under the old approach.

Market risk

Overview

Market risk is the risk that movements in market risk factors, including foreign exchange rates, commodity prices, interest rates, credit spreads and equity prices, will reduce the group's income or the value of its portfolios. Market risk is measured using the standardised approach for position risk under CRR.

The table below sets out details of the group's market risk exposures by type and approach.

Further explanation of the group's approach to managing market risk can be found from page 58 of the HSBC UK Bank plc Annual Report and Accounts 2020.

Table 53: Market risk under standardised approach (MR1)

	At 31 December			
	2020		2019	
	RWAs £m	Capital required £m	RWAs £m	Capital required £m
Outright products				
1 Interest rate risk (general and specific)	1	–	2	–
3 Foreign exchange risk	155	12	25	2
9 Total	156	12	27	2

Non-Financial Risk

Overview

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. Non-Financial risk covers a wide spectrum of issues, such as resilience risk, financial crime and fraud risk, regulatory compliance risk, 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.

Further explanation of the group's approach to managing non-financial risk is set out on page 21 of our Annual Report and Accounts 2020.

Operational risk is part of Non-Financial risk.

Table 54: Operational risk RWAs and capital required

	At 31 December			
	2020		2019	
	RWAs £m	Capital required £m	RWAs £m	Capital required £m
Own funds requirement for operational risk – assessed on the standardised approach	10,509	841	10,303	824

Other risks

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 held 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 ALCM function uses a number of measures to monitor and control interest rate risk in the banking book including the sensitivity of economic value of equity and projected net interest income under various interest rate scenarios held by Markets Treasury that are accounted for at fair value through other comprehensive income.

Further details of our IRRBB can be found on page 53 of our Annual Report and Accounts 2020.

Non-trading book exposures in equities

The implementation of IFRS 9 resulted in the removal of the available-for-sale category; equity exposures therein have been 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. We have no deliberate strategy of holding such positions.

At 31 December 2020, we held equity investments of £3.4m. Our opening position at 1 January 2020 was £8.8m and £1m has been reflected through profit and loss for the year. Disposal of equities were made in the period.

Liquidity and funding risk

Strategies and processes

HSBC UK has an internal liquidity and funding risk management framework ('LFRF'), which aims to allow it to withstand very severe liquidity stresses. It is designed to be adaptable to changing business models, markets and regulations.

The key aspects of the internal LFRF which is used to ensure that we maintain an appropriate overall liquidity risk profile are:

- liquidity and funding risk managed on a standalone basis without reliance on other members of the Group or central banks, unless pre-approved;
- minimum liquidity coverage ratio ('LCR') requirement; and
- minimum net stable funding ratio ('NSFR') requirement.

Structure and organisation

The Asset, Liability and Capital Management ('ALCM') team is responsible for the application of the LFRF within HSBC UK.

The elements of the LFRF are underpinned by a robust governance framework, the two major elements of which are:

- Asset and Liability Committee ('ALCO'); and
- Annual internal liquidity adequacy assessment process ('ILAAP') used to validate risk tolerance and set risk appetite.

The final objective of the ILAAP, approved by the Board of Directors, is to verify that we have liquidity resources which are adequate in both amount and quality at all times, ensuring that there is no significant risk that our liabilities cannot be met as they fall due, maintaining a prudent funding profile.

Management of liquidity and funding risk

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. For the calculation of the LCR, we follow the EU Regulation LCR Delegated Act 2015/61.

Net stable funding ratio

HSBC UK uses the NSFR as a basis for ensuring operating entities raise sufficient stable funding to support their business activities. The NSFR requires institutions to maintain a minimum amount of stable funding based on assumptions of asset liquidity.

Governance

ALCM apply the LFRF and are responsible for the implementation of Group-wide and local regulatory policy. Markets Treasury has responsibility for cash and liquidity management.

Treasury Risk Management carry out independent review, challenge and assurance of the appropriateness of the risk management activities undertaken by ALCM and Markets Treasury. They provide oversight and stewardship of liquidity management including setting policy and control standards Internal Audit provide independent assurance that risk is managed effectively.

Structural foreign exchange exposures

Structural foreign exchange exposures represent the group's net investments in subsidiaries, branches and associates, the functional currencies of which are currencies other than sterling. An entity's functional currency is that of the primary economic environment in which the entity operates.

The group does not have investments in subsidiaries in non-sterling currencies.

Remuneration

As a wholly-owned subsidiary, HSBC UK is subject to the remuneration practices established by HSBC Group. 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 on the HSBC Group website (<https://www.hsbc.com/who-we-are/leadership-and-governance/remuneration>) and in the Directors' Remuneration Report from page 229 of the HSBC Holdings plc *Annual Report and Accounts 2020*.

The following tables show the remuneration awards made to Identified Staff and MRTs of HSBC UK for 2020. Individuals have been identified as MRTs based on the qualitative and quantitative criteria set out in the Regulatory Technical Standard EU 604/2014. 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 55: Senior management remuneration – fixed and variable amounts (REM1)

	Fixed (£m)				Variable ² (£m)							Total (£m)
	Number of MRTs	Cash-based ¹	Share-based	Total	Cash-based	Of which: deferred	Share-based ³	Of which: deferred	Other forms ³	Of which: deferred	Total	
Executive Directors	3	3.1	–	3.1	0.9	0.5	1.0	0.6	–	–	1.9	5.0
Non-executive Directors	8	1.7	–	1.7	–	–	–	–	–	–	–	1.7
Senior management	14	6.6	–	6.6	2.1	0.9	2.1	1.1	–	–	4.2	10.8
Retail banking	30	9.3	–	9.3	2.6	0.9	2.3	1.1	–	–	4.9	14.2
Corporate functions	7	2.4	–	2.4	1.0	0.3	0.8	0.4	–	–	1.8	4.2
Independent control functions	17	3.5	–	3.5	0.7	0.1	0.2	0.1	–	–	0.9	4.4
Total	79	26.6	–	26.6	7.3	2.7	6.4	3.3	–	–	13.7	40.3

1 Cash-based fixed remuneration is paid immediately.

2 Variable pay awarded in respect of 2020. In accordance with HSBC Holdings plc 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.

3 Share-based awards are made in HSBC Holdings plc shares. Vested shares are subject to a retention period of up to one year.

Table 56: Senior management guaranteed bonus, sign-on and severance payments (REM2)

	Guaranteed bonus and sign on payments ¹		Severance payments ²				
	Made during year (£m)	Number of beneficiaries	Awarded during year (£m)	Number of beneficiaries	Highest such award to a single person (£m)	Paid during year (£m)	Number of beneficiaries
Total	–	–	–	–	–	–	–

1,2 No guaranteed bonus, sign-on payments or severance payments were made in 2020.

Pillar 3 Disclosures at 31 December 2020

Table 57: Senior management deferred remuneration (REM3)

£m	Total outstanding ²	Of which: unvested	Of which: total outstanding deferred and retained exposed to ex post explicit and/or implicit adjustment	Total amount of amendment during the year due to ex post implicit adjustment	Total amount of amendment during the year due to ex post explicit adjustment ³	Total amount of deferred paid out in the financial year ⁴
Cash						
Executive Directors	2.2	2.2	2.2	—	—	0.1
Senior management	2.8	2.8	2.8	—	—	0.3
Retail banking	1.8	1.8	1.8	—	—	0.5
Corporate functions	1.0	1.0	1.0	—	—	0.2
Independent control functions	0.4	0.4	0.4	—	—	0.1
Shares						
Executive Directors	1.8	1.6	1.8	(0.9)	—	0.5
Senior management	2.7	2.2	2.7	(1.4)	—	1.6
Retail banking	1.9	1.6	1.9	(1.0)	—	2.0
Corporate functions	1.0	0.9	1.0	(0.5)	—	0.7
Independent control functions	0.4	0.3	0.4	(0.2)	—	0.4

1 This table provides details of balances and movements during performance year 2020. For details of variable pay awards granted for 2020, please refer to the remuneration tables above. Deferred remuneration is made in cash and/or shares. Share-based awards are made in HSBC Holdings plc shares.

2 Includes unvested deferred awards, and vested deferred awards subject to retention period as at 31 December 2020.

3 Includes any amendments due to malus or clawback.

4 Shares are considered as paid when they vest. Vested shares are valued using the sale price or the closing share price on the business day immediately preceding the vesting day.

Table 58: Material risk takers' remuneration by band

	Management body ²	All other	Total
€0 – 1,000,000	9	60	69
€1,000,000 – 1,500,000	1	5	6
€1,500,000 – 2,000,000	—	3	3
€2,000,000 – 2,500,000	—	—	—
€2,500,000 – 3,000,000	—	—	—
€3,000,000 – 3,500,000	1	—	1
€3,500,000 – 4,000,000	—	—	—

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.

2 Management body represents the Board of HSBC UK Bank plc.

Appendix I

Abbreviations

The following abbreviated terms are used throughout this document.

A		IMM ¹	Internal Model Method
ABS ¹	Asset-backed security	IRB ¹	Internal ratings based approach
AIRB ¹	Advanced internal ratings based approach	IRRBB	Interest Rate Risk in the Banking Book
ALCM	Asset, Liability and Capital Management	L	
ALCO	Asset and Liability Management Committee	LCR	Liquidity Coverage Ratio
AT1	Additional tier 1 capital	LFRF	Liquidity and Funding Risk Management Framework
B		LGD ¹	Loss given default
Basel	Basel Committee on Banking Supervision	M	
BRRD II	Second Bank Recovery and Resolution Directive	MOC	Model Oversight Committee
BSM	Balance Sheet Management	MRT	Material Risk Taker
C		N	
CCP	Central counterparty	NSFR	Net Stable Funding Ratio
CCF	Credit conversion factor	O	
CCR ¹	Counterparty credit risk	O-SII	Other Systemically Important Institutions
CCyB	Countercyclical Capital Buffer	P	
CEO	Chief Executive Officer	PD ¹	Probability of default
CET1 ¹	Common equity tier 1	PIT	Point-in-time
CMB	Commercial Banking	PRA ¹	Prudential Regulation Authority
CRA ¹	Credit risk adjustment	R	
CRD IV ¹	Capital Requirements Regulation and Directive	RAS	Risk appetite statement
CRD V	Fifth Capital Requirements Directive	RMM	Risk Management Meeting of HSBC UK
CRE ¹	Commercial real estate	RWA ¹	Risk-weighted asset
CRM	Credit risk mitigation/mitigant	S	
CRO	Chief Risk Officer	S&P	Standard and Poor's rating agency
CRR ¹	Customer risk rating	SPE	Special purpose entity
CRR II	Revised Capital Requirements Regulation and Directive as implemented	STD ¹	Standardised approach
CVA	Credit valuation adjustment	SFT ¹	Securities Financing Transactions
D		SME	Small- and medium-sized enterprise
DBRS	Dominion Bond Rating Service	SyRB	Systemic Risk Buffer
E		T	
EAD ¹	Exposure at default	TCR	Total Capital Requirement
EBA	European Banking Authority	TTC ¹	Through-the-cycle
ECAI	External Credit Assessment Institutions	T1	Tier 1 capital
ECL	Expected Credit Losses	T2	Tier 2 capital
EEA	European Economic Area	U	
EL ¹	Expected loss	UK	United Kingdom
EU	European Union	W	
EHQLA	Extremely high-quality liquid assets	WPB	Wealth and Personal Banking
F		I	
FIRB ¹	Foundation internal ratings based approach	ICAAP ¹	Internal Capital Adequacy Assessment Process
G		IFRSs	International Financial Reporting Standards
GBM	Global Banking and Markets	ILAAP	Internal Liquidity Adequacy Assessment Process
H			
HMT	Her Majesty's Treasury		
HQLA	High-Quality Liquid Assets		

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

Appendix II

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.

Country	General credit exposures		Trading book exposures		securitisation positions in the banking book	Own funds requirements			Total	Share of total own funds requirements		CCyB rate
	SA	IRB	Sum of long/short positions for SA	Internal models		of which: General credit exposures	of which: General trading book	of which: Securitisation exposures		£m	%	
	£m	£m	£m	£m	£m	£m	£m	£m	£m			
Australia	–	279	–	–	–	8	–	–	8	0	0.00	
Bermuda	–	96	–	–	–	1	–	–	1	0	0.00	
China	–	339	–	–	–	4	–	–	4	0	0.00	
Curaçao	–	52	–	–	–	2	–	–	2	0	0.00	
Cyprus	–	47	–	–	–	2	–	–	2	0	0.00	
France	1	192	–	–	–	8	–	–	8	0	0.00	
Germany	–	108	–	–	–	5	–	–	5	0	0.00	
Guernsey	–	115	–	–	–	2	–	–	2	0	0.00	
Hong Kong	–	901	–	–	–	12	–	–	12	0	1.00	
Ireland	–	447	–	–	–	11	–	–	11	0	0.00	
Isle Of Man	–	77	–	–	–	4	–	–	4	0	0.00	
Italy	14	61	–	–	–	4	–	–	4	0	0.00	
Jersey	–	430	–	–	–	28	–	–	28	0	0.00	
Luxembourg	–	123	–	–	–	6	–	–	6	0	0.25	
Malaysia	–	47	–	–	–	–	–	–	–	0	0.00	
Monaco	–	54	–	–	–	3	–	–	3	0	0.00	
Netherlands	–	842	–	–	–	36	–	–	36	0	0.00	
Panama	–	79	–	–	–	1	–	–	1	0	0.00	
Poland	–	90	–	–	–	9	–	–	9	0	0.00	
Qatar	1	73	–	–	–	1	–	–	1	0	0.00	
Saudi Arabia	–	192	–	–	–	3	–	–	3	0	0.00	
Singapore	–	271	–	–	–	3	–	–	3	0	0.00	
Sweden	–	85	–	–	–	5	–	–	5	0	0.00	
Switzerland	–	212	–	–	–	4	–	–	4	0	0.00	
United Arab Emirates	5	645	–	–	–	7	–	–	7	0	0.00	
United Kingdom	2,437	233,013	–	–	3,643	5,519	–	72	5,591	100	0.00	
United States	–	1,118	–	–	–	55	–	–	55	0	0.00	
Virgin Islands, British	–	226	–	–	–	7	–	–	7	0	0.00	
Other countries	8	814	–	–	–	25	–	–	25	0	0.00	
Total	2,466	241,029	–	–	3,643	5,772	–	72	5,845	100	0.00	

	2020
Total Risk Exposure Amount (£m)	85,477
Institution specific countercyclical capital buffer rate	0.002%
Institution specific countercyclical capital buffer requirement (£m)	2

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