

Royal Bank of Scotland Group
Pillar 3 Report 2019

Pillar 3 Report 2019

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Forward looking statements

This document contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995, such as statements that include, without limitation, the words 'expect', 'estimate', 'project', 'anticipate', 'commit', 'believe', 'should', 'intend', 'plan', 'could', 'probability', 'risk', 'Value-at-Risk (VaR)', 'target', 'goal', 'objective', 'may', 'endeavour', 'outlook', 'optimistic', 'prospects' and similar expressions or variations on these expressions. These statements concern or may affect future matters, such as RBSG's future economic results, business plans and strategies. In particular, this document may include forward-looking statements relating to RBSG in respect of, but not limited to: its regulatory capital position and related requirements, its financial position, profitability and financial performance (including financial, capital and operational targets), its access to adequate sources of liquidity and funding, increasing competition from new incumbents and disruptive technologies, its exposure to third party risks, its ongoing compliance with the UK ring-fencing regime and ensuring operational continuity in resolution, its impairment losses and credit exposures under certain specified scenarios, substantial regulation and oversight, ongoing legal, regulatory and governmental actions and investigations, the transition of LIBOR and IBOR rates to alternative risk free rates and RBSG's exposure to economic and political risks (including with respect to terms surrounding Brexit and climate change), operational risk, conduct risk, cyber and IT risk, key person risk and credit rating risk. Forward-looking statements are subject to a number of risks and uncertainties that might cause actual results and performance to differ materially from any expected future results or performance expressed or implied by the forward-looking statements. Factors that could cause or contribute to differences in current expectations include, but are not limited to, the final number of PPI claims and their amounts, legislative, political, fiscal and regulatory developments, accounting standards, competitive conditions, technological developments, interest and exchange rate fluctuations and general economic conditions. These and other factors, risks and uncertainties that may impact any forward-looking statement or RBSG's actual results are discussed in RBSG's UK 2019 Annual Report and Accounts (ARA). The forward-looking statements contained in this document speak only as of the date of this document and RBSG does not assume or undertake any obligation or responsibility to update any of the forward-looking statements contained in this document, whether as a result of new information, future events or otherwise, except to the extent legally required.

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Attestation statement

We confirm that the 2019 Pillar 3 Report meets the relevant requirements for Pillar 3 disclosures and has been prepared in line with internal controls agreed by the Board.

As set out in the Compliance report of the 2019 Annual Report and Accounts, the Board is responsible for the system of internal controls that is designed to maintain effective and efficient operations, compliant with applicable laws and regulations. The system of internal control is designed to manage risk, or mitigate it to an acceptable residual level rather than eliminate it entirely. Systems of internal control can only provide reasonable and not absolute assurance against misstatement, fraud or loss.

The 2019 Pillar 3 Report was approved by the Board on 13 February 2020.

Katie Murray
Chief Financial Officer
Executive Director, RBS Board

Bruce Fletcher
Group Chief Risk Officer
Member, Executive Committee

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Disclosure framework

The Pillar 3 disclosures made by The Royal Bank of Scotland Group plc (RBSG plc) and its consolidated subsidiaries (together RBS or RBS Group) are designed to comply with Part VIII of the Capital Requirements Regulation (CRR) and associated regulations and guidelines from the European Banking Authority (EBA). Additional disclosures are made in accordance with supervisory expectations regarding future disclosures promulgated by the Basel Committee on Banking Supervision (BCBS) and to assist the reader in understanding the activities of RBS.

The UK ring-fencing legislation required the separation of essential banking services from other banking activity from 1 January 2019. RBS placed the majority of the banking business in ring-fenced entities under an intermediate holding company, NatWest Holdings Limited (NWH Ltd). Therefore, in this report, consolidated disclosures for NatWest Holdings Group (NWH Group) have no comparatives for year ended 2018 and templates with quarterly comparatives are presented from 31 March 2019 onwards.

RBS's significant subsidiaries at 31 December 2019 were National Westminster Bank Plc (NWB Plc), The Royal Bank of Scotland plc (RBS plc), NatWest Markets Plc (NWM Plc) and Ulster Bank Ireland DAC (UBI DAC). RBS determines its significant subsidiaries, in accordance with the CRR requirements for disclosure, as those entities whose total risk-weighted assets (RWAs) account for 5% or more of RBS's consolidated RWAs. Within this document, significant subsidiary disclosures are presented for NWM Plc and, additionally, for the consolidated NatWest Holdings Group for the sake of completeness. Refer to the NWH Group 2019 Pillar 3 Report for significant subsidiary disclosures for NWB Plc, RBS plc and UBI DAC.

Disclosure roadmap

This document should be read in conjunction with the 2019 RBS Group Annual Report and Accounts (ARA), available at [rbs.com](https://www.rbs.com). The CRR roadmap included in Appendix 1 of this document details where in these documents the regulatory requirements are disclosed. Refer to the Glossary for definitions of terms available on [rbs.com](https://www.rbs.com).

Banks are required to disclose their material risks as part of the Pillar 3 framework. Most of this information is disclosed in the 2019 RBS Group ARA. The 2019 RBS Group ARA includes a range of risk factors and provides in-depth analysis on the specific risks to which RBS is or may be exposed. These Pillar 3 disclosures provide additional information over and above that contained in the 2019 RBS Group ARA.

Key metrics for RBS are published as follows:

- Financial performance measures and ratios – 2019 RBS Group ARA – Strategic report – Highlights
- Key metrics – Capital, leverage and liquidity for RBS, NWB Plc, RBS plc, UBI DAC and NWM Plc in their respective ARAs – Capital and Risk Management – Capital, liquidity and funding risk.

Certain Pillar 3 disclosures are included in the 2019 RBS Group ARA as follows:

- Corporate governance – Directors' remuneration report
- Strategic report – Risk overview
- Corporate governance – Report of the Board Risk Committee
- Capital and risk management:
 - Risk management framework
 - Capital, liquidity and funding risk
 - Credit risk
 - Market risk
 - Operational risk
- Capital instruments – detailed terms - are found on the RBS Investor Relations website.

The following European Banking Authority (EBA) templates required to be disclosed as at 31 December 2019 are not applicable to RBS: EU INS1 - Non-deducted participations in insurance undertakings and EU CCR5-B Composition of collateral for counterparty credit risk exposure.

The following EBA templates are not disclosed as RBS had no relevant reportable exposure as at 31 December 2019: Template 9 - Changes in the stock of non-performing loans and advances.

Throughout this document the row and column references are based on those prescribed in the EBA templates. Any tables, rows or columns which are not applicable or do not have a value have not been shown.

Global Systemically Important Bank (G-SIB) indicators at 31 December 2019 will be published on the RBS Investor Relations website in February 2020. The Financial Stability Board published the latest GSIB list in November 2019.

Regulatory disclosure developments

Phase 1 of the revised Pillar 3 framework of the BCBS was addressed by the EBA in guidelines implemented in December 2017. The guidelines introduced more specific guidance and prescribed tables and templates, regarded by the regulators as a significant step towards enhancing the consistency and comparability of banks' regulatory disclosures. Phase 2 consolidated existing disclosure requirements, introduced a dashboard of key prudential measures and added disclosures around total loss-absorbing capital (TLAC).

During 2018, new disclosure requirements were introduced by the EBA for IFRS 9 transitional arrangements. The Prudential Regulation Authority (PRA) also requested early adoption of a small subsection of qualitative and quantitative tables from Phase 2 of the BCBS revised Pillar 3 framework. Building on this in 2019, new disclosure requirements on non-performing and forbore exposures were introduced by the EBA.

The BCBS published Phase 3 of the Pillar 3 framework in December 2018. This reflected the disclosures related to the finalisation of Basel 3 published by the committee in December 2017. The EBA is also consulting on a comprehensive Implementing Technical Standard (published October 2019) to bring all disclosure guidelines together, implement regulatory changes introduced by CRR2 (refer to the following paragraph) and align the disclosure framework with international standards.

Regulatory framework

The European Union (EU) has implemented the initial phase of Basel III capital framework through the CRR and the Capital Requirements Directive (CRD). On 7 June 2019, amendments to the CRR and CRD (known as CRR2 and CRD5 respectively) were published in the Official Journal of the European Union. The majority of these changes will be implemented in June 2021.

The framework is based on three pillars:

- Pillar 1 - Minimum capital requirements: defines rules for the determination of the capital requirement relating to credit, counterparty credit, market and operational risk;
- Pillar 2 - Supervisory review process: requires banks to undertake an internal capital adequacy assessment process for risks not included in Pillar 1; and
- Pillar 3 - Market discipline: requires individual banks to disclose key information which allows investors and other market participants to understand their risk profiles.

In this report, in line with the regulatory framework, the term credit risk excludes counterparty credit risk, unless specifically indicated otherwise.

Pillar 1 - Minimum capital requirements

The CRR determines minimum capital requirements predominantly by calculating RWAs for credit, counterparty credit, market and operational risks. Various RWA calculation approaches are available to banks, with differing levels of sophistication.

RBS uses the following approaches to calculate RWAs:

- Credit risk: The advanced internal ratings based (IRB) approach is used for most exposures. The standardised (STD) approach is used for exposures in certain portfolios.
- Counterparty credit risk: The exposure amount is calculated using both the mark-to-market (MTM) method and the internal model method (IMM) for derivative transactions. The financial collateral comprehensive method is used for securities financing transactions. The resultant Exposure at Default (EAD) is risk-weighted as for Credit risk.

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- Market risk: Both the standardised approach and the internal model approach (IMA) are used.
- Operational risk: The standardised approach is used.

The minimum capital requirement is calculated as a percentage of RWAs depending on the capital ratio being calculated. On top of the minimum capital requirement, a number of buffers are required to address capital conservation, countercyclicality and systemic importance. Further details on the constituents of capital and the various buffers can be found in the Capital, liquidity and funding section of this document.

Pillar 2 - Supervisory review process

Pillar 2 comprises (i) the internal capital adequacy assessment process (ICAAP) for RBS and its key subsidiaries and (ii) a supervisory review and evaluation process which is undertaken annually and focuses on the amounts, types and distribution of capital that RBS considers adequate to cover the risks to which it is or may be exposed.

RBS undertakes a risk assessment to ensure all material risks are identified, adequately managed and capitalised where appropriate.

Within Pillar 2A, RBS assesses credit concentration risk, certain aspects of traded market risk that are not fully captured in Pillar 1, interest rate risk in the banking book (IRRBB), pension risk and operational risk to compensate for shortcomings of the Pillar 1 standardised approach. RBS uses economic capital models to estimate Pillar 2A capital charges for operational and credit concentration risk. For more information, refer to pages 112 and 189 of the 2019 RBS Group ARA. Information regarding specific credit risk concentrations, such as sector or geography, is included within Pillar 3. Refer also to 2019 RBS Group ARA – Capital and risk management – Non-traded market risk and Pension risk.

The PRA buffer (also referred to as Pillar 2B) is based on stress testing and scenario analysis. It is used to assess the quantum and quality of capital required to be set aside to counteract the adverse impact of an extreme but plausible stress on RBS's capital, and to ensure capital levels in stress conditions remain above minimum requirements.

The ICAAP submission is approved by the RBS Board before it is submitted to the regulator and forms the basis of the supervisory review and the setting of the Total Capital Requirement by the PRA. Refer to page 117 of the 2019 RBS Group ARA.

Pillar 3 - Market discipline

RBS is committed to delivering risk and capital disclosures that ensure stakeholders understand the risks faced by RBS Group and how they are measured and capitalised. The Pillar 3 disclosures are designed to encourage and promote market transparency and stability; they represent a component of RBS's broader disclosures framework.

RBS publishes its Pillar 3 disclosures as required by and in accordance with the EU and UK regulatory frameworks. Additionally, RBS continues to participate in the UK Finance drive towards consistent Pillar 3 disclosures for UK banks wherever possible.

RBS has not omitted any disclosures on the grounds that the information may be proprietary or confidential. Certain of RBS's subsidiaries in Europe publish capital and RWA data externally through an appropriate mechanism (such as websites and annual reports), thereby satisfying the EBA requirements for disclosures in the member states.

It is possible that disclosures made by other banks, especially outside the UK, are not directly comparable with those in this report. Notes are included with the data tables to ensure transparency regarding the approaches used for the disclosures. At EU and global levels, different definitions and assumptions adopted by other banks can make direct comparison difficult.

Consolidation

RBSG plc is the parent entity for all authorised firms in RBS Group and is subject to consolidated supervision by the PRA. From 1 January 2019, NWH Ltd is subject to consolidated supervision by the PRA as the parent of the ring-fenced bank (RFB) sub-group.

Inclusion of an entity in the statutory consolidation is driven by RBS's ability to exercise control over that entity. The regulatory consolidation applies a comparable test but consolidation is restricted to certain categories of entities. In accordance with PRA rules, non-financial and certain structured entities are excluded from the regulatory consolidation.

Where RBS does not have control of an entity but has more than 20% of the voting rights or capital of that entity, then it must be included in the regulatory consolidation on a pro-rata basis, unless it falls into one of the excluded categories or RBS has agreed a different treatment with the PRA. Such entities will only be included in the statutory consolidation on a pro-rata basis where RBS has joint control. Entities where RBS has significant influence will be equity accounted in the statutory consolidation. For further information refer to Note 10 Related undertakings in the 2019 RBS Group ARA.

Impediments to the transfer of capital resources and aggregate capital deficiency

All RBS companies are subject to policies, governance and controls set centrally. Aside from regulatory requirements, there are no current or foreseen material, practical or legal impediments to the transfer of capital or prompt repayments of liabilities when due.

Independent review

The information presented in this Pillar 3 Report is not required to be, and has not been, subject to external audit.

Internal Audit undertakes procedures to provide management and the Board with assurance relating to the adequacy and effectiveness of the processes, controls and governance framework over the production of the Pillar 3 disclosures.

Internal Audit includes within the scope of its assurance work, the modelling and management of the organisation's capital and liquidity risks. Internal Audit is independent from the risk management function, and therefore from those responsible for the development and independent validation activity. Any material gaps in control identified by Internal Audit are escalated through standard board reporting and action plans agreed with those accountable for the activity behind the control.

Capital, liquidity and funding

Capital and leverage

Capital consists of reserves and instruments issued that are available that have a degree of permanency and are capable of absorbing losses. A number of strict conditions set by regulators must be satisfied to be eligible to count as capital.

Capital adequacy risk is the risk that there is or will be insufficient capital and other loss absorbing debt instruments to operate effectively including meeting minimum regulatory requirements, operating within Board approved Group risk appetite and supporting its strategic goals.

Capital management is the process by which the RBS Group ensures that it has sufficient capital and other loss absorbing instruments to operate effectively including meeting minimum regulatory requirements, operating within Board approved risk appetite, maintaining its credit rating and supporting its strategic goals. Capital management is critical in supporting the RBS Group's business and is enacted through an end to end framework across the RBS Group, its businesses and the legal entities through which it operates.

RBS Group manages capital having regard to regulatory requirements. For significant subsidiaries, regulatory capital is monitored and reported on an individual regulated bank legal entity basis, as relevant in each jurisdiction. For RBS Group and the RFB sub-group, regulatory capital is monitored and reported on a consolidated basis.

Determination of capital sufficiency

In determining whether the RBS Group holds sufficient capital and other loss absorbing debt instruments, the RBS Group assesses the amount and type of capital under a number of different bases:

Going concern vs. gone concern view

Going concern: This determination of capital sufficiency is made on the basis that there is sufficient capital to absorb losses and remain a viable going concern. The RBS Group is considered a going concern if it can operate in the foreseeable future to carry out its objectives and commitments without the need or intention on the part of management to liquidate.

Gone concern: This determination of capital sufficiency is made on the basis that there is sufficient capital and other loss absorbing instruments to enable an orderly resolution in the event of failure. Gone concern would apply if the RBS Group had been deemed to fail, or likely to fail by the Bank of England (BoE).

Spot vs. forward-looking view

Spot view: This determination of capital sufficiency is made on the basis of prevailing actual positions and exposures.

Forward-looking view: This determination of capital sufficiency is made on the basis of positions, balance and exposures under a forward looking view of the balance sheet in line with the RBS Group's planning horizons and parameters. This analysis examines both base and stress views.

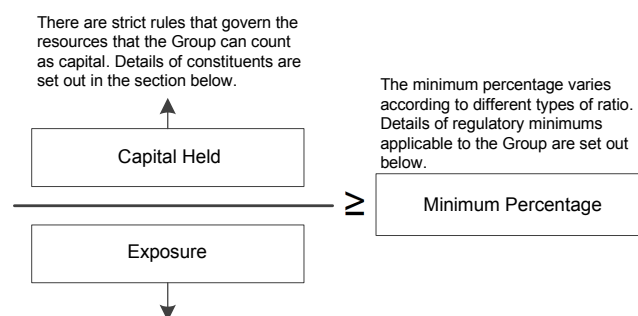
Regulatory vs. risk appetite view

Regulatory requirements: This determination of capital sufficiency is an assessment of whether the RBS Group has sufficient capital and other loss absorbing debt instruments to meet the requirements of prudential regulation.

Risk appetite: This determination of capital sufficiency is an assessment of whether the RBS Group has sufficient capital and other loss absorbing debt instruments to meet risk appetite limits. The RBS Group's risk appetite framework establishes quantitative and qualitative targets and limits within which the RBS Group operates to achieve its strategic objectives.

Capital sufficiency: going concern view

The regulatory requirement for going concern capital typically takes the form of a ratio of capital compared to a defined exposure amount having to exceed a minimum percentage:



There are two types of capital ratios based on different exposure types:

Ratio	Exposure type	Description
Capital adequacy ratio	Risk-weighted assets	Assesses capital held against both size and inherent riskiness of on and off-balance sheet exposures.
Leverage ratio	Leverage exposure	Assesses capital held against the size of on and off-balance sheet exposures (largely based on accounting value with some adjustments).

Constituents of capital held

The determination of which instruments and financial resources are eligible to be counted as capital is laid down by applicable regulation.

Capital is categorised by the CRR under two tiers (Tier 1 and Tier 2) according to the ability to absorb losses, degree of permanency and the ranking of absorbing losses. There are three broad categories of capital across these two tiers:

- **CET1 capital.** Common Equity Tier (CET1) capital must be perpetual and capable of unrestricted and immediate use to cover risks or losses as soon as these occur. This includes ordinary shares issued and retained earnings. CET1 capital absorbs losses before other types of capital and any loss absorbing instruments.
- **AT1 capital.** This is the second form of loss absorbing capital and must be capable of absorbing losses on a going concern basis. These instruments are either written down or converted into CET1 capital when a pre-specified CET1 ratio is reached. Coupons on Additional Tier 1 (AT1) issuances are discretionary and may be cancelled at the discretion of the issuer at any time. AT1 capital may not be called, redeemed or repurchased for five years from issuance.
- **Tier 2 capital.** Tier 2 capital is the RBS Group's supplementary capital and provides loss absorption on a gone concern basis. Tier 2 capital absorbs losses after Tier 1 capital. It typically consists of subordinated debt securities with a minimum maturity of five years.

Capital, liquidity and funding

In addition to capital, other specific loss absorbing instruments including senior notes issued by RBS Group may be used to cover certain gone concern capital requirements which, in the EU, is referred to as minimum requirement for own funds and eligible liabilities (MREL). In order for liabilities to be eligible for MREL, a number of conditions must be met including the BoE being able to apply its stabilisation powers to them, including the use of bail-in provisions.

Capital adequacy

The RBS Group has to hold a minimum amount and quality of capital to satisfy capital adequacy regulatory requirements.

Risk-weighted assets

Capital adequacy ratios compare the amount of capital held to RWAs. RWAs are a measure of the RBS Group's assets and off-balance sheet exposures that capture both the size and risks inherent in those positions.

RWAs are grouped into four categories:

Risk	Description
Credit	Risk of loss from a borrower failing to repay amounts due by the due date.
Counterparty credit	Risk of loss from a counterparty not meeting its contractual obligations. Also included is the risk of loss from changes in the fair value of derivative instruments.
Market	Risk of loss arising from fluctuations in market prices.
Operational	Risk of loss from inadequate or failed internal processes, people and systems or from external events.

Capital adequacy ratios

Regulation defines a minimum percentage of capital compared to RWAs. The percentage comprises system-wide requirements that apply to all banks and a component where the percentage is specific to the RBS Group. This is summarised as follows:

Type	Name	Description
System-wide	Pillar 1	Standard minimum percentages applicable to all banks. Must be held at all times.
	Capital conservation, countercyclical and Globally Systemically Important Institution (G-SII) buffers	Includes capital to absorb losses in times of stress, capital built up in response to credit conditions in the macro economic environment and for institutions of systemic importance.
Bank-specific	Pillar 2A	Captures risks that apply to individual banks that are either not adequately captured or not captured at all under Pillar 1. For example, pension risk is not captured in Pillar 1; therefore, capital that may need to be held against the risk is assessed under Pillar 2A. Must be held at all times.

Type	Name	Description
Bank-specific	PRA buffer	Captures forward looking risks and potential losses under a severe stress scenario. The PRA buffer is a capital buffer that is designed to ensure that the RBS Group can continue to meet minimum requirements (Pillar 1 and Pillar 2A) during a stressed period. The buffer also accommodates add-ons which may be applied by the regulator to cover Group Risk (subsidiary/sub-group capital requirements in excess of their share of the RBS Group) and Risk Management and Governance scalars (which may be levied where Risk Management and Governance deficiencies have been identified by the regulator).

These minimum requirements are shown in more detail in the 2019 RBS Group ARA– Capital, liquidity and funding risk. These ratios applied in full from 1 January 2019.

From 1 January 2020, RBS Group will no longer be required to hold the G-SII buffer.

The assessment of Pillar 2 requirements (including the PRA buffer) is an output from the RBS Group's ICAAP, which is described in more detail on page 117 of the 2019 RBS Group ARA. Pillar 2 also utilises the output of the RBS Group's stress testing exercises which are described in more detail on pages 116 to 119 of the 2019 RBS Group ARA.

Future changes to regulation

UK, EU and international standard and rule-making bodies have issued proposals, draft regulation and final standards on revising the level and measurement of capital adequacy ratios including the measurement of RWAs. This may affect the level of RWAs and the minimum capital that the RBS Group is required to hold in future years. Further details of prudential regulatory changes that may impact the RBS Group's capital adequacy ratio are set out on page 10.

Leverage ratios

The RBS Group has to hold a minimum amount and quality of capital to satisfy leverage ratio regulatory requirements. Unlike capital adequacy ratios, leverage ratio requirements do not consider the riskiness of the RBS Group's positions.

The leverage exposure is broadly aligned to the accounting value of the RBS Group's on and off-balance sheet exposures but subject to certain adjustments for derivatives, securities financing transactions and off balance sheet exposures.

In common with capital adequacy ratios, the leverage ratio requirement for the RBS Group consists of a minimum requirement and a leverage ratio buffer. The leverage ratio requirements that the RBS Group must meet may be subject to change from developing regulation. Further details are set out on page 10.

For more information regarding the minimum capital and leverage requirements that RBS must meet, refer to the 2019 RBS Group ARA – Capital, liquidity and funding risk.

Capital, liquidity and funding

MREL: capital sufficiency under the gone concern view

The RBS Group is required to hold sufficient capital and other loss absorbing instruments such that, in the event of failure, there can be an orderly resolution that minimises any adverse impact on financial stability whilst preventing public funds being exposed to loss. RBS Group follows the single point of entry (SPE) resolution strategy.

MREL will be set by the BoE on a case-by-case basis. The BoE has stated that it expects institutions that are subject to a bail-in resolution strategy, such as the RBS Group, to meet interim MREL requirements from 1 January 2019 and end state MREL requirements from 1 January 2022. The CRR 2 MREL requirement came into effect from 27 June 2019. G-SII's must satisfy the higher of 16% of RWAs; or 6% of leverage ratio.

Interim MREL

1 January 2019	The higher of: 16% of the RBS Group's RWAs; and 6% of the RBS Group's leverage exposures.
1 January 2020 ⁽¹⁾	The higher of: The sum of two times the RBS Group's Pillar 1 requirement and one times the RBS Group's Pillar 2A add-ons; and Two times the applicable leverage ratio requirement for the RBS Group.

End state MREL

1 January 2022 ⁽¹⁾	The higher of: Two times the sum of the RBS Group's Pillar 1 requirement and RBS Group's Pillar 2A add-ons; and The higher of: Two times the applicable leverage ratio requirement for the RBS Group; and 6.75% of the RBS Group's leverage exposure.
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Note:

(1) Excludes buffers. The BoE advised RBS Group indicative End State MREL is expected to be 26.5% of RWAs from 1 January 2022 comprising underlying MREL requirement (2 x (Pillar + 2A)) and CCB and CCyB buffers.

MREL may consist of capital and other loss absorbing instruments. In order for liabilities to be eligible for MREL, a number of strict conditions will be set by the BoE including the ability for the BoE to apply its stabilisation powers to those liabilities. In addition, liabilities must have an effective remaining maturity (taking account of any rights of early repayment to investors) of greater than one year.

Internal MREL

In order that there is sufficient loss absorbing capacity pre-positioned across the RBS Group, the proceeds of externally issued MREL will be down-streamed to material operating subsidiaries in the form of capital or other subordinated claims. This ensures that internal MREL will absorb losses before operating liabilities within operating subsidiaries.

In June 2018 the BoE published a Policy Statement on internal MREL and updated the MREL Statement of Policy. This policy statement sets out the framework that it will use to determine the distribution of MREL within banking groups. Under this framework, the BoE will set individual MRELs for all material entities within the RBS Group and may also set individual MRELs for entities within the RBS Group that are important from a resolution perspective. The framework requires that ring-fence bank sub-groups meet MREL requirements equivalent to 90% of the equivalent RBS Group requirement, whilst other material legal entities are required to meet 75% of the equivalent Group requirement.

Double leverage

Double leverage is where one or more parent entities in a group funds some of the capital in its subsidiaries by raising debt or lower forms of capital externally. In April 2018, the PRA issued a Policy Statement related to the RBS Group's assessment and mitigation of risks associated with double leverage. Associated analysis and assessments are now incorporated into the ICAAP submission, and forms part of the RBS Group's risk appetite framework.

Regulatory changes that may impact capital requirements

The RBS Group faces a number of changes in prudential regulation that may adversely impact the minimum amount of capital it must hold and consequently may increase funding costs and reduce return on equity. The nature and timing of implementation of a number of these changes are not currently final.

In the next few years, the UK and EU are expected to further develop prudential regulation mainly through the CRR2 and finalisation of Basel 3 standards, which will impact various areas including approach to calculating credit risk, market risk, leverage ratio, capital floors and operational risk RWAs.

Regulatory changes are actively monitored by the RBS Group including engagement with industry associations and regulators and participation in quantitative impact studies. Monitoring the changing regulatory landscape forms a fundamental part of capital planning and management of its business.

The RBS Group believes that its strategy to focus on simpler, lower risk activities within a more resilient recovery and resolution framework will enable it to manage the impact of these changes.

Key prudential regulatory developments that have been published and may impact the RBS Group are set out in page 10.

Capital, liquidity and funding

Liquidity and funding

Definition

Liquidity consists of assets that can be readily converted to cash within a short timeframe at a reliable value. Liquidity risk is the risk of being unable to meet financial obligations as and when they fall due.

Funding consists of on-balance sheet liabilities that are used to provide cash to finance assets. Funding risk is the risk of not maintaining a diversified, stable and cost-effective funding base.

Regulatory oversight and liquidity framework

RBS operates across different jurisdictions and is subject to a number of regulatory regimes, with the key metrics being:

Ratio	Profile type	Description
Liquidity coverage ratio (LCR)	Liquidity profile	Coverage of 30 day net outflows in stress.
Net stable funding ratio (NSFR)	Structural funding profile	Required and available stable funding sources less than and greater than 1 year timeline. Under CRR 2 amendments, NSFR is due to be effective from 27 June 2021.

The principal regulator, the PRA, implements the CRR liquidity regime in the UK. To comply with the regulatory framework, RBS undertakes the following:

Activity	Description
Individual Liquidity Adequacy Assessment Process (ILAAP)	This is RBS's annual assessment of its key liquidity and funding vulnerabilities including control frameworks to measure and manage the risks.
Liquidity Supervisory Review and Evaluation Process (L-SREP)	An annual exercise with the PRA that involves a comprehensive review of the RBS ILAAP, liquidity policies and risk management framework. This results in the settings of the Individual Liquidity Guidance, which influences the size of the liquidity portfolio.

Asset encumbrance

RBS evaluates the extent to which assets can be financed in a secured form (encumbrance), but certain asset types lend themselves more readily to encumbrance. The typical characteristics that support encumbrance are an ability to pledge those assets to another counterparty or entity through operation of law without necessarily requiring prior notification, homogeneity, predictable and measurable cash flows, and a consistent and uniform underwriting and collection process. Retail assets including residential mortgages, credit card receivables and personal loans display many of these features.

The reported values represent the median of the quarter end values reported to the regulator via supervisory returns over the period 1 January 2019 to 31 December 2019.

RBS categorises its assets into three broad groups; assets that are:

- Already encumbered and used to support funding currently in place via own asset securitisations, covered bonds and securities repurchase agreements.
- Pre-positioned with central banks as part of funding schemes and those encumbered under such schemes.
- Not currently encumbered. In this category, RBS has in place an enablement programme which seeks to identify assets which are capable of being encumbered. The programme identifies required actions to facilitate such encumbrance without impacting customer relationships or servicing.

Encumbered and unencumbered assets for the year ended 31 December 2019, based on the requirements in Part Eight of CRR and related technical standards, are set out on page 34.

Capital, liquidity and funding

Summary of changes to regulation that may impact the RBS Group's prudential requirements

Area of development	Key changes	Source of changes/implementation date
Securitisations	Amendment to the methods and hierarchy for calculating risk weights for securitisation exposures, including the introduction of Simple, Transparent and Standardised securitisation category.	- Implementation date 1 January 2019 for new securitisations. - Fully implemented for all positions from 1 January 2020.
Non-performing Loans	- Introduces prudential backstop for non-performing exposures insufficiently covered by provisions. - Will apply after loans have been non-performing for three years.	- Amendment to CRR published on 25 April 2019. - Only applies to loans originated on or after 26 April 2019.
Investment firms	- Change to the capital framework for investment firms. - No change to consolidated capital requirements.	- IFR⁽¹⁾ proposal. - Expected implementation date – June 2021.
Leverage ratio	- Changes to the design and calibration of the framework with a focus on derivative exposures and margining. - Binding leverage ratio at individual bank level.	- CRR 2⁽²⁾ amendment. - Implementation date – 27 June 2021.
Large exposure framework	- Changes to the design and calibration of the capital base and large exposure limit. - Changes to the exposure measure to incorporate SA-CCR.	- CRR 2⁽²⁾ amendment. - Implementation date – 27 June 2021.
Counterparty credit risk RWAs	- Introduction of new standardised approach (SA-CCR) with greater risk sensitivity and incorporation of margining into PFE. - Changes to the treatment of exposures to central counterparties.	- CRR 2⁽²⁾ amendment. - Implementation date – 27 June 2021.
Net stable funding ratio (NSFR)	Information on required and available stable funding sources less than and greater than 1 year.	- CRR 2⁽²⁾ amendment. - Implementation date – 27 June 2021.
Market risk RWAs	- Change from Value at Risk (VaR) to expected shortfall models. - Implementation of a more risk-sensitive standardised approach. - Inclusion of risk of market illiquidity.	- CRR 2⁽²⁾ – reporting requirement expected from 31 March 2021. - Finalisation of Basel 3⁽³⁾ will implement revised capital requirements.
Mortgage risk weights for IRB	- Introduction of hybrid methodology for the purposes of PD Calibration. - Assumption of early 1990s as a Downturn reference point and extended use of haircuts in LGD models.	- PRA PS13/17. - Implementation by 31 December 2020 (Definition of Default) and 31 December 2021 (all other items).
Credit risk RWAs – IRB repair	Additional requirements applied to CRR via Guidelines and Regulatory Technical Standards covering: PD/LGD estimation, definition of default and definition of an economic downturn.	- Final draft RTS under Article 178(6) on the materiality threshold for past due credit obligations. - GL under Article 178(7) on the application of the definition of default. - Final draft RTS under Articles 181(3)(a) and 182(4)(a) on the nature, severity and duration of economic downturn. - Guidelines on PD estimation, LGD estimation and the treatment of defaulted exposures (GL on PD and LGD estimation). - Implementation by 31 December 2020 (definition of default) and 31 December 2021 (all other rules except those portfolios transitioning to Foundation IRB).
Credit risk RWAs – Basel 3	- Restriction in the scope of using internal models. - Avoidance of mechanistic reliance on external ratings. - For model-based RWAs, adoption of “input” floors for PD and LGD.	- Finalisation of Basel 3⁽³⁾. - Expected implementation date – 2023+.

For the notes to this table refer to the following page.

Capital, liquidity and funding

Area of development	Key changes	Source of changes/implementation date
Capital floors	- Aggregate output floor to limit the benefit of internal models compared to standardised approach. - Extended transitional arrangements culminating in a floor of 72.5% by 1 January 2027.	- Finalisation of Basel 3⁽³⁾. - Expected implementation date – 2023+.
Credit valuation adjustment (CVA) risk RWAs	- Alignment of CVA risk charge with revised standardised market risk framework. - Removal of modelled CVA risk methodology.	- Finalisation of Basel 3⁽³⁾. - Expected implementation date – 2023+.
Operational risk RWAs	- Revision of business indicator as proxy for size of operational risk. - Potential incorporation of bank-specific loss data into the calculation.	- Finalisation of Basel 3⁽³⁾. - Expected implementation date – 2023+.
Securities Financing Transactions	- Revision and recalibration of exposure calculation methodology. - Introduction of minimum haircut floors	- Finalisation of Basel 3⁽³⁾. - Expected implementation date – 2023+.

Notes:

(1) IFR refers to the Investment Firms Regulation.

(2) CRR 2 refers to Regulation 2019/876 of the European Parliament and Council of 20 May 2019 amending the Capital Requirements Regulation. Additional directives and regulations provided amendments to the Capital Requirements Directive and Banking Recovery and Resolution Directive.

(3) Finalisation of the Basel 3 standards published by BCBS on 7 December 2017. These standards will subsequently be brought into national legislation via amendments to CRR or successor legislation.

Capital, liquidity and funding

CAP 1: CAP and LR: Capital and leverage ratios - RBS and significant subsidiaries

Capital, RWAs and leverage on a PRA transitional basis for RBS and its significant subsidiaries are set out below. The capital and RWA measures are on an end-point basis for the significant investment in financial institutions capital deduction at 31 December 2019 compared with 90% capital deduction and 10% RWAs at 31 December 2018. CRR transition continues to be applied to grandfathered capital instruments.

	2019			2018	
	RBS %	NWH Group %	NWM Plc %	RBS %	NWM Plc %
Capital adequacy ratios - transitional (1)					
CET1	16.2	15.7	17.3	16.2	15.6
Tier 1	19.3	18.5	19.9	19.2	18.0
Total	22.8	21.9	24.2	23.4	21.5
Capital adequacy ratios - end point					
CET1	16.2			16.2	
Tier 1	18.5			18.4	
Total	21.2			21.8	
Capital - transitional					
	£m	£m	£m	£m	£m
CET1	29,054	21,097	6,097	30,639	6,369
Tier 1	34,611	24,861	7,003	36,223	7,352
Total	40,823	29,515	8,501	44,174	8,757
Capital - end point					
CET1	29,054			30,639	
Tier 1	33,105			34,690	
Total	38,005			41,173	
RWAs					
Credit risk	131,012	113,980	9,825	137,824	9,234
Counterparty credit risk	12,631	980	11,060	13,639	13,285
Market risk	12,930	125	11,229	14,837	14,106
Operational risk	22,599	19,590	3,039	22,391	4,152
	179,172	134,675	35,153	188,691	40,777
CRR leverage - transitional					
Tier 1 capital	34,611	24,861	7,003	36,223	7,352
Exposure	643,874	447,851	136,505	644,498	148,502
Leverage ratio (%)	5.4	5.6	5.1	5.6	5.0
CRR leverage - end point					
Tier 1 capital	33,105			34,690	
Exposure	643,874			644,498	
Leverage ratio (%)	5.1			5.4	
Average Tier 1 capital	33,832			35,701	
Average exposure (2)	685,497			665,198	
Average leverage ratio (%)	4.9			5.4	
UK leverage - end point					
Tier 1 capital	33,105			34,690	
Exposure	570,330			559,514	
Leverage ratio (%)	5.8			6.2	
Average Tier 1 capital	33,832			35,701	
Average exposure (2)	611,588			573,825	
Average leverage ratio (%)	5.5			6.2	
G-SII additional leverage ratio buffer (3)	1,996			1,469	
Countercyclical leverage ratio buffer (3)	1,692			1,396	

Notes:

- (1) The RBS total capital requirement (TCR) as set by the PRA is 11.4%. The TCR is the sum of Pillar 1 and Pillar 2A and does not include any capital buffers.
- (2) Based on the daily average of on-balance sheet items and three month-end average of off-balance sheet items.
- (3) The PRA minimum leverage ratio requirement is supplemented with a global-systemically important institution additional leverage ratio buffer rate, currently 0.35% (31 December 2018 – 0.2625%) and countercyclical leverage ratio buffer of 0.2967% (31 December 2018 – 0.2495%).

Capital, liquidity and funding

KM1: BCBS 2 & EBA IFRS 9-FL: Key metrics – RBS

The table below reflects the key metrics template in the BCBS consolidated Pillar 3 framework and the EBA's IFRS 9 template. RBS has elected to take advantage of the transitional capital rules in respect of expected credit losses. This has a negligible effect on CET1 and would mitigate the impact on capital in adverse conditions. The transitional rules reduce the full CET1 effect by 95%, 85%, 70%, 50% and 25% in each of the first five years of IFRS 9 adoption. Capital and leverage ratios presented are based on end point CRR rules.

BCBS2 KM1	EBA IFRS 9-FL		31 December 2019 £m	30 September 2019 £m	30 June 2019 £m	31 March 2019 £m	31 December 2018 £m
Capital							
1	1	Common equity tier 1 (CET1)	29,054	29,773	30,191	30,889	30,639
1a	2	Common equity tier 1 (CET1) capital as if IFRS 9 transitional arrangements had not been applied	29,054	29,773	30,191	30,889	30,639
2	3	Tier 1	33,105	33,824	34,242	34,940	34,690
2a	4	Tier 1 capital as if IFRS 9 transitional arrangements had not been applied	33,105	33,824	34,242	34,940	34,690
3	5	Total capital	38,005	38,804	39,361	40,182	41,173
3a	6	Total capital as if IFRS 9 transitional arrangements had not been applied	38,005	38,804	39,361	40,182	41,173
Risk-weighted assets (amounts)							
4	7	Total risk-weighted assets (RWAs)	179,172	189,482	188,463	190,846	188,691
4a	8	Total risk-weighted assets as if IFRS 9 transitional arrangements had not been applied	179,172	189,482	188,463	190,846	188,691
Risk-based capital ratios as a percentage of RWA							
			%	%	%	%	%
5	9	Common equity tier 1 ratio	16.2	15.7	16.0	16.2	16.2
5a	10	Common equity tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	16.2	15.7	16.0	16.2	16.2
6	11	Tier 1 ratio	18.5	17.9	18.2	18.3	18.4
6a	12	Tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	18.5	17.9	18.2	18.3	18.4
7	13	Total capital ratio	21.2	20.5	20.9	21.1	21.8
7a	14	Total capital ratio as if IFRS 9 transitional arrangements had not been applied	21.2	20.5	20.9	21.1	21.8
Additional CET1 buffer requirements as a percentage of RWA							
8		Capital conservation buffer requirement	2.5	2.5	2.5	2.5	2.5
9		Countercyclical capital buffer requirement (1)	0.8	0.8	0.7	0.7	0.7
10		Bank GSIB and/or DSIB additional requirements (2)	1.0	1.0	1.0	1.0	1.0
11		Total of CET1 specific buffer requirements (8+9+10)	4.3	4.3	4.2	4.2	4.2
12		CET1 available after meeting the bank's minimum capital requirements (3)	11.7	11.2	11.5	11.7	11.7
Leverage ratio							
			£m	£m	£m	£m	£m
13	15	CRR leverage ratio exposure measure	643,874	670,059	659,105	666,800	644,498
		UK leverage ratio exposure measure	570,330	589,472	576,636	586,660	559,514
			%	%	%	%	%
14	16	CRR leverage ratio	5.1	5.0	5.2	5.2	5.4
14a	17	CRR leverage ratio as if IFRS 9 transitional arrangements had not been applied	5.1	5.0	5.2	5.2	5.4
		UK leverage ratio	5.8	5.7	5.9	6.0	6.2
Liquidity coverage ratio							
15		Total high-quality liquid asset (HQLA)	136,943	137,517	138,355	138,672	137,905
16		Total net cash outflows	90,559	89,712	88,473	87,787	87,530
17		LCR ratio % (4)	151	153	156	158	158
Net stable funding ratio (NSFR)							
18		Total available stable funding	380,251	380,719	379,763	373,989	375,909
19		Total required stable funding	269,792	272,448	271,920	273,470	266,087
20		NSFR % (5)	141	140	140	137	141

Notes:

- (1) See CAP5a and CAP5b for more information regarding the countercyclical capital buffer requirement.
- (2) G-SIBs as designated by the Financial Stability Board (FSB), are subject to an additional capital buffer of between 1.0% and 3.5%. In November 2018 the FSB announced that RBS is no longer a G-SIB. From 1 January 2020, RBS will be released from this global buffer requirement. From 1 August 2019 NWH Group is subject to a Systemic Risk Buffer of 1.5%. Where the Systemic Risk Buffer is greater than the G-SIB buffer, the PRA may require the consolidated group to hold a higher level of capital through the PRA buffer and Leverage Ratio Group add-on.
- (3) This represents the CET1 ratio less the CRR minimum of 4.5%.
- (4) The liquidity coverage ratio (LCR) uses the simple average of the preceding 12 monthly periods ending on the quarterly reporting date as specified in the table. The LCR reported here differs from the period end LCR used for internal monitoring and therefore disclosed in RBS's Annual Results 2019.
- (5) NSFR reported in line with CRR2 regulations finalised in June 2019.

Capital, liquidity and funding

Key points

Capital and leverage

RBS – 31 December 2019 compared with 31 December 2018

- The CET1 ratio remained at 16.2% reflecting a decrease in CET1 and RWAs. CET1 decrease reflects attributable profit and dividends paid, £0.4 billion 3p foreseeable ordinary dividend accrual, £0.6 billion 5p special dividend accrual and a foreseeable charge of £0.4 billion.
- RBS redeemed €1 billion Subordinated Tier 2 Notes in March 2019 and £0.6 billion Subordinated Tier 2 Notes, with an outstanding amount of £35 million, were redeemed in December 2019. RBS issued US\$ 0.75 billion Subordinated Tier 2 Notes in November 2019.
- RWAs decreased by £9.5 billion. Credit risk decreased by £6.8 billion driven by the completion of the merger of Alawwal bank and Saudi British Bank (SABB) reducing credit risk by £4.6 billion, revisions to LGD models in the corporate portfolio, refinement to the treatment of nostros and a reduction due to foreign exchange, partially offset by the £1.3 billion uplift due to adoption of the IFRS 16. Market risk decreased by £1.9 billion primarily due to a reduction in the capital multiplier, changes in interest rate and foreign exchange risk reducing the VaR/SVaR based requirements, and a £0.7 billion reduction due to model updates.
- Both the CRR end-point and UK leverage ratios reduced to 5.1% and 5.8% respectively driven by lower Tier 1 capital.
- The average UK leverage ratio and the average CRR leverage ratio decreased to 5.5% and 4.9% respectively driven by a reduction in average capital and an increase in average exposures.

NWH Group – 31 December 2019 compared with 30 September 2019

- In the quarter to December 2019, the CET1 ratio increased from 15.2% to 15.7% due to a decrease in CET1 capital, reflecting a quarterly attributable profit of £0.4 billion and a foreseeable charge £0.4 billion, offset by a decrease in RWAs.
- NatWest Holdings Limited issued a US\$0.75 billion internal Subordinated Tier 2 Notes in November 2019.
- In the quarter to Q4 2019, RWAs decreased by £4.9 billion driven by revisions to LGD models in the corporate portfolio, refinement to the treatment of nostros and a reduction due to foreign exchange.
- The leverage ratio increased to 5.6% due to lower balance sheet and undrawn commitment exposures.

NWM Plc – 31 December 2019 compared with 31 December 2018

- The CET1 ratio increased from 15.6% to 17.3% primarily due to a £5.6 billion decrease in RWAs. CET1 decrease includes a £0.5 billion dividend paid to parent.
- NWM Plc purchased RBS Holding N.V (RBSH), NatWest Markets N.V's (NWM NV) immediate parent, from RFS Holdings B.V. (RFSH) in November 2019. The purchase was funded by an equity contribution of €2.165 billion (c.£1.9 billion) from RBSG to NWM Plc. The impact on the NWM Plc CET1 ratio accretive by 30 bps.
- NWM plc issued US\$0.2 billion internal AT1 in November 2019.
- NWM Plc issued €0.95 billion and redeemed €1 billion internal Subordinated Tier 2 Notes in March 2019 and US\$0.25 billion internal Subordinated Tier 2 Notes in June 2019. £0.6 billion external Subordinated Tier 2 Notes, with an outstanding amount of £35 million, were redeemed in December 2019.
- RWAs decreased due to reductions in market risk of £2.9 billion, counterparty risk of £2.2 billion, and operational risk of £1.1 billion following the annual recalculation. The decrease in market risk was primarily due to a reduction in the capital multiplier, changes in interest rate and foreign exchange risk reducing the VaR/SVaR based requirements, and a £0.7 billion reduction due to model updates. The capital multiplier also contributed to a reduction in CVA within counterparty risk, with additional reductions seen in counterparty risk due to decreased exposures and the impact of foreign exchange. These reductions were partially offset by an increase in credit risk primarily due to the transfer of the SABB shareholding from NWM NV.
- The leverage ratio increased to 5.1% driven by a decrease in trading and other financial asset exposures partially offset by lower Tier 1 capital.

Capital, liquidity and funding

EBA IFRS 9-FL: EBA Key metrics - significant subsidiaries

The table below shows key metrics as required by the EBA relating to IFRS 9 for RBS and its significant subsidiaries. RBS has elected to take advantage of the transitional capital rules in respect of expected credit losses. This has a negligible effect on CET1, and would mitigate the impact on capital in adverse conditions. The transitional rules reduce the full CET1 effect by 95%, 85%, 70%, 50% and 25% in each of the first five years of IFRS 9 adoption. Capital measures are on a CRR transitional basis.

		31 December 2019		
		RBS £m	NWH Group £m	NWM Plc £m
Available capital (amounts) - transitional				
1	Common equity tier 1	29,054	21,097	6,097
2	Common equity tier 1 capital as if IFRS 9 transitional arrangements had not been applied	29,054	21,097	6,097
3	Tier 1 capital	34,611	24,861	7,003
4	Tier 1 capital as if IFRS 9 transitional arrangements had not been applied	34,611	24,861	7,003
5	Total capital	40,823	29,515	8,501
6	Total capital as if IFRS 9 transitional arrangements had not been applied	40,823	29,515	8,501
Risk-weighted assets (amounts)				
7	Total risk-weighted assets	179,172	134,675	35,153
8	Total risk-weighted assets as if IFRS 9 transitional arrangements had not been applied	179,172	134,675	35,153
Risk-based capital ratios as a percentage of RWAs		%	%	%
9	Common equity tier 1 ratio	16.2	15.7	17.3
10	Common equity tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	16.2	15.7	17.3
11	Tier 1 ratio	19.3	18.5	19.9
12	Tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	19.3	18.5	19.9
13	Total capital ratio	22.8	21.9	24.2
14	Total capital ratio as if IFRS 9 transitional arrangements had not been applied	22.8	21.9	24.2
Leverage ratio				
15	CRR leverage ratio exposure measure (£m)	643,874	447,851	136,505
16	CRR leverage ratio (%)	5.4	5.6	5.1
17	CRR leverage ratio (%) as if IFRS 9 transitional arrangements had not been applied	5.4	5.6	5.1

		30 September 2019		
		RBS £m	NWH Group £m	NWM Plc £m
Available capital (amounts) - transitional				
1	Common equity tier 1	29,773	21,167	5,775
2	Common equity tier 1 capital as if IFRS 9 transitional arrangements had not been applied	29,773	21,167	5,775
3	Tier 1 capital	35,393	24,931	6,767
4	Tier 1 capital as if IFRS 9 transitional arrangements had not been applied	35,393	24,931	6,767
5	Total capital	41,774	29,284	8,514
6	Total capital as if IFRS 9 transitional arrangements had not been applied	41,774	29,284	8,514
Risk-weighted assets (amounts)				
7	Total risk-weighted assets	189,482	139,577	39,388
8	Total risk-weighted assets as if IFRS 9 transitional arrangements had not been applied	189,482	139,577	39,388
Risk-based capital ratios as a percentage of RWAs		%	%	%
9	Common equity tier 1 ratio	15.7	15.2	14.7
10	Common equity tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	15.7	15.2	14.7
11	Tier 1 ratio	18.7	17.9	17.2
12	Tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	18.7	17.9	17.2
13	Total capital ratio	22.0	21.0	21.6
14	Total capital ratio as if IFRS 9 transitional arrangements had not been applied	22.0	21.0	21.6
Leverage ratio				
15	CRR leverage ratio exposure measure (£m)	670,059	450,318	151,283
16	CRR leverage ratio (%)	5.3	5.5	4.5
17	CRR leverage ratio (%) as if IFRS 9 transitional arrangements had not been applied	5.3	5.5	4.5

Capital, liquidity and funding

EBA IFRS 9-FL: EBA Key metrics - significant subsidiaries continued

		30 June 2019		
		RBS	NWH Group	NWM Plc
		£m	£m	£m
Available capital (amounts) - transitional				
1	Common equity tier 1	30,191	21,390	5,870
2	Common equity tier 1 capital as if IFRS 9 transitional arrangements had not been applied	30,191	21,390	5,870
3	Tier 1 capital	35,780	25,154	6,848
4	Tier 1 capital as if IFRS 9 transitional arrangements had not been applied	35,780	25,154	6,848
5	Total capital	42,332	29,381	8,655
6	Total capital as if IFRS 9 transitional arrangements had not been applied	42,332	29,381	8,655
Risk-weighted assets (amounts)				
7	Total risk-weighted assets	188,463	140,571	38,728
8	Total risk-weighted assets as if IFRS 9 transitional arrangements had not been applied	188,463	140,571	38,728
Risk-based capital ratios as a percentage of RWA				
		%	%	%
9	Common equity tier 1 ratio	16.0	15.2	15.2
10	Common equity tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	16.0	15.2	15.2
11	Tier 1 ratio	19.0	17.9	17.7
12	Tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	19.0	17.9	17.7
13	Total capital ratio	22.5	20.9	22.3
14	Total capital ratio as if IFRS 9 transitional arrangements had not been applied	22.5	20.9	22.3
Leverage ratio				
15	CRR leverage ratio exposure measure (£m)	659,105	448,004	156,996
16	CRR leverage ratio (%)	5.4	5.6	4.4
17	CRR leverage ratio (%) as if IFRS 9 transitional arrangements had not been applied	5.4	5.6	4.4

		31 March 2019		
		RBS	NWH Group	NWM Plc
		£m	£m	£m
Available capital (amounts) - transitional				
1	Common equity tier 1	30,889	22,269	6,477
2	Common equity tier 1 capital as if IFRS 9 transitional arrangements had not been applied	30,889	22,269	6,477
3	Tier 1 capital	36,456	26,033	7,456
4	Tier 1 capital as if IFRS 9 transitional arrangements had not been applied	36,456	26,033	7,456
5	Total capital	43,120	30,167	8,785
6	Total capital as if IFRS 9 transitional arrangements had not been applied	43,120	30,167	8,785
Risk-weighted assets (amounts)				
7	Total risk-weighted assets	190,846	140,029	38,010
8	Total risk-weighted assets as if IFRS 9 transitional arrangements had not been applied	190,846	140,029	38,010
Risk-based capital ratios as a percentage of RWA				
		%	%	%
9	Common equity tier 1 ratio	16.2	15.9	17.0
10	Common equity tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	16.2	15.9	17.0
11	Tier 1 ratio	19.1	18.6	19.6
12	Tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	19.1	18.6	19.6
13	Total capital ratio	22.6	21.5	23.1
14	Total capital ratio as if IFRS 9 transitional arrangements had not been applied	22.6	21.5	23.1
Leverage ratio				
15	CRR leverage ratio exposure measure (£m)	666,800	445,810	162,217
16	CRR leverage ratio (%)	5.5	5.8	4.6
17	CRR leverage ratio (%) as if IFRS 9 transitional arrangements had not been applied	5.5	5.8	4.6

Capital, liquidity and funding

EBA IFRS 9-FL: EBA Key metrics - significant subsidiaries continued

		31 December 2018	
		RBS	NWM Plc
		£m	£m
Available capital (amounts) - transitional			
1	Common equity tier 1	30,639	6,369
2	Common equity tier 1 capital as if IFRS 9 transitional arrangements had not been applied	30,639	6,369
3	Tier 1 capital	36,223	7,352
4	Tier 1 capital as if IFRS 9 transitional arrangements had not been applied	36,223	7,352
5	Total capital	44,174	8,757
6	Total capital as if IFRS 9 transitional arrangements had not been applied	44,174	8,757
Risk-weighted assets (amounts)			
7	Total risk-weighted assets	188,691	40,777
8	Total risk-weighted assets as if IFRS 9 transitional arrangements had not been applied	188,691	40,777
Risk-based capital ratios as a percentage of RWA		%	%
9	Common equity tier 1 ratio	16.2	15.6
10	Common equity tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	16.2	15.6
11	Tier 1 ratio	19.2	18.0
12	Tier 1 ratio as if IFRS 9 transitional arrangements had not been applied	19.2	18.0
13	Total capital ratio	23.4	21.5
14	Total capital ratio as if IFRS 9 transitional arrangements had not been applied	23.4	21.5
Leverage ratio			
15	CRR leverage ratio exposure measure (£m)	644,498	148,502
16	CRR leverage ratio (%)	5.6	5.0
17	CRR leverage ratio (%) as if IFRS 9 transitional arrangements had not been applied	5.6	5.0

Capital, liquidity and funding

CAP 2: Capital resources (CRR own funds template) - RBS and significant subsidiaries

The table below sets out the capital resources in the prescribed template on a CRR transitional basis as relevant for the jurisdiction. The adjustments to end-point CRR are presented for RBS only.

2019						
	RBS		CRR end-point	Source based on reference number/ letters of the balance sheet under its regulatory scope of consolidation	NWH Group	NWM Plc
	PRA transitional	CRR prescribed residual amounts				
	£m	£m	£m		£m	£m
CET1 capital: instruments and reserves						
1 Capital instruments and the related share premium accounts	13,188	—	13,188	(a) & (k)	3,263	2,158
<i>Of which: ordinary shares</i>	12,094	—	12,094	(a)	3,263	400
2 Retained earnings	12,008	—	12,008	(b)	36,305	7,077
3 Accumulated other comprehensive income (and other reserves)	12,355	—	12,355	(c)	(10,861)	(179)
4 Public sector capital injections grandfathered until 1 January 2018	—	—	—		—	—
5a Independently reviewed interim net profits net of any foreseeable charge or dividend	107	—	107	(b)	—	—
6 CET1 capital before regulatory adjustments	37,658	—	37,658		28,707	9,056
7 Additional value adjustments	(431)	—	(431)		(26)	(373)
8 (-) Intangible assets (net of related tax liability)	(6,622)	—	(6,622)	(d)	(6,313)	—
10 (-) Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability)	(757)	—	(757)	(e)	(757)	—
11 Fair value reserves related to gains or losses on cash flow hedges	(35)	—	(35)	(i)	(202)	(137)
12 (-) Negative amounts resulting from the calculation of expected loss amounts	(167)	—	(167)		(141)	(10)
14 Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	(118)	—	(118)		—	(39)
15 (-) Defined-benefit pension fund assets	(474)	—	(474)	(f) & (g)	(171)	(171)
18 (-) Direct and indirect holdings by the institution of the CET1 instruments of financial sector institution does not have a significant investment in those entities (above the 10% threshold and net of eligible short positions)	—	—	—		—	—
19 (-) Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions)	—	—	—		—	(1,900)
22 (-) Amount exceeding the 17.65% threshold	—	—	—		—	—
23 (-) <i>Of which: direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities</i>	—	—	—		—	—
25 (-) <i>Of which: deferred tax assets arising from temporary differences</i>	—	—	—		—	—
25a (-) Losses for the current financial period	—	—	—		—	(329)
26 Regulatory adjustments applied to CET1 in respect of amounts subject to pre-CRR treatment	—	—	—		—	—
26a <i>Regulatory adjustments relating to unrealised gains and losses pursuant to articles 467 and 468</i>	—	—	—		—	—
26b <i>Amount to be deducted from or added to CET1 capital with regard to additional filters and deductions required pre CRR</i>	—	—	—		—	—
27 (-) Qualifying Additional Tier 1 (AT1) deductions that exceed the AT1 capital of the institution	—	—	—		—	—
28 Total regulatory adjustments to CET1	(8,604)	—	(8,604)		(7,610)	(2,959)
29 CET1 capital	29,054	—	29,054		21,097	6,097

Capital, liquidity and funding

CAP 2: Capital resources (CRR own funds template) - RBS and significant subsidiaries continued

2019						
	RBS			Source based on reference numbers/ letters of the balance sheet under its regulatory scope of consolidation	NWH Group	NWM Plc
	PRA transitional	CRR prescribed residual amounts	CRR end point			
	£m	£m	£m		£m	£m
AT1 capital: instruments						
30 Capital instruments and the related share premium accounts	4,051	—	4,051	(h)	3,676	904
31 <i>Of which: classified as equity under applicable accounting standards</i>	4,051	—	4,051		3,676	904
32 <i>Of which: classified as debt under applicable accounting standards</i>	—	—	—		—	—
33 Amount of qualifying items referred to in Article 484(4) and the related share premium accounts subject to phase out from AT1	1,366	(1,366)	—	(j)	—	226
34 Qualifying tier 1 capital included in consolidated AT1 capital (including minority interests not included in row 5 CET1) issued by subsidiaries and held by third parties	140	(140)	—	(j)	88	—
35 <i>Of which: instruments issued by subsidiaries subject to phase out</i>	140	(140)	—		88	—
36 AT1 capital before regulatory adjustments	5,557	(1,506)	4,051		3,764	1,130
AT1 capital: regulatory adjustments						
40 (-) Direct, indirect and synthetic holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions)	—	—	—		—	(224)
41 (-) Actual or contingent obligations to purchase own AT1 instruments	—	—	—		—	—
41b Residual amounts deducted from AT1 capital with regard to deduction from Tier 2 (T2) capital during the transitional period of which: Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities	—	—	—		—	—
43 Total regulatory adjustments to AT1 capital	—	—	—		—	(224)
44 AT1 capital	5,557	(1,506)	4,051		3,764	906
45 Tier 1 capital (T1 = CET1 + AT1)	34,611	(1,506)	33,105		24,861	7,003
T2 capital: instruments and provisions						
46 Capital instruments and the related share premium accounts	4,785	—	4,785	(j)	4,254	1,877
47 Amount of qualifying items referred to in Article 484 (5) and the related share premium accounts subject to phase out from T2	82	(82)	—	(j)	—	90
48 Qualifying own funds instruments included in consolidated T2 capital (including minority interests phase out from T2 and AT1 instruments not included in CET1 or AT1) issued by subsidiaries	1,345	(1,230)	115	(j)	400	—
49 <i>Of which: instruments issued by subsidiaries subject to phase out</i>	1,230	(1,230)	—		400	—
50 Credit risk adjustments	—	—	—		—	—
51 T2 capital before regulatory adjustments	6,212	(1,312)	4,900		4,654	1,967
T2 capital: regulatory adjustments						
54 (-) Direct and indirect holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above the 10% threshold and net of eligible short positions)	—	—	—		—	—
55 (-) Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions)	—	—	—		—	(469)
56a (-) Actual or contingent obligations to purchase own AT1 instruments	—	—	—		—	—
56b (-) Residual amounts deducted from T2 capital with regard to deduction from AT1 capital during the transitional period	—	—	—		—	—
56c (-) Amount to be deducted from or added to T2 capital with regard to additional filters and deductions required pre CRR	—	—	—		—	—
T2 capital before regulatory adjustments						
57 Total regulatory adjustments to T2 capital	—	—	—		—	(469)

Capital, liquidity and funding

CAP 2: Capital resources (CRR own funds template) - RBS and significant subsidiaries continued

2019						
	RBS			Source based on reference numbers/ letters of the balance sheet under the regulatory scope of consolidation	NWH Group	NWM Plc
	PRA transitional	CRR prescribed residual amounts	Final CRD IV			
	£m	£m	£m		£m	£m
T2 capital before regulatory adjustments						
58 T2 capital	6,212	(1,312)	4,900		4,654	1,498
59 Total capital (TC= T1 + T2)	40,823	(2,818)	38,005		29,515	8,501
60 Total risk-weighted assets	179,172	—	179,172		134,675	35,153
Capital ratios and buffers						
61 CET1 (as a percentage of risk exposure amount)	16.2%	—	16.2%		15.7%	17.3%
62 T1 (as a percentage of risk exposure amount)	19.3%	—	18.5%		18.5%	19.9%
63 Total capital (as a percentage of risk exposure amount)	22.8%	—	21.2%		21.9%	24.2%
64 Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1)(a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus the systemically important institution buffer (G-SII or O-SII buffer), expressed as a percentage of risk exposure amount)	8.8%	—	8.8%		9.4%	7.5%
65 Of which: capital conservation buffer requirement	2.5%	—	2.5%		2.5%	2.5%
66 Of which: counter cyclical buffer requirement	0.8%	—	0.8%		0.9%	0.5%
67 Of which: systemic risk buffer requirement	—	—	—		1.5%	—
67a Of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	1.0%	—	1.0%		—	—
68 CET1 available to meet buffers ⁽¹⁾	11.7%	—	11.7%		11.2%	12.8%
Amounts below the threshold deduction						
72 Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	972	—	972		6	746
73 Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	632	—	632		1	800
75 Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability)	127	—	127		475	—
Available caps on the inclusion of provisions in T2						
76 Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	—	—	—		—	—
77 Cap on inclusion of credit risk adjustments in T2 under standardised approach	224	—	224		190	46
78 Credit risk adjustments included in T2 in respect of exposures subject to internal ratings based approach (prior to the application of the cap)	—	—	—		—	—
79 Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	679	—	679		593	37
Capital instruments subject to phase-out arrangements						
(only applicable between 1 January 2013 and 1 January 2022)						
82 Current cap on AT1 instruments subject to phase out arrangements	2,880	(2,880)	—		88	1,501
83 Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	—	—	—		52	—
84 Current cap on T2 instruments subject to phase out arrangements	2,018	(2,018)	—		401	835
85 Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	—	—	—		610	—

Notes:

(1) This represents the CET1 ratio less the CRR minimum of 4.5%.

(2) The references (a) to (k) identify balance sheet components in table CC2 that are used in the calculation of regulatory capital table CAP2. Amounts between the CC2 and CAP2 are not always directly comparable due to differences in definitions and application of CRD IV for the calculation of regulatory capital.

Capital, liquidity and funding

CAP 2: Capital resources (CRR own funds template) - RBS and significant subsidiaries continued

2018					
	RBS		CRR end-point	Source based on reference number/ letters of the balance sheet under its regulatory scope of consolidation	NWM Plc
	PRA transitional	CRR prescribed residual amounts			
	£m	£m	£m		£m
CET1 capital: instruments and reserves					
1 Capital instruments and the related share premium accounts	13,076	—	13,076	(a) & (k)	2,159
<i>Of which: ordinary shares</i>	12,049	—	12,049	(a)	400
2 Retained earnings	12,330	—	12,330	(b)	6,280
3 Accumulated other comprehensive income (and other reserves)	14,290	—	14,290	(c)	15
4 Public sector capital injections grandfathered until 1 January 2018	—	—	—		—
5a Independently reviewed interim net profits net of any foreseeable charge or dividend	55	—	55		—
6 CET1 capital before regulatory adjustments	39,751	—	39,751		8,454
7 Additional value adjustments	(494)	—	(494)		(450)
8 (-) Intangible assets (net of related tax liability)	(6,616)	—	(6,616)	(d)	—
10 (-) Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability)	(740)	—	(740)	(e)	—
11 Fair value reserves related to gains or losses on cash flow hedges	191	—	191	(i)	(114)
12 (-) Negative amounts resulting from the calculation of expected loss amounts	(654)	—	(654)		(351)
14 Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	(405)	—	(405)		(223)
15 (-) Defined-benefit pension fund assets	(394)	—	(394)	(f) & (g)	(197)
18 (-) Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (above the 10% threshold and net of eligible short positions)	—	—	—		(65)
19 (-) Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions)	—	—	—		(380)
22 (-) Amount exceeding the 17.65% threshold	—	—	—		—
23 (-) <i>Of which: direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities</i>	—	—	—		—
25 (-) <i>Of which: deferred tax assets arising from temporary differences</i>	—	—	—		—
25a (-) Losses for the current financial period	—	—	—		(305)
26 Regulatory adjustments applied to CET1 in respect of amounts subject to pre-CRR treatment	—	—	—		—
26a <i>Regulatory adjustments relating to unrealised gains and losses pursuant to articles 467 and 468</i>	—	—	—		—
26b <i>Amount to be deducted from or added to CET1 capital with regard to additional filters and deductions required pre CRR</i>	—	—	—		—
27 (-) Qualifying Additional Tier 1 (AT1) deductions that exceed the AT1 capital of the institution	—	—	—		—
28 Total regulatory adjustments to CET1	(9,112)	—	(9,112)		(2,085)
29 CET1 capital	30,639	—	30,639		6,369

CAP 2: Capital resources (CRR own funds template) - RBS and significant subsidiaries continued

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Capital, liquidity and funding

CAP 2: Capital resources (CRR own funds template) - RBS and significant subsidiaries continued

		2018			
		RBS		Source based on reference numbers/ letters of the balance sheet under the regulatory scope of consolidation	NWM Plc
		PRA	CRR prescribed		
		transitional	residual amounts		
		£m	£m	Final CRD IV	£m
T2 capital before regulatory adjustments					
58	T2 capital	7,951	(1,468)	6,483	1,405
59	Total capital (TC= T1 + T2)	44,174	(3,001)	41,173	8,757
60	Total risk-weighted assets	188,691	—	188,691	40,777
Capital ratios and buffers (%)					
61	CET1 (as a percentage of risk exposure amount)	16.2%	—	16.2%	15.6%
62	T1 (as a percentage of risk exposure amount)	19.2%	—	18.4%	18.0%
63	Total capital (as a percentage of risk exposure amount)	23.4%	—	21.8%	21.5%
64	Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1)(a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus the systemically important institution buffer (G-SII or O-SII buffer), expressed as a percentage of risk exposure amount)	7.8%	—	8.7%	6.9%
65	<i>Of which: capital conservation buffer requirement</i>	1.9%	—	2.5%	1.9%
66	<i>Of which: counter cyclical buffer requirement</i>	0.7%	—	0.7%	0.5%
67	<i>Of which: systemic risk buffer requirement</i>	—	—	—	—
67a	<i>Of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer</i>	0.8%	—	1.0%	—
68	CET1 available to meet buffers ⁽¹⁾	11.7%	—	11.7%	11.1%
Amounts below the threshold deduction					
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	1,127	—	1,127	681
73	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	548	—	548	675
75	Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability)	344	—	344	—
Available caps on the inclusion of provisions in T2					
76	Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	—	—	—	—
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach	290	—	290	45
78	Credit risk adjustments included in T2 in respect of exposures subject to internal ratings based approach (prior to the application of the cap)	—	—	—	—
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	688	—	688	34
Capital instruments subject to phase-out arrangements					
(only applicable between 1 January 2013 and 1 January 2022)					
82	Current cap on AT1 instruments subject to phase out arrangements	3,840	(3,840)	—	2,002
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	—	—	—	—
84	Current cap on T2 instruments subject to phase out arrangements	2,690	(2,690)	—	1,113
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	—	—	—	—

Notes:

- (1) This represents the CET1 ratio less the CRR minimum of 4.5%.
- (2) The references (a) to (k) identify balance sheet components in table CC2 that are used in the calculation of regulatory capital table CAP2. Amounts between the CC2 and CAP2 are not always directly comparable due to differences in definitions and application of CRD IV for the calculation of regulatory capital.

Capital, liquidity and funding

CC2: Reconciliation of regulatory capital to balance sheet

The table below sets out the reconciliation between the accounting and regulatory consolidation with references showing the linkage between this table and CAP 2.

	a Balance sheet as in published financial statements as at period end £m	b Under regulatory scope of of consolidation as at period end £m	References
Assets			
Cash and balances at central banks	77,858	77,858	
Trading assets	76,745	76,745	
Derivative financial instruments	150,029	150,029	
Settlement balances	4,387	4,387	
Loans and advances to banks - amortised cost	10,689	10,689	
Loans and advances to customers - amortised cost	326,947	326,938	
Other financial assets	61,452	60,832	
Intangible assets	6,622	6,622	(d)
Property, plant and equipment	4,928	4,928	
Current and deferred tax assets	1,057	1,057	
<i>of which: DTAs that rely on future profitability and do not arise from temporary differences</i>	757	757	(e)
Prepayments, accrued income and other assets	2,259	2,394	
<i>of which: Defined benefit pension fund assets</i>	614	614	(f)
Assets of disposal groups	66	66	
Total Assets	723,039	722,545	
Liabilities			
Bank deposits	20,493	20,493	
Customer deposits	369,247	369,543	
Settlement balances	4,069	4,069	
Trading liabilities	73,949	73,949	
Derivatives	146,879	146,879	
Other financial liabilities	45,220	44,547	
Provisions, deferred income and other liabilities	9,130	9,035	
Retirement benefit liabilities	119	119	
Current and deferred tax liabilities	398	376	
<i>of which: Defined benefit pension scheme assets</i>	140	140	(g)
Subordinated liabilities	9,979	9,979	(j)
Total liabilities	679,483	678,989	
Shareholder's Equity			
Non-controlling interests	9	9	
Owners' equity			
Called up share capital	12,094	12,094	(a)
Reserves	31,453	31,453	
<i>of which: amount eligible for retained earnings</i>	13,946	13,946	(b)
<i>of which: amount eligible for accumulated OCI & other reserves</i>	12,355	12,355	(c) & (i)
<i>of which: amount of other equity instruments</i>	4,058	4,058	(h)
<i>of which: share premium accounts</i>	1,094	1,094	(k)
Total Shareholder's Equity	43,556	43,556	

Capital, liquidity and funding

EU OV1: CAP: RWAs and MCR summary – RBS and significant subsidiaries

The table below shows RWAs and minimum capital requirements (MCR) by risk type for RBS and its significant subsidiaries. MCR is calculated as 8% of RWAs.

		RBS		NWH Group		NWM Plc	
		RWAs	MCR	RWAs	MCR	RWAs	MCR
2019		£m	£m	£m	£m	£m	£m
1	Credit risk (excluding counterparty credit risk)	126,735	10,138	111,281	8,903	6,980	559
2	Standardised (STD) approach	16,002	1,280	14,033	1,123	1,648	132
4	Advanced IRB approach ⁽¹⁾	109,719	8,777	97,248	7,780	5,326	427
5	Equity IRB under the simple risk-weight or the internal model approach (IMA)	1,014	81	—	—	6	—
6	Counterparty credit risk	12,126	971	980	78	10,738	859
6a	of which: securities financing transactions	1,121	90	145	12	742	59
7	of which: marked-to-market	2,146	172	239	19	1,905	152
10	of which: internal model method (IMM)	6,909	553	—	—	6,425	515
11	of which: risk exposure amount for contributions to the default fund of a central counterparty	147	12	116	9	22	2
12	of which: credit valuation adjustment (CVA)	1,803	144	480	38	1,644	131
13	Settlement risk	18	1	—	—	3	—
14	Securitisation exposures in banking book ⁽²⁾	2,866	230	1,509	121	1,165	93
15	IRB approach	2,438	196	1,509	121	737	59
17	Internal assessment approach	6	—	—	—	6	—
18	Standardised approach	422	34	—	—	422	34
19	Market risk	12,930	1,034	125	10	11,229	898
20	STD approach	2,036	163	125	10	1,102	88
21	IMA	10,894	871	—	—	10,127	810
23	Operational risk - STD approach	22,599	1,808	19,590	1,567	3,039	243
27	Amounts below the thresholds for deduction (subject to 250% risk-weight)	1,898	152	1,190	95	1,999	160
29	Total	179,172	14,334	134,675	10,774	35,153	2,812

For the notes to this table refer to the following page.

Capital, liquidity and funding

EU OV1: CAP: RWAs and MCR summary – RBS and significant subsidiaries continued

	2018	RBS		NWM Plc	
		RWAs £m	MCR £m	RWAs £m	MCR £m
1	Credit risk (excluding counterparty credit risk)	133,052	10,644	6,744	539
2	<i>STD approach</i>	20,974	1,678	2,064	165
4	<i>Advanced IRB approach</i> ⁽¹⁾	111,057	8,884	4,665	373
5	<i>Equity IRB under the simple risk-weight or the IMA</i>	1,021	82	15	1
6	Counterparty credit risk	13,211	1,057	12,998	1,040
6a	<i>of which: securities financing transactions</i>	1,260	101	975	78
7	<i>of which: marked-to-market</i>	2,247	180	1,988	159
10	<i>of which: IMM</i>	7,192	575	7,576	606
11	<i>of which: risk exposure amount for contributions to the default fund of a central counterparty</i>	56	5	45	4
12	<i>of which: CVA</i>	2,456	196	2,414	193
13	Settlement risk	1	—	1	—
14	Securitisation exposures in banking book ⁽²⁾	2,970	238	1,249	100
15	<i>IRB approach</i>	2,956	237	1,235	99
17	<i>Internal assessment approach</i>	14	1	14	1
19	Market risk	14,837	1,187	14,106	1,129
20	<i>STD approach</i>	1,848	148	1,211	97
21	<i>IMA</i>	12,989	1,039	12,895	1,032
23	Operational risk - STD approach	22,391	1,791	4,152	332
27	Amounts below the thresholds for deduction (subject to 250% risk-weight)	2,229	178	1,527	122
29	Total	188,691	15,095	40,777	3,262

Notes:

(1) Of which £1,599 million RWAs (2018 – £569 million) relate to equity IRB under the PD/LGD approach.

(2) Securitisation positions which fall under the new securitisation framework have been recorded under IRB RBA for positions which are capitalised under the new SEC-ERBA approach and SA for positions capitalised under the new SEC-SA approach.

Capital, liquidity and funding

EU CR8: IRB and STD: Credit risk RWAs and MCR flow statement

The table below shows the drivers of movements in credit risk RWAs and MCR. RWAs include securitisations, deferred tax assets and significant investments to align with the capital management approaches of RBS and its segments. There were no methodology or policy changes during the period.

	a			b
	RWAs			MCR
	IRB £m	STD £m	Total RWAs £m	£m
1 At 1 January 2019	114,621	23,203	137,824	11,026
2 Asset size (1)	2,447	(656)	1,791	142
3 Asset quality (2)	(322)	—	(322)	(26)
5 Model updates (3)	(1,692)	37	(1,655)	(132)
6 Acquisitions and disposals (4)	—	(4,618)	(4,618)	(369)
7 Foreign exchange movements (5)	(1,174)	(66)	(1,240)	(99)
8 Other	(768)	—	(768)	(61)
9 At 31 December 2019	113,112	17,900	131,012	10,481

Notes:

- (1) Organic changes in portfolio size and composition (including the origination of new businesses and maturing loans) but excluding changes in portfolio size due to acquisitions and disposals of entities.
- (2) Changes in the assessed quality of assets due to changes in borrower risk, such as rating grade migration or similar effects.
- (3) Changes due to model implementation, changes in model scope, or any changes intended to address model weakness.
- (4) Reflects the completion of the merger of Alawwal bank and SABB.
- (5) Changes arising from foreign currency translation movements.

Key points

- The movement in acquisitions and disposals reflected the completion of the Alawwal bank and SABB merger. This resulted in a £4.6 billion reduction in RWAs.
- The RWA increase in asset size was attributed to lending growth across multiple products in UK Personal Banking.
- The RWA decrease relating to model updates was largely driven by revisions to LGD models in the corporates portfolio.
- The movement in the other category mainly reflected decreases due to a revision of the treatment of nostro exposures which were partially offset by an increase in RWAs following the adoption of IFRS 16 in January 2019.
- The RWA reduction in foreign exchange movements was driven by sterling strengthening against the euro during 2019.

EU CCR7: CCR: IMM and Non-IMM: Counterparty credit risk RWAs and MCR flow statement

The table below shows the drivers of movements in counterparty credit risk RWAs and MCR (excluding CVA). There were no IMM methodology or policy changes during the period.

	a			b		
	RWAs			MCR		
	IMM £m	Non-IMM £m	Total £m	IMM £m	Non-IMM £m	Total £m
1 At 1 January 2019	7,292	3,891	11,183	584	311	895
2 Asset size (1)	(29)	(64)	(93)	(2)	(5)	(7)
3 Credit quality of counterparties (2)	(48)	—	(48)	(4)	—	(4)
6 Acquisitions and disposals (3)	—	(40)	(40)	—	(3)	(3)
7 Foreign exchange movements (4)	(195)	(96)	(291)	(16)	(8)	(23)
8 Other	—	117	117	—	9	9
9 At 31 December 2019	7,020	3,808	10,828	562	305	866

Notes:

- (1) Organic changes in portfolio size and composition (including the origination of new business).
- (2) Changes in the assessed quality of counterparties as measured under RBS's credit risk framework, including changes due to IRB models. Impacts due to IMM model changes are not included here.
- (3) Reflects the completion of the merger of Alawwal bank and SABB.
- (4) Changes arising from foreign currency retranslation movements.

Key points

- The overall decrease in RWAs over the year mainly reflected sterling strengthening against the US dollar and the euro.
- The RWA reduction was mostly driven by a decrease in exposure to institutions, offset by an increase in exposures to corporates. (For more details, refer to EU CCR4).

Capital, liquidity and funding

EU MR2_B: MR IMA and STD: Market risk RWAs and MCR flow statement

The table below shows the drivers of movements in market risk RWAs and MCR. There were no methodology or regulatory policy changes during the period. Changes in market risk arising from foreign currency retranslation are included within movement in risk levels as they are managed together with portfolio changes.

	IMA						STD		Total	
	RWAs (1)					MCR	RWAs	MCR	RWAs	MCR
	a	b	c	e	f					
	VaR £m	SVaR £m	IRC £m	Other (RNIV) £m	Total £m					
1 At 1 January 2019	2,028	5,272	2,732	2,957	12,989	1,039	1,848	148	14,837	1,187
2 Movement in risk levels (2)	(597)	(1,278)	(241)	705	(1,411)	(113)	224	18	(1,187)	(95)
3 Model updates/changes (3)	14	(31)	(226)	(441)	(684)	(55)	—	—	(684)	(55)
4 Acquisitions and disposals (4)	—	—	—	—	—	—	(36)	(3)	(36)	(3)
8 At 31 December 2019	1,445	3,963	2,265	3,221	10,894	871	2,036	163	12,930	1,034

Notes:

- (1) RBS does not use the comprehensive risk measure to calculate market risk RWAs.
- (2) Movement in risk levels represents movements due to position changes.
- (3) Due to updates to the model to reflect recent experience or changes to model scope.
- (4) Reflects the completion of the merger of Alawwal bank and SABB.

Key points

- The comments below mainly relate to NWM Plc, NWM N.V. and NWM SI, which accounted for the majority of the exposure. NWM N.V. began transacting new business on 25 March 2019 as part of preparations to ensure continuity of service to EEA customers when the UK leaves the EU.
- The RWA decrease under the internal model approach was primarily due to a decrease in VaR, SVaR and the IRC.
- Both VaR and SVaR-based RWAs decreased over the period, mainly due to changes in interest rate and foreign exchange risks.
- The capital multiplier for NWM Plc was lower at 31 December 2019 than at the start of the year, due to an overall decrease in the rolling number of VaR model back-testing exceptions. This had an overall downward impact on market risk RWAs of around 6% over the year (affecting VaR, SVaR and RNIVs).
- The decrease in the IRC reflected a reduction in eurozone periphery bond positions.
- The key offsetting movement was the increase in RNIVs, mainly reflecting interest rate risk changes over the period.
- The RWA increase under the standardised approach mainly reflected an increase in interest rate position risk in NWM SI and NWM Plc over the period and an increase in the banking book foreign exchange charge for NWM N.V. These increases were partly offset by a decrease in trading book securitisations.

Capital, liquidity and funding

CAP 3: LR: Leverage exposures (CRR Delegated Act Template) - RBS and significant subsidiaries

The tables below set out the leverage exposures in the prescribed template on a CRR transitional basis as relevant for the jurisdiction.

LRSum: Summary reconciliation of accounting assets and leverage ratio exposure

		2019			2018	
		RBS	NWH Group	NWM Plc	RBS	NWM Plc
		£m	£m	£m	£m	£m
1	Total assets as per published financial statements	723,039	428,371	248,053	694,235	242,041
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	(492)	(391)	—	5,762	—
4	Adjustment for derivative financial instruments	(114,774)	(2,690)	(115,150)	(99,216)	(99,133)
5	Adjustments for securities financing transactions (SFTs)	2,224	516	1,559	2,083	1,800
6	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	42,363	29,655	5,986	50,341	7,306
EU 6a	Adjustment for Intra-Group exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013	—	—	(1,128)	—	(1,955)
7	Other adjustments	(8,486)	(7,610)	(2,815)	(8,707)	(1,557)
8	Total leverage ratio exposure	643,874	447,851	136,505	644,498	148,502

LRCOM: Leverage ratio common disclosure

On-balance sheet exposures (excluding derivatives and SFTs)

1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	537,608	414,281	86,141	538,889	90,203
2	Asset amounts deducted in determining Tier 1 capital	(8,486)	(7,610)	(2,815)	(8,707)	(1,557)
3	Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)	529,122	406,671	83,326	530,182	88,646

Derivative exposures

4	Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	10,464	252	9,879	9,706	9,738
5	Add-on amounts for PFE associated with all derivatives transactions (mtm method)	43,337	1,071	40,022	42,306	41,909
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	—	—	—	—	—
7	Deductions of receivable assets for cash variation margin provided in derivatives transactions	(19,075)	(1,114)	(18,432)	(18,349)	(16,959)
8	Exempted CCP leg of client-cleared trade exposures	(335)	—	(25)	(249)	(249)
9	Adjusted effective notional amount of written credit derivatives	5,411	—	5,411	6,171	6,171
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(4,546)	—	(4,546)	(5,452)	(5,452)
11	Total derivative exposures	35,256	209	32,309	34,133	35,158

Capital, liquidity and funding

CAP 3: LR: Leverage exposures (CRR Delegated Act Template) - RBS and significant subsidiaries continued

		2019			2018	
		RBS	NWH Group	NWM Plc	RBS	NWM Plc
		£m	£m	£m	£m	£m
Securities financing transaction exposures						
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	74,156	20,682	29,613	67,496	35,514
13	Netted amounts of cash payables and cash receivable of gross SFT assets	(39,247)	(9,882)	(15,160)	(39,737)	(17,967)
14	Counterparty credit risk exposures for SFT assets	2,224	516	1,559	2,083	1,800
16	Total securities financing transaction exposures	37,133	11,316	16,012	29,842	19,347
Other off-balance sheet exposures						
17	Off-balance sheet exposures at gross notional amount	130,524	105,875	11,656	174,740	19,138
18	Adjustments for conversion to credit equivalent amounts	(88,161)	(76,220)	(5,670)	(124,399)	(11,832)
19	Other off-balance sheet exposures	42,363	29,655	5,986	50,341	7,306
EU-19a	Exemption of Intra-Group exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off-balance sheet)	—	—	(1,128)	—	(1,955)
Capital and total exposures						
20	Tier 1 capital	34,611	24,861	7,003	36,223	7,352
21	Total leverage ratio exposure	643,874	447,851	136,505	644,498	148,502
Leverage ratio		5.4%	5.6%	5.1%	5.6%	5.0%
Leverage ratio exposures						
		2019			2018	
		RBS	NWH Group	NWM Plc	RBS	NWM Plc
		£m	£m	£m	£m	£m
LRSpI: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)						
EU-1	Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	529,122	406,671	83,970	530,182	86,737
EU-2	Trading book exposures	56,623	—	47,778	53,292	47,580
EU-3	Banking book exposures, of which:	472,499	406,671	36,192	476,890	39,157
EU-4	Covered bonds	1,678	1,678	—	926	—
EU-5	Exposures treated as sovereigns	130,268	95,026	16,491	140,875	18,104
EU-6	Exposures to regional governments, multilateral development bank, international organisations and public sector entities not treated as sovereigns	5,168	4,840	138	4,872	250
EU-7	Institutions	6,759	4,885	3,957	6,631	7,100
EU-8	Secured by mortgages of immovable properties	205,675	201,064	91	185,031	35
EU-9	Retail exposures	22,126	22,040	—	35,536	—
EU-10	Corporate	76,107	59,321	6,573	76,993	7,824
EU-11	Exposures in default	3,693	3,536	41	5,397	648
EU-12	Other exposures (e.g. equity, securitisations, and non-credit obligation assets)	21,025	14,281	8,901	20,629	5,196

Capital, liquidity and funding

CAP 4: CAP: Capital instruments - RBS and significant subsidiaries

The following table sets out the main terms and conditions of RBS's Tier 1 and Tier 2 capital instruments that will be treated as non-end point CRR compliant, for instance because they are legacy Tier 1 instruments or because they are Tier 2 instruments that include an incentive for the issuer to redeem. The balances are the IFRS balance sheet carrying amounts, which may differ from the amount which the instrument contributes to regulatory capital. Regulatory balances exclude, for example, issuance costs and fair value movements, while dated capital is required to be amortised on a straight-line basis over the final five years of maturity. For accounting purposes the capital instruments in the following table are included within equity or subordinated liabilities, details of which are included in Note 19 Subordinated Liabilities of the RBS Group 2019 ARA. Refer to rbs.com for more details on these and other instruments issued to third parties on an instrument-by-instrument basis.

		31 December 2019 £m	31 December 2018 £m
Pillar 1 treatment - Additional Tier 1			
Step-up coupon			
RBS - undated loan capital			
US780097AH44 US\$1,200 million 7.648% perpetual regulatory (callable quarterly from September 2031)	3 month US\$ LIBOR plus 2.5%	585	603
NWB Plc - debt preference shares			
GB0006227051 Series A £140 million 9% (not callable)		143	145
RBS US Capital Trusts - debt trust preferred securities			
US74927PAA75 US\$650 million 6.425% 2043 (callable quarterly from January 2034)	3 month US\$ LIBOR plus 1.9425%	427	409
RBS - equity preference shares			
US780097AU54 Series U US\$1,500 million 7.64% (callable every ten years from September 2017)	3 month US\$ LIBOR plus 2.32%	494	494
Tier 2 capital securities which contain an incentive for the issuer to redeem			
Pillar 1 treatment Tier 2			
NWM Plc - undated loan capital			
XS0206633082 £600 million 5.5% undated subordinated notes (callable every five years from December 2019)	Aggregate of 1.84% and the 5 year UK Gilts yield	—	36
XSS0144810529 £500 million 6.2% undated subordinated notes (callable every five years from March 2022)	Aggregate of 2.05% and the 5 year UK Gilts yield	23	25
XS0154144132 £900 million 5.625% undated subordinated notes (callable every five years from September 2026)	Aggregate of 2.10% and the 5 year UK Gilts yield	24	23
XS0138939854 £500 million 5.625% undated subordinated notes (callable every five years from June 2032)	Aggregate of 2.41% and the 5 year UK Gilts yield	18	21
NWB Plc - undated loan capital			
XS0102480786 €100 million floating rate undated step-up notes (callable quarterly)	3 month EURIBOR plus 2.15%	9	9
XS0102480869 €400 million floating rate undated subordinated notes (callable quarterly)	3 month EURIBOR plus 2.15%	152	160
XS0102493680 £200 million 7.125% undated subordinated step-up notes (callable every five years from October 2022)	5 year UK Gilts yield plus 3.08%	55	55

Capital, liquidity and funding

CAP 5a: CAP: Countercyclical capital buffer - geographical distribution of credit exposures

As part of the banking reforms introduced by Basel III, a countercyclical capital buffer is required to ensure banks take account of the macro-financial environment when assessing adequate capital requirements. The buffer is to help protect banks during periods of excess aggregate credit growth that have often been associated with the build-up of system wide risk. This regime is intended to help reduce the risk that the supply of credit will be constrained during a period of economic downturn which in turn could undermine the performance of the real economy and consequently result in additional credit losses in the banking system.

The table below summarises RBS's total exposures and own funds requirements based on country of economic operation of the customer. Where applicable, a countercyclical capital buffer rate is applied to the own funds requirement for the geographic region to capture an additional countercyclical requirement.

General credit and trading book exposures exclude those with central governments/banks, regional governments, local authorities, public sector entities, multilateral development banks, international organisations and institutions. The exposures below therefore differ from those presented in the Credit and Counterparty credit risk sections.

		UK £m	Rol £m	US £m	Sweden £m	France £m	Norway £m	Other £m	Total £m
2019									
General credit exposures	Exposure value for STD	20,385	898	421	50	170	154	5,608	27,686
	Exposure value for IRB	301,686	21,631	10,491	1,347	3,486	941	29,165	368,747
Trading book	Sum of long and short position of trading book	468	—	—	—	24	—	73	565
	Value of trading book exposure for internal models	446	32	251	45	143	9	983	1,909
Securitisation exposures	Exposure value for STD	—	—	—	—	—	—	—	—
	Exposure value for IRB	11,603	292	1,330	—	—	—	1,353	14,578
Own funds	Of which: General credit exposures	7,597	893	321	54	118	48	1,264	10,295
	Trading book exposures	74	5	14	6	11	1	85	196
	Securitisation exposures	168	3	24	—	—	—	34	229
	Total	7,839	901	359	60	129	49	1,383	10,720
Own funds requirement weights		73%	8%	3%	1%	1%	0%	14%	100%
Countercyclical capital buffer rate		1.00%	1.00%	0.00%	2.50%	0.25%	2.50%	0.00%	0.85%
Total risk exposure (sum of general credit, trading and securitisation)									
NWH Group		311,529	22,165	4,657	944	2,279	1,011	12,742	355,327
NWM Plc		15,548	525	7,485	281	716	90	10,657	35,302
Total own fund requirements									
NWH Group		6,970	873	142	32	73	45	568	8,703
NWM Plc		595	16	210	22	28	3	414	1,288

CAP 5b: CAP: Countercyclical capital buffer requirement

The additional countercyclical capital buffer requirement is shown below for RBS and its significant subsidiaries.

	RBS £m	NWH Group £m	NWM Plc £m
Total risk exposure amount	179,172	134,675	35,153
Institution specific countercyclical buffer rate	0.85%	0.93%	0.54%
Institution specific countercyclical buffer requirement	1,519	1,250	188

Note:

- (1) The institution specific countercyclical capital buffer requirement is based on the weighted average of the buffer rates in effect for the countries in which institutions have exposures. The Financial Policy Committee sets the UK countercyclical capital buffer rate, which is currently 1.0% (effective from November 2018). The FPC has announced an increase of the UK rate to 2.0% with effect from December 2020. The Republic of Ireland countercyclical capital buffer is currently 1.0% (effective from July 2019).

Capital, liquidity and funding

PV1: BCBS 2: Prudential valuation adjustment Prudential valuation

Prudential valuation is a regulatory provision that requires additional valuation adjustments (AVAs) to be made over and above fair value adjustments that are calculated in accordance with accounting standards. AVAs represent excess valuation adjustments required to achieve a prudential value over the reported fair value. The purpose of these adjustments is to achieve an appropriate degree of certainty that the valuation is sufficiently prudent having regard to the dynamic nature of trading positions. Prudential valuation adjustments (PVAs) result in a deduction to CET1 capital in accordance with Article 105 of the CRR.

RBS applies prudential valuation to all positions that are subject to fair value accounting (both regulatory trading and non-trading books) classified for accounting purposes as fair value through profit or loss, including held for trading and available for sale.

The prudential valuation is the value of the positions at the lower bound (downside) of the valuation uncertainty range and is always equal to or lower than the fair value for assets, and equal to or higher than the fair value for liabilities. Types of financial instruments on which the highest PVA is observed include interest rate swaps, inflation swaps and equity positions.

For more information regarding valuation methodologies of modelled and non-modelled products, the independent price verification process and the control and governance framework, please refer to the 2019 RBS Group ARA Financial instruments – valuation (note 12).

	a	b	c	d	f	g	h
	Equities £m	Interest rates £m	FX £m	Credit £m	Total £m	Of which: in the trading book £m	Of which: in the non-trading book £m
2019							
1 Closeout uncertainty, of which	107	166	14	27	314	177	137
2 <i>Mid-market value</i>	13	148	7	20	188	146	42
3 <i>Closeout cost</i>	—	11	7	—	18	18	—
4 <i>Concentration</i>	94	7	—	7	108	13	95
5 Early termination	—	—	—	—	—	—	—
6 Model risk	—	34	4	7	45	44	1
7 Operational risk	1	16	2	2	21	16	5
8 Investing and funding costs	—	11	—	—	11	10	1
9 Unearned credit spreads	—	30	—	—	30	30	—
10 Future administrative costs	—	8	1	1	10	8	2
11 Other	—	—	—	—	—	—	—
12 Total prudential valuation adjustment (PVA)	108	265	21	37	431	285	146
PVA excluding diversification benefit	115	498	37	63	713	532	181
2018							
1 Closeout uncertainty, of which	27	237	10	33	307	263	44
2 <i>Mid-market value</i>	27	210	5	32	274	232	42
3 <i>Closeout cost</i>	—	15	5	—	20	18	2
4 <i>Concentration</i>	—	12	—	1	13	13	—
5 Early termination	—	—	—	—	—	—	—
6 Model risk	—	44	1	2	47	46	1
7 Operational risk	3	23	1	3	30	25	5
8 Investing and funding costs	—	70	—	—	70	70	—
9 Unearned credit spreads	—	24	—	—	24	24	—
10 Future administrative costs	1	12	1	2	16	14	2
11 Other	—	—	—	—	—	—	—
12 Total prudential valuation adjustment (PVA)	31	410	13	40	494	442	52
PVA excluding diversification benefit	60	774	24	74	932	830	102

Notes:

- (1) A diversification benefit is applied, where permitted under the EBA Regulatory Technical Standards on prudential valuation.
- (2) Commodities has been excluded from the above table as this was nil in both the current and prior period.

Key points

- The overall decrease in PVA is primarily driven by risk exit within Interest Rate businesses and changes to the FVA discounting approach.
- This was partially offset by an increase in equities concentration adjustments due to the completion of the merger of Alawwal and SABB.

Capital, liquidity and funding

EBA asset encumbrance

The values presented below, including totals, are based on a four-point median average across the four quarters in each of 2019 and 2018.

Encumbered and unencumbered assets

	Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
	£m	of which notionally eligible EHQLA and HQLA £m	£m	of which notionally eligible EHQLA and HQLA £m	£m	of which EHQLA and HQLA £m	£m	of which EHQLA and HQLA £m
Assets of the reporting institution	108,868	74,725	—	—	623,564	293,693	—	—
Equity instruments	4	—	—	—	1,150	—	—	—
Debt securities	46,434	41,340	46,478	41,384	50,834	44,565	50,901	44,571
of which: covered bonds	215	164	215	164	1,508	1,317	1,508	1,317
of which: asset-backed securities	4,937	3,825	4,937	3,825	1,732	1,491	1,732	1,491
of which: issued by general governments	36,344	34,526	36,388	34,570	41,976	36,789	41,982	36,795
of which: issued by financial corporations	8,099	6,007	8,099	6,007	8,296	7,885	8,296	8,120
of which: issued by non-financial corporations	1,137	416	1,137	416	72	18	72	18
Other assets	62,432	34,373	—	—	571,496	248,978	—	—

Collateral received

	Fair value of encumbered collateral received or own debt securities issued		Unencumbered Fair value of collateral received or own debt securities issued available for encumbrance	
	£m	of which EHQLA and HQLA £m	£m	of which EHQLA and HQLA £m
Collateral received by the reporting institution	52,914	47,718	9,026	8,172
Loans on demand	—	—	—	—
Equity instruments	1	—	—	—
Debt securities	52,913	47,718	9,026	8,172
of which: covered bonds	1,549	1,506	102	101
of which: asset-backed securities	2,756	1,676	301	—
of which: issued by general governments	45,645	43,475	5,853	5,797
of which: issued by financial corporations	6,154	3,987	2,496	2,151
of which: issued by non-financial corporations	1,356	450	265	—
Loans and advances other than loans on demand	—	—	—	—
Other collateral received	—	—	—	—
of which:	—	—	—	—
- Own debt securities issued other than own covered bonds or asset-backed securities	—	—	—	—
- Own covered bonds and asset-backed securities issued and not yet pledged	—	—	—	—
Total assets, collateral received and own debt securities issued	163,156	125,028	—	—

Sources of encumbrance

	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and asset-backed securities encumbered
	£m	£m
Carrying amount of selected financial liabilities	93,878	105,916

Capital, liquidity and funding

EU LIQ1: Liquidity coverage ratio

The table below shows the breakdown of high quality liquid assets, cash inflows and cash outflows, on both an unweighted and weighted basis, that are used to derive the liquidity coverage ratio. The weightings applied reflect the stress factors applicable under the EBA LCR rules. The values presented below are the simple average of the preceding monthly periods ending on the quarterly reporting date as specified in the table.

LCR outflows do not capture all liquidity risks (e.g. intra-day liquidity). RBS assesses these risks as part of its Individual Liquidity Adequacy Assessment Process (ILAAP) and maintains appropriate levels of liquidity.

	Total unweighted value (average)				Total weighted value (average)			
	31 December 2019	30 September 2019	30 June 2019	31 March 2019	31 December 2019	30 September 2019	30 June 2019	31 March 2019
Number of data points used in the calculation of averages	12	12	12	12	12	12	12	12
	£m	£m	£m	£m	£m	£m	£m	£m
High quality liquid assets								
1 Total high-quality liquid assets (HQLA)					136,943	137,517	138,355	138,672
Cash outflows								
2 Retail deposits and deposits from small business customers	208,121	206,678	205,527	204,396	16,708	16,538	16,425	16,326
3 of which: stable deposits	130,273	129,262	128,465	127,710	6,514	6,463	6,423	6,386
4 of which: less stable deposits	77,408	77,053	76,737	76,377	9,754	9,712	9,677	9,632
5 Unsecured wholesale funding	136,504	135,760	134,830	135,028	62,768	62,259	60,920	59,585
6 Operational deposits (all counterparties) and deposits in networks of cooperative banks	56,316	56,380	59,254	64,045	13,764	13,782	14,501	15,698
7 Non-operational deposits (all counterparties)	79,264	78,556	74,999	70,346	48,080	47,652	45,842	43,250
8 Unsecured debt	923	824	577	637	923	824	577	637
9 Secured wholesale funding					3,105	3,386	3,776	3,798
10 Additional requirements	75,969	76,884	76,598	77,367	18,909	19,059	19,057	19,818
11 Outflows related to derivative exposures and other collateral requirements	6,581	6,686	6,809	7,327	5,719	5,705	5,813	6,377
12 Outflows related to loss of funding on debt products	—	—	—	—	—	—	—	—
13 Credit and liquidity facilities	69,388	70,198	69,789	70,040	13,191	13,354	13,245	13,441
14 Other contractual funding obligations	22,252	22,284	21,592	21,561	1,828	1,921	2,077	1,814
15 Other contingent funding obligations	46,483	46,318	47,191	48,063	3,665	3,574	3,724	3,831
16 Total cash outflows					106,983	106,736	105,979	105,173
17 Secured lending (e.g. reverse repos)	67,250	68,473	69,324	72,695	1,954	2,486	2,975	3,357
18 Inflows from fully performing exposures	12,350	12,555	12,628	12,600	9,031	9,201	9,235	9,099
19 Other cash inflows	14,231	14,158	13,974	13,415	5,439	5,337	5,297	4,931
EU-19a Difference between total weighted inflows and outflows	—	—	—	—	—	—	—	—
EU-19b Excess inflows from a related specialised credit institution	—	—	—	—	—	—	—	—
20 Total cash inflows	93,831	95,186	95,926	98,710	16,424	17,025	17,506	17,386
EU-20a Fully exempt inflows	—	—	—	—	—	—	—	—
EU-20b Inflows subject to 90% cap	—	—	—	—	—	—	—	—
EU-20c Inflows subject to 75% cap	85,218	86,127	85,919	87,067	16,424	17,025	17,506	17,386
21 Liquidity buffer					136,943	137,517	138,355	138,672
22 Total net cash outflows					90,559	89,712	88,473	87,787
23 Liquidity coverage ratio (%)					151	153	156	158

Capital, liquidity and funding

EU LI1: CAP: Accounting and regulatory scopes of consideration

The table below provides a reconciliation between accounting and regulatory consolidation.

	2019				2018			
	Accounting balance sheet £m	Deconsolidation of non-financial entities (1) £m	Consolidation of banking associates (2) £m	Regulatory consolidation £m	Accounting balance sheet £m	Deconsolidation of non-financial entities (1) £m	Consolidation of banking associates (2) £m	Regulatory consolidation £m
Assets								
Cash and balances at central banks	77,858	—	—	77,858	88,897	—	447	89,344
Trading assets	76,745	—	—	76,745	75,119	—	—	75,119
Derivatives	150,029	—	—	150,029	133,349	—	11	133,360
Settlement balances	4,387	—	—	4,387	2,928	—	—	2,928
Loans to banks - amortised cost	10,689	—	—	10,689	12,947	—	—	12,947
Loans to customers - amortised cost	326,947	(9)	—	326,938	305,089	(63)	4,983	310,009
Other financial assets	61,452	(838)	218	60,832	59,485	(346)	1,535	60,674
Intangible assets	6,622	—	—	6,622	6,616	—	—	6,616
Other assets	8,244	348	(213)	8,379	8,401	181	191	8,773
Assets of disposal groups	66	—	—	66	1,404	—	(1,179)	225
	723,039	(499)	5	722,545	694,235	(228)	5,988	699,995
Of which: By significant subsidiary (includes Intra-Group exposures)								
NWH Group	428,371	(390)	—	427,981				
NWM Plc	248,053	—	—	248,053	242,041	—	—	242,041
Liabilities								
Bank deposits	20,493	—	—	20,493	23,297	—	—	23,297
Customer deposits	369,247	296	—	369,543	360,914	14	5,459	366,387
Settlement balances	4,069	—	—	4,069	3,066	—	—	3,066
Trading liabilities	73,949	—	—	73,949	72,350	—	—	72,350
Derivatives	146,879	—	—	146,879	128,897	—	5	128,902
Other financial liabilities	45,220	(673)	—	44,547	39,732	—	208	39,940
Subordinated liabilities	9,979	—	—	9,979	10,535	—	—	10,535
Other liabilities	9,647	(122)	5	9,530	8,953	(242)	316	9,027
Liabilities of disposal groups	—	—	—	—	1	—	—	1
	679,483	(499)	5	678,989	647,745	(228)	5,988	653,505
Of which: by significant subsidiary (includes Intra-Group exposures)								
NWH Group	395,614	(390)	—	395,224				
NWM Plc	238,422	—	—	238,422	233,119	—	—	233,119
Non-controlling interests	9	—	—	9	754	—	—	754
Owners' equity	43,547	—	—	43,547	45,736	—	—	45,736
Total equity	43,556	—	—	43,556	46,490	—	—	46,490
Of which: by significant subsidiary: (includes intra-group exposures)								
NWH Group	32,757	—	—	32,757				
NWM Plc	9,631	—	—	9,631	8,922	—	—	8,922

Notes:

- (1) RBS can only include particular types of subsidiary undertaking in the regulatory consolidation. Non-financial undertakings are excluded from the regulatory consolidation.
- (2) At 16 June 2019, Alawwal and SABB were legally combined as part of a statutory merger. Subsequent to the merger, prudential consolidation ceased to apply.

Capital, liquidity and funding

EU LI2: IRB and STD: Balance sheet to credit risk EAD bridge

The table below provides a bridge between the balance sheet and credit risk EAD by balance sheet caption.

	Balance sheet	Consolidation differences (1)	Regulatory consolidation	Within the scope of market risk (2)	Credit provisions (3)	Netting and collateral (4)	Other regulatory adjustments			Total drawn EAD	Undrawn and off-balance sheet EAD	Total EAD
							Capital deduction (5)	Disposal groups (6)	Methodology differences and reclassifications (7)			
2019	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn
Cash and balances at central banks	77.9	—	77.9	—	—	—	—	—	0.2	78.1	—	78.1
Trading assets	76.7	—	76.7	(30.2)	—	(20.3)	—	—	(20.2)	6.0	—	6.0
Derivatives	150.0	—	150.0	—	0.2	(133.9)	—	—	5.8	22.1	—	22.1
Settlement balances	4.4	—	4.4	—	—	—	—	—	(4.4)	—	—	—
Loans to banks - amortised cost	10.7	—	10.7	(0.3)	—	—	—	—	0.2	10.6	—	10.6
Loans to customers - amortised cost	326.9	—	326.9	—	3.3	(19.9)	—	—	(2.0)	308.2	68.6	376.8
Other financial assets	61.5	(0.6)	60.9	—	—	—	—	—	0.2	61.1	—	61.1
Intangible assets	6.6	—	6.6	—	—	—	(6.6)	—	—	—	—	—
Other assets	8.2	0.1	8.3	—	0.1	—	(1.3)	0.1	2.0	9.2	—	9.2
Assets of disposal groups	0.1	—	0.1	—	—	—	—	(0.1)	—	—	—	—
Total assets	723.0	(0.5)	722.5	(30.5)	3.6	(174.1)	(7.9)	—	(18.2)	495.3	68.6	563.9
Contingent obligations											3.9	3.9
											72.5	567.8

For notes on this table refer to the following page.

Capital, liquidity and funding

EU LI2: IRB and STD: Balance sheet to credit risk EAD bridge continued

	Other regulatory adjustments											
	Balance sheet	Consolidation differences (1)	Regulatory consolidation	Within the scope of market risk (2)	Credit provisions (3)	Netting and collateral (4)	Capital deduction (5)	Disposal groups (6)	Methodology differences and reclassifications (7)	Total drawn EAD	Undrawn and off-balance sheet EAD	Total EAD
2018	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn	£bn
Cash and balances at central banks	88.9	0.4	89.3	—	—	—	—	1.4	—	90.7	—	90.7
Trading assets	75.1	—	75.1	(30.1)	—	(18.2)	—	—	(20.2)	6.6	—	6.6
Derivatives	133.4	—	133.4	—	0.3	(88.7)	—	—	(22.2)	22.8	—	22.8
Settlement balances	2.9	—	2.9	—	—	—	—	—	(2.9)	—	—	—
Loans to banks - amortised cost	12.9	—	12.9	(0.3)	—	—	—	—	(8.3)	4.3	—	4.3
Loans to customers - amortised cost	305.1	4.9	310.0	—	3.2	(19.7)	—	—	9.4	302.9	77.0	379.9
Other financial assets	59.5	1.3	60.8	—	—	—	—	—	(1.8)	59.0	—	59.0
Intangible assets	6.6	—	6.6	—	—	—	(6.6)	—	—	—	—	—
Other assets	8.4	0.4	8.8	—	0.1	—	(0.7)	—	6.2	14.3	—	14.3
Assets of disposal groups	1.4	(1.2)	0.2	—	—	—	—	(1.4)	1.2	—	—	—
Total assets	694.2	5.8	700.0	(30.4)	3.6	(126.6)	(7.3)	—	(38.6)	500.6	77.0	577.7
Contingent obligations											5.7	5.7
											82.7	583.3

Notes:

- (1) Represents proportional consolidation of associates and deconsolidation of certain subsidiaries, as required by regulatory rules.
- (2) The exposures in regulatory trading book businesses are subject to market risk and are therefore excluded from EAD.
- (3) Impairment loss provisions on loans and advances and securities, and credit valuation adjustment on derivatives.
- (4) Includes:
 - a. Reverse repos: reflects regulatory approach for securities financing transactions including netting of collateral and cash legs.
 - b. Loans and advances: cash collateral pledged with counterparties in relation to net derivative liability positions.
 - c. Derivatives: impact of master netting arrangements.
- (5) Capital deductions are excluded as EAD only captures exposures for credit RWAs.
- (6) Amounts reclassified to balance sheet lines for EAD.
- (7) Primarily includes:
 - a. Loans and advances: offset related to cash management pooling arrangements not allowed under IFRS and standardised approach credit risk mitigation.
 - b. Settlement balances: the amount represents instruments pending settlement on which no EAD is calculated.
 - c. Derivatives: EAD valuation adjustments offset by difference between netting arrangements and netting within regulatory netting sets.
 - d. Property, plant and equipment: includes residual value of operating leases.

Capital, liquidity and funding

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

Name of Entity	Method of accounting consolidation	Method of regulatory consolidation	Description of the entity
Alcover A.G.	Full consolidation	Deconsolidated	Insurance undertaking
BGF Group Plc	Equity	Proportional consolidation	Financial institution
CITIC Capital China Mezzanine Fund Ltd	Investment Accounting	Proportional consolidation	Financial institution
Eris Finance S.R.L.	Investment Accounting	Proportional consolidation	Financial institution
Foundation Commercial Property Ltd	Equity	Proportional consolidation	Other / non financial
Galaxy Futures Company Ltd	Equity	Proportional consolidation	Financial institution
Gatehouse Way Developments Ltd	Full consolidation	Deconsolidated	Other / non financial
German Public Sector Finance B.V.	Equity	Proportional consolidation	Financial institution
GWNW City Developments Ltd	Equity	Deconsolidated	Other / non financial
Higher Broughton (GP) Ltd	Equity	Proportional consolidation	Ancillary services undertaking
Higher Broughton Partnership LP	Equity	Deconsolidated	Other / non financial
KUC Properties Ltd	Full consolidation	Deconsolidated	Other / non financial
Land Options (East) Ltd	Equity	Deconsolidated	Other / non financial
Land Options (West) Ltd	Full consolidation	Deconsolidated	Other / non financial
London Rail Leasing Ltd	Equity	Proportional consolidation	Financial institution
Lothbury Insurance Company Ltd	Full consolidation	Deconsolidated	Insurance undertaking
Lunar Funding VIII Ltd	Full consolidation	Deconsolidated	Financial institution
Morar ICC Insurance Ltd	Full consolidation	Deconsolidated	Insurance undertaking
Motability Operations Group Plc	Investment Accounting	Proportional consolidation	Financial institution
National Westminster Properties No. 1 Ltd	Full consolidation	Deconsolidated	Other / non financial
NatWest Property Investments Ltd	Full consolidation	Deconsolidated	Other / non financial
Pharos Estates Ltd	Equity	Deconsolidated	Other / non financial
Priority Sites Investments Ltd	Full consolidation	Deconsolidated	Other / non financial
Priority Sites Ltd	Full consolidation	Deconsolidated	Other / non financial
NatWest Markets Secured Funding (LM) Ltd	Full consolidation	Proportional consolidation	Financial institution
Solar Energy Capital Europe SARL	Equity	Proportional consolidation	Financial institution
The RBS Group Ireland Retirement Savings Trustee Ltd	Full consolidation	Deconsolidated	Other / non financial
Walton Lake Developments Ltd	Full consolidation	Deconsolidated	Other / non financial
West Register (Hotels Number 3) Ltd	Full consolidation	Deconsolidated	Other / non financial
West Register (Property Investments) Ltd	Full consolidation	Deconsolidated	Other / non financial
West Register (Realisations) Ltd	Full consolidation	Deconsolidated	Other / non financial
Wiöniowy Management Sp. Z.o.o.	Equity	Deconsolidated	Other / non financial

Capital, liquidity and funding

TLAC 1: TLAC compositions for G-SIBs

The table below provides a detailed summary for RBS of the composition of total loss-absorbing capacity (TLAC), reflecting RBS's current interpretation of the CRR2 minimum requirement of eligible liabilities (MREL) rules relevant for G-SII's which entered into force on 27 June 2019.

	31 December 2019 £m
Regulatory capital elements of TLAC and adjustments	
1 Common Equity Tier 1 capital (CET1)	29,054
2 Additional Tier 1 capital (AT1) before TLAC adjustments	5,557
3 AT1 ineligible as TLAC as issued out of subsidiaries to third parties	—
4 Other adjustments	—
5 AT1 instruments eligible under the TLAC framework	5,557
6 Tier 2 capital (T2) before TLAC adjustments	6,212
7 Amortised portion of T2 instruments where remaining maturity > 1 year	1,444
8 T2 capital ineligible as TLAC as issued out of subsidiaries to third parties	197
9 Other adjustments to TLAC	1,878
10 T2 instruments eligible under the TLAC framework	5,581
11 TLAC arising from regulatory capital	40,192
Non-regulatory capital elements of TLAC	
12 External TLAC requirements issues directly by the bank and subordinated to exclude liabilities	19,238
13 External TLAC instruments issued directly by the bank which are not subordinated to excluded liabilities but meet all other TLAC term sheet requirements	—
14 Of which: amount eligible as TLAC after application of the caps	—
15 External TLAC instruments issued by funding vehicles prior to 1 January 2022	—
16 Eligible ex ante commitments to recapitalise a G-SIB in resolution	—
17 TLAC arising from non-regulatory capital instruments before adjustments	19,238
Non-regulatory capital elements of TLAC: adjustments	
18 TLAC before deductions	59,430
19 Deductions of exposures between MPE resolution groups that correspond to items eligible for TLAC (not applicable to SPE G-SIBs)	—
20 Deduction of investments in own other TLAC liabilities	—
21 Other adjustments to TLAC (2)	—
22 TLAC after deductions	59,430
Risk-weighted assets and leverage exposure measure for TLAC purposes	
23 Total risk-weighted assets adjusted as permitted under the TLAC regime	179,172
24 Leverage exposure measure	643,874
TLAC ratios and buffers	
25 TLAC (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime) (%)	33.2%
26 TLAC (as a percentage of leverage exposure) (%)	9.2%
27 CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements (%) (3)	5.5
28 Institution - specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus higher loss absorbency requirement, expressed as a percentage of risk-weighted assets)	4.3
29 Of which: capital conservation buffer requirement	2.5
30 Of which: bank specific countercyclical buffer requirement	0.8
31 Of which: higher loss absorbency requirement	1.0

Notes:

(1) RBS will continue to be recognised as a G-SII until 1 January 2020.

(2) In the absence of an industry standard register of MREL instruments, RBS is not aware of any known holdings of other G-SII's MREL instruments. RBS continues to be engaged in industry developments.

(3) CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements is calculated after meeting the minimum capital requirements, demonstrated in Appendix 1 of the RBS H1 2019 Interim Results. Minimum capital requirements include Pillar 1, CCB, CCyB, G-SIB and Pillar 2A buffers.

Capital, liquidity and funding

TLAC 2 : Material subgroup entity - creditor ranking at legal entity level

The table below shows the creditor ranking at legal entity level for the material sub-group entities included within the RBS resolution group, reflecting RBS's current interpretation of the CRR2 MREL rules relevant for G-SII's which entered into force on 27 June 2019. Refer to the NWH Group 2019 Pillar 3 report for information on NWH Group subsidiaries information.

31 December 2019		NWM Plc								
		Creditor ranking								
Description of creditor ranking		Shareholders Equity		Preference Shares & Contingent Capital Notes		Subordinated Debt		Senior Non-Preferential Debt		Total
1	Is the resolution entity the creditor/investor? (yes or no)	Yes	No	Yes	No	Yes	No	Yes	No	
3	Total capital and liabilities	8,728	—	903	—	1,974	560	4,931	—	17,096
4	Subset of row 3 that are excluded liabilities	—	—	—	—	—	—	—	—	—
5	Total capital and liabilities less excluded liabilities (row 3 minus row 4)	8,728	—	903	—	1,974	560	4,931	—	17,096
6	Subset of row 5 that are eligible as TLAC	8,728	—	903	—	1,974	464	4,931	—	17,000
7	Subset of row 6 with 1 year ≤ residual maturity < 2 years	—	—	—	—	—	—	—	—	—
8	Subset of row 6 with 2 years ≤ residual maturity < 5 years	—	—	—	—	295	378	4,931	—	5,604
9	Subset of row 6 with 5 years ≤ residual maturity < 10 years	—	—	—	—	808	—	—	—	808
10	Subset of row 6 with residual maturity ≥ 10 years, but excluded perpetual securities	—	—	—	—	189	—	—	—	189
11	Subset of row 6 that is perpetual securities	8,728	—	903	—	682	86	—	—	10,399

Note:

(1) RBS will continue to be recognised as a G-SII until 1 January 2020.

TLAC 3: Resolution entity – creditor ranking at legal entity level

The table below shows the creditor ranking at the resolution entity level for RBSG plc, reflecting RBS's current interpretation of the CRR2 MREL rules relevant for G-SII's which entered into force on 27 June 2019.

31 December 2019		RBS Group plc				
		Creditor ranking				
2	Description of creditor ranking	Shareholders Equity	Preference Shares & Contingent Capital Notes	Subordinated Debt	Senior unsecured debt and other pari passu liabilities	Total
3	Total capital and liabilities	49,740	4,084	7,321	18,564	79,708
4	Subset of row 3 that are excluded liabilities			2,693	9	2,702
5	Total capital and liabilities less excluded liabilities (row 3 minus row 4)	49,740	4,084	4,627	18,555	77,006
6	Subset of row 5 that are eligible as TLAC	49,740	4,084	4,627	18,555	77,006
7	Subset of row 6 with 1 year ≤ residual maturity < 2 years	—	—	—	—	—
8	Subset of row 6 with 2 years ≤ residual maturity < 5 years	—	—	3,977	8,348	12,325
9	Subset of row 6 with 5 years ≤ residual maturity < 10 years	—	—	568	7,900	8,468
10	Subset of row 6 with residual maturity ≥ 10 years, but excluded perpetual securities	—	—	—	2,308	2,308
11	Subset of row 6 that is perpetual securities	49,740	4,084	82	—	53,906

Note:

(1) RBS will continue to be recognised as a G-SII until 1 January 2020.

Capital, liquidity and funding

KM2: Key metrics – TLAC requirements

The table below provides a summary for RBS of the total loss-absorbing capacity (TLAC) available, reflecting RBS's current interpretation of the CRR2 MREL rules relevant for G-SII's which entered into force on 27 June 2019.

	31 December 2019	30 September 2019	30 June 2019
	£m	£m	£m
1 TLAC available	59,430	61,045	60,146
2 Total RWA at the level of the resolution group	179,172	189,482	188,463
3 TLAC as a percentage of RWA (%)	33.2%	32.2	31.9
4 Leverage ratio exposure measure at the level of the resolution group	643,874	670,059	659,105
5 TLAC as a percentage of leverage exposure measure (%)	9.2%	9.1	9.1
6a Does the subordination exemption in the antepenultimate paragraph of Section 11 of the FSB TLAC term sheet apply	No	No	No
6b Does the subordination exemption in the penultimate paragraph of Section 11 of the FSB TLAC term sheet apply	No	No	No

Note:

(1) RBS will continue to be recognised as a G-SII until 1 January 2020.

Credit risk

Credit risk

EU CRA: IRB and STD: General qualitative information about credit risk

This section details RBS's overall credit risk profile. Further analysis is provided in subsequent sections for credit risk, counterparty credit risk and securitisation credit risk.

The risk profile is analysed by a variety of asset concentrations, credit quality and regulatory RWA treatments, including internal model estimates for probability of default, loss given default and exposure at default.

An overview of these models, as well as the governance process used to develop and review them, and back-testing of model performance, is also presented.

Refer to the Glossary for definitions of terms available on [rbs.com](https://www.rbs.com)

General information about credit risk

Credit risk is the risk of financial loss owing to the failure of a customer or counterparty to meet its obligation to settle outstanding amounts.

RBS is exposed to credit risk as a result of a wide range of business activities. RBS's principal sources of credit risk are lending, off-balance sheet products, derivatives and securities financing and debt securities. RBS is also exposed to settlement risk through foreign exchange, trade finance and payments activities.

The disclosures in this section cover credit risk and counterparty credit risk. When discussed together, they are referred to as total credit risk.

Counterparty credit risk principally comprises exposures arising from derivatives and securities financing transactions. Credit risk excludes such exposures but includes loans and advances to customers, banks and central banks, as well as holdings of debt securities and equity shares.

The two subsequent sections cover credit risk and counterparty credit risk separately. Except where noted, the disclosures in these sections exclude inter-Group exposures. Further detail on securitisation credit risk is provided in the Securitisation section of this document.

Credit risk governance and management

For a description of the main characteristics and elements of credit risk governance and management in RBS as well as additional credit risk disclosures, refer to the Credit risk section of the 2019 RBS Group ARA.

Presentation of data in the Credit risk section

The exposure at default (EAD) figures presented in this document may be either pre or post credit risk mitigation (CRM), and are labelled accordingly.

Credit risk (excluding counterparty credit risk) EAD pre CRM:

- Standardised approach – EAD before legally enforceable netting and financial collateral.
- IRB approach – EAD before legally enforceable netting only.

Credit risk (excluding counterparty credit risk) EAD post CRM:

- Standardised approach – EAD after legally enforceable netting and financial collateral.
- IRB approach – EAD after legally enforceable netting only.

Certain tables exclude inter-Group exposures.

Counterparty credit risk EAD post CRM for derivatives and securities financing transactions, under both the standardised and IRB approaches, is EAD after legally enforceable netting and collateral.

Other items

Non-credit obligation assets that are included in the credit risk tables contain the following categories of exposure:

- Non-credit assets – assets owned by RBS without associated credit risk or uncertainty related to obligor performance affecting their future value. These comprise tangible assets (such as property, plant and equipment), prepayments, accrued income, items in transit and deferred tax assets.
- Consortium investment exposures – exposures arising as a result of equity investments made by RBS in its capacity as a member of a consortium.
- Inter-Group exposures – exposures to RBS entities included in regulatory consolidation, including in the core UK group.

Credit risk

CR1: IRB and STD: RWA density by RBS sector cluster

The table below summarises RBS's total credit risk profile (incorporating counterparty credit risk and securitisations) by customer type. This reflects the basis on which customers are managed internally. Wholesale customers are managed on an individual basis and grouped by sector. Personal customers are managed on a portfolio basis and grouped into portfolios of similar risk. The table presents EAD post CRM, RWAs and RWA density, each split by regulatory approach i.e. IRB and STD.

	EAD post CRM			RWAs			RWA density		
	IRB	STD	Total	IRB	STD	Total	IRB	STD	Total
2019	£m	£m	£m	£m	£m	£m	%	%	%
Sector cluster									
Sovereign									
Central banks	26,889	55,021	81,910	495	317	812	2	1	1
Central governments	21,158	26,475	47,633	2,098	—	2,098	10	—	4
Other sovereign	1,983	606	2,589	392	15	407	20	2	16
Total sovereign	50,030	82,102	132,132	2,985	332	3,317	6	—	3
Financial institutions (FIs)									
Banks	20,675	365	21,040	7,560	184	7,744	37	50	37
Non-bank FIs (1)	34,132	5,454	39,586	13,197	2,711	15,908	39	50	40
SSPEs (2)	8,990	646	9,636	1,658	604	2,262	18	93	23
Total FIs	63,797	6,465	70,262	22,415	3,499	25,914	35	54	37
Corporates									
Property									
- UK	37,756	2,907	40,663	17,609	2,675	20,284	47	92	50
- RoI	1,437	172	1,609	897	171	1,068	62	99	66
- Western Europe	1,775	163	1,938	1,069	153	1,222	60	94	63
- US	242	3	245	108	3	111	45	100	45
- RoW	415	225	640	262	195	457	63	87	71
Total property	41,625	3,470	45,095	19,945	3,197	23,142	48	92	51
Natural resources	14,310	261	14,571	5,956	244	6,200	42	94	43
Transport	16,926	875	17,801	6,943	778	7,721	41	89	43
Manufacturing	15,259	883	16,142	7,055	649	7,704	46	74	48
Retail and leisure	16,898	1,214	18,112	9,146	1,188	10,334	54	98	57
Services	17,988	1,433	19,421	9,345	1,221	10,566	52	85	54
TMT (3)	6,761	315	7,076	4,223	304	4,527	62	96	64
Total corporates	129,767	8,451	138,218	62,613	7,581	70,194	48	90	51
Personal									
Mortgages									
- UK	160,479	10,742	171,221	13,070	3,895	16,965	8	36	10
- RoI	14,050	30	14,080	5,869	13	5,882	42	45	42
- Western Europe	—	250	250	—	93	93	—	37	37
- US	—	255	255	—	94	94	—	37	37
- RoW	—	1,362	1,362	—	491	491	—	36	36
Total mortgages	174,529	12,639	187,168	18,939	4,586	23,525	11	36	13
Other personal	30,573	2,838	33,411	13,997	1,932	15,929	46	68	48
Total personal	205,102	15,477	220,579	32,936	6,518	39,454	16	42	18
Other items	5,331	1,233	6,564	4,100	664	4,764	77	54	73
Total	454,027	113,728	567,755	125,049	18,594	143,643	28	16	25

For the notes to this table refer to the following page.

Credit risk

CR1: IRB and STD: RWA density by RBS sector cluster continued

2018	EAD post CRM			RWAs			RWA density		
	IRB £m	STD £m	Total £m	IRB £m	STD £m	Total £m	IRB %	STD %	Total %
Sector cluster									
Sovereign									
Central banks	28,222	71,431	99,653	865	860	1,725	3	1	2
Central governments	22,937	24,698	47,635	1,971	—	1,971	9	—	4
Other sovereign	2,594	655	3,249	606	148	754	23	23	23
Total sovereign	53,753	96,784	150,537	3,442	1,008	4,450	6	1	3
Financial institutions (FIs)									
Banks	21,075	563	21,638	9,425	274	9,699	45	49	45
Non-bank FIs (1)	32,224	7,303	39,527	12,176	2,870	15,046	38	39	38
SSPEs (2)	9,710	328	10,038	1,847	330	2,177	19	101	22
Total FIs	63,009	8,194	71,203	23,448	3,474	26,922	37	42	38
Corporates									
Property									
- UK	38,061	2,784	40,845	17,603	2,452	20,055	46	88	49
- RoI	1,230	145	1,375	836	143	979	68	99	71
- Western Europe	2,570	157	2,727	1,088	166	1,254	42	105	46
- US	202	1	203	82	1	83	41	100	41
- RoW	365	1,919	2,284	189	1,651	1,840	52	86	81
Total property	42,428	5,006	47,434	19,798	4,413	24,211	47	88	51
Natural resources	13,804	516	14,320	5,920	485	6,405	43	94	45
Transport	15,899	925	16,824	7,158	866	8,024	45	94	48
Manufacturing	15,193	2,105	17,298	7,153	1,895	9,048	47	90	52
Retail and leisure	17,972	2,676	20,648	10,199	2,458	12,657	57	92	61
Services	19,970	1,624	21,594	11,084	1,449	12,533	56	89	58
TMT (3)	6,291	262	6,553	3,820	249	4,069	61	95	62
Total corporates	131,557	13,114	144,671	65,132	11,815	76,947	50	90	53
Personal									
Mortgages									
- UK	150,348	10,365	160,713	11,291	3,791	15,082	8	37	9
- RoI	15,033	54	15,087	7,608	23	7,631	51	42	51
- Western Europe	—	257	257	—	98	98	—	38	38
- US	—	211	211	—	79	79	—	37	37
- RoW	—	1,051	1,051	—	378	378	—	36	36
Total mortgages	165,381	11,938	177,319	18,899	4,369	23,268	11	37	13
Other personal	29,359	3,670	33,029	12,867	2,604	15,471	44	71	47
Total personal	194,740	15,608	210,348	31,766	6,973	38,739	16	45	18
Other items	4,867	1,704	6,571	3,807	598	4,405	78	35	67
Total	447,926	135,404	583,330	127,595	23,868	151,463	28	18	26

Notes:

- (1) Comprises US agencies, insurance companies, pension funds, hedge and leverage funds, broker-dealers and non-bank subsidiaries of banks.
- (2) Securitisation special purpose entities (SSPEs) primarily relate to securitisation-related vehicles.
- (3) Telecommunications, media and technology.

Key points

- EAD post CRM** – Total credit risk exposures decreased during the year primarily due to reductions in Sovereigns and Corporates, which mainly reflected the completion of the merger of Alawwal bank and SABB. There were offsetting increases due to growth in UK Personal Banking.
- RWAs** – The decrease in total RWAs was primarily due to the completion of the merger of Alawwal bank and SABB as well as revisions to LGD models in the corporates portfolio. There were offsetting increases mainly as a result of lending growth in UK Personal Banking
- Corporates** – The EAD and RWA reductions for Retail and Leisure, Property and Manufacturing were primarily due to the completion of the merger of Alawwal bank and SABB. Further decreases were attributed to repayments, reduced limits and model changes in the corporates portfolio.
- Sovereign** – The RWA reduction was mainly due to a decrease in the deferred tax asset RWA threshold during the year and a revision of the treatment of nostro exposures.
- Personal** – The EAD and RWA increases were mainly as a result of lending growth in UK Personal Banking as well as a revision of risk metrics during the year. The offsetting RWA decreases in Republic of Ireland mortgages reflected the effect of PD calibration and the sale of a portfolio of non-performing mortgages.

Credit risk

CR2: IRB and STD: EAD, RWAs and MCR by CRR exposure class: RBS and significant subsidiaries

The table below shows credit risk (including securitisations) and counterparty credit risk separately for RBS and significant subsidiaries (including inter-Group exposures). It presents EAD pre and post CRM, RWAs and MCR, split by regulatory approach and exposure class.

	RBS				NWH Group				NWM Plc			
	EAD pre CRM	EAD post CRM	RWAs	MCR	EAD pre CRM	EAD post CRM	RWAs	MCR	EAD pre CRM	EAD post CRM	RWAs	MCR
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB												
2019												
Credit risk												
Central governments and central banks	52,839	52,712	2,987	239	34,581	34,522	2,353	188	10,791	10,790	535	43
Institutions	11,716	9,753	2,410	193	8,261	6,299	1,582	127	332	332	171	14
Corporates	140,230	130,448	61,208	4,897	113,640	103,882	52,011	4,161	9,322	9,319	3,541	283
Specialised lending	16,772	16,702	11,178	894	13,931	13,862	9,426	754	330	330	189	15
SME	20,800	20,368	8,762	701	20,451	20,021	8,570	686	3	3	—	—
Other corporate	102,658	93,378	41,268	3,302	79,258	69,999	34,015	2,721	8,989	8,986	3,352	268
Retail	215,130	215,130	37,150	2,972	215,130	215,130	37,150	2,972	—	—	—	—
Secured by real estate property - SME	1,291	1,291	523	42	1,291	1,291	523	42	—	—	—	—
- non-SME	174,529	174,529	18,939	1,516	174,529	174,529	18,939	1,516	—	—	—	—
Qualifying revolving	23,138	23,138	5,991	479	23,138	23,138	5,991	479	—	—	—	—
Other retail - SME	8,940	8,940	3,856	308	8,940	8,940	3,856	308	—	—	—	—
- non-SME	7,232	7,232	7,841	627	7,232	7,232	7,841	627	—	—	—	—
Equities	1,366	1,366	2,613	209	—	—	—	—	612	612	946	75
Securitisation	13,833	13,833	2,379	190	7,329	7,329	1,509	121	6,500	6,500	846	68
Non-credit obligation assets	6,204	6,204	4,365	349	5,847	5,847	4,152	332	139	139	139	11
Total IRB	441,318	429,446	113,112	9,049	384,788	373,009	98,757	7,901	27,696	27,692	6,178	494
STD												
Central governments and central banks	81,335	81,339	323	26	63,983	63,983	1,193	95	5,891	5,894	—	—
Regional governments and local authorities	20	20	6	—	20	20	5	—	—	—	—	—
Multilateral development banks	—	—	—	—	—	—	—	—	—	—	—	—
Institutions	307	353	85	7	653	653	236	19	5,688	5,688	948	76
Corporates	8,747	8,212	7,691	615	7,567	7,230	6,928	554	1,238	1,184	685	55
Retail	2,445	2,380	1,433	115	2,332	2,276	1,356	109	—	—	—	—
Secured by mortgages on immovable property - residential	13,507	13,507	4,849	388	10,909	10,909	3,942	315	—	—	—	—
- commercial	697	678	692	55	681	663	677	54	—	—	—	—
Exposures in default	468	406	489	39	303	302	359	29	1	1	2	—
Items associated with particularly high risk	—	—	—	—	—	—	—	—	—	—	—	—
Covered bonds	—	—	—	—	—	—	—	—	—	—	—	—
Equity exposures	671	671	1,619	130	25	25	27	2	810	810	2,010	161
Other exposures	1,345	1,345	713	57	1,123	1,123	500	40	11	11	2	—
Total STD	109,542	108,911	17,900	1,432	87,596	87,184	15,223	1,217	13,639	13,588	3,647	292
Total IRB and STD	550,860	538,357	131,012	10,481	472,384	460,193	113,980	9,118	41,335	41,280	9,825	786

Credit risk

CR2: IRB and STD: EAD, RWAs and MCR by CRR exposure class: RBS and significant subsidiaries continued

	RBS				NWM Plc			
	EAD pre	EAD post	RWAs	MCR	EAD pre	EAD post	RWAs	MCR
	CRM	CRM			CRM	CRM		
	£m	£m	£m	£m	£m	£m	£m	£m
IRB								
2018								
Credit risk								
Central governments and central banks	54,519	54,450	3,203	256	15,227	15,227	772	62
Institutions	12,577	10,790	3,374	270	1,651	1,651	737	59
Corporates	142,127	132,335	63,843	5,108	9,757	9,635	2,577	206
<i>Specialised lending</i>	18,282	18,059	11,808	945	1,070	999	284	23
<i>SME</i>	21,633	21,012	10,616	849	58	12	1	—
<i>Other corporate</i>	102,212	93,264	41,419	3,314	8,629	8,624	2,292	183
Retail	204,979	204,979	35,988	2,879	—	—	—	—
<i>Secured by real estate property - SME</i>	1,359	1,359	508	41	—	—	—	—
<i>- non-SME</i>	165,381	165,381	18,902	1,512	—	—	—	—
<i>Qualifying revolving</i>	22,634	22,634	5,912	473	—	—	—	—
<i>Other retail - SME</i>	9,118	9,118	3,923	314	—	—	—	—
<i>- non-SME</i>	6,487	6,487	6,743	539	—	—	—	—
Equities	722	722	1,590	127	159	159	468	37
Securitisation	14,141	14,141	2,543	203	6,483	6,483	963	77
Non-credit obligation assets	5,779	5,779	4,080	327	148	148	126	10
Total IRB	434,844	423,196	114,621	9,170	33,425	33,303	5,643	451
STD								
Central governments and central banks	95,657	95,595	866	69	3,499	3,499	—	—
Regional governments and local authorities	155	155	138	11	—	—	—	—
Multilateral development banks	31	31	—	—	—	—	—	—
Institutions	471	510	221	18	9,183	9,183	498	40
Corporates	11,047	10,433	9,588	768	1,816	1,706	879	70
Retail	2,859	2,836	1,830	146	—	—	—	—
<i>Secured by mortgages on immovable property - residential</i>	12,840	12,840	4,606	368	—	—	—	—
<i>- commercial</i>	2,909	2,885	2,884	231	—	—	—	—
Exposures in default	555	554	680	54	5	5	7	1
Items associated with particularly high risk	28	28	42	3	28	28	42	3
Covered bonds	137	137	27	2	—	—	—	—
Equity exposures	705	705	1,533	123	792	792	2,165	174
Other exposures	2,057	2,057	788	63	—	—	—	—
Total STD	129,451	128,766	23,203	1,856	15,323	15,213	3,591	288
Total IRB and STD	564,295	551,962	137,824	11,026	48,748	48,516	9,234	739

Credit risk

CR2: IRB and STD: EAD, RWAs and MCR by CRR exposure class: RBS and significant subsidiaries continued

	RBS			NWH Group			NWM Plc		
	EAD post	RWAs	MCR	EAD post	RWAs	MCR	EAD post	RWAs	MCR
	CRM			CRM			CRM		
	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB									
2019									
Counterparty credit risk									
Central governments and central banks	1,322	475	38	209	3	—	1,039	198	16
Institutions	6,915	4,649	372	265	94	8	6,203	4,205	336
Corporates	15,599	6,326	506	479	120	9	12,986	5,632	451
<i>Specialised lending</i>	868	638	51	28	19	2	793	586	47
<i>SME</i>	81	42	3	1	1	—	79	41	3
<i>Other corporate</i>	14,650	5,646	452	450	100	7	12,114	5,005	401
Securitisation positions	745	487	39	—	—	—	613	319	26
Total IRB	24,581	11,937	955	953	217	17	20,841	10,354	829
STD									
Central governments and central banks	724	—	—	332	—	—	392	—	—
Regional governments and local authorities	20	2	—	—	—	—	8	2	—
Institutions	3,585	300	24	1,174	528	42	5,417	329	26
Corporates	488	392	32	132	235	19	653	375	30
Total STD	4,817	694	56	1,638	763	61	6,470	706	56
Total IRB and STD	29,398	12,631	1,011	2,591	980	78	27,311	11,060	885

Credit risk

CR2: IRB and STD: EAD, RWAs and MCR by CRR exposure class: RBS and significant subsidiaries continued

	RBS			NWM Plc		
	EAD post	RWAs	MCR	EAD post	RWAs	MCR
	CRM			CRM		
	£m	£m	£m	£m	£m	£m
IRB						
2018						
Counterparty credit risk						
Central governments and central banks	1,454	304	24	1,291	299	24
Institutions	8,138	5,941	476	7,456	5,740	459
Corporates	14,361	6,302	504	13,318	6,120	490
<i>Specialised lending</i>	965	729	58	891	675	54
<i>SME</i>	102	56	5	101	55	4
<i>Other corporate</i>	13,294	5,517	441	12,326	5,390	432
Securitisation positions	777	427	34	627	286	23
Total IRB	24,730	12,974	1,038	22,692	12,445	996
STD						
Central governments and central banks	1,019	—	—	496	—	—
Regional governments and local authorities	15	3	—	15	3	—
Institutions	5,322	419	34	6,111	490	39
Corporates	275	238	19	578	347	28
Retail	7	5	—	—	—	—
Total STD	6,638	665	53	7,200	840	67
Total IRB and STD	31,368	13,639	1,091	29,892	13,285	1,063

Key points

Credit risk and counterparty credit risk

NWM Plc

- The overall decrease in EAD post CRM reflected movements in credit risk exposures during the year, mainly driven by a reduction in inter-Group exposures and a decrease in exposures to central governments and central banks. There were offsetting increases attributed to asset transfers from NatWest Bank Plc.
- The increase in IRB equity under credit risk primarily related to the transfer of the SABB shareholding from NWM N.V..

Credit risk

CR3: IRB and STD: EAD, RWAs and MCR by CRR exposure class: RBS segments

The table below shows credit risk (including securitisations) and counterparty credit risk separately for RBS and its segments. It presents EAD post CRM and RWAs, analysed by regulatory approach and exposure class. RBS allocates all central costs relating to services and functions to the business using appropriate drivers. These are reported as indirect costs in the segmental income statements. The assets (and RWAs) held centrally, mainly relating to Treasury, are allocated to the business using appropriate drivers.

	UK Personal Banking		Ulster Bank Rol		Commercial Banking		Private Banking		RBS International		NatWest Markets		Central items & other		Total	
	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m
IRB																
2019																
Credit risk																
Central governments and central banks	17,167	387	5,591	677	11,271	799	—	—	4,325	47	14,033	731	325	346	52,712	2,987
Institutions	2,920	262	410	161	2,883	829	—	—	1,508	362	1,977	564	55	232	9,753	2,410
Corporates	647	135	5,352	3,429	98,125	48,476	—	—	13,965	3,840	12,347	5,227	12	101	130,448	61,208
<i>Specialised lending</i>	1	—	1,121	780	12,746	8,646	—	—	2,361	1,459	473	293	—	—	16,702	11,178
<i>SME</i>	78	40	1,320	751	18,621	7,730	—	—	344	196	3	11	2	34	20,368	8,762
<i>Other corporate</i>	568	95	2,911	1,898	66,758	32,100	—	—	11,260	2,185	11,871	4,923	10	67	93,378	41,268
Retail	189,980	26,345	15,107	6,502	10,043	4,303	—	—	—	—	—	—	—	—	215,130	37,150
<i>Secured by real estate property - SME</i>	—	—	—	—	1,291	523	—	—	—	—	—	—	—	—	1,291	523
<i>- non-SME</i>	160,479	13,070	14,050	5,869	—	—	—	—	—	—	—	—	—	—	174,529	18,939
<i>Qualifying revolving</i>	22,809	5,828	328	163	1	—	—	—	—	—	—	—	—	—	23,138	5,991
<i>Other retail - SME</i>	30	11	537	316	8,373	3,529	—	—	—	—	—	—	—	—	8,940	3,856
<i>- non-SME</i>	6,662	7,436	192	154	378	251	—	—	—	—	—	—	—	—	7,232	7,841
Equities ⁽¹⁾	443	369	3	74	279	708	—	—	5	40	628	1,092	8	330	1,366	2,613
Securitisation	873	29	5	5	6,426	1,438	—	—	7	3	6,505	878	17	26	13,833	2,379
Non-credit obligation assets	2,680	1,906	711	258	2,338	1,770	—	—	164	113	309	298	2	20	6,204	4,365
Total IRB	214,710	29,433	27,179	11,106	131,365	58,323	—	—	19,974	4,405	35,799	8,790	419	1,055	429,446	113,112

Note:

(1) Represents equity warrants held by RBS, granting it the option to purchase shares in corporate entities. For accounting purposes, the warrants are treated as over-the-counter derivatives and are reported under counterparty credit risk in regulatory disclosures.

Credit risk

CR3: IRB and STD: EAD, RWAs and MCR by CRR exposure class: RBS segments continued

	UK Personal Banking		Ulster Bank Rol		Commercial Banking		Private Banking		RBS International		NatWest Markets		Central items & other		Total	
	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
STD																
2019																
Credit risk																
Central governments and central banks	35,958	53	207	11	21,910	109	4,552	65	12,014	5	6,014	15	684	65	81,339	323
Regional governments and local authorities	—	—	1	1	18	4	—	—	1	1	—	—	—	—	20	6
Institutions	68	4	—	1	44	8	84	20	27	6	129	41	1	5	353	85
Corporates	4	5	615	598	2,857	2,715	3,688	3,564	140	140	908	669	—	—	8,212	7,691
Retail	59	42	13	8	1,262	754	943	552	103	77	—	—	—	—	2,380	1,433
Secured by mortgages on immovable property																
- residential	52	18	81	81	115	115	10,661	3,728	2,597	907	1	—	—	—	13,507	4,849
- commercial	—	—	33	33	478	493	152	150	7	8	8	8	—	—	678	692
Exposures in default	17	25	19	24	74	111	193	200	103	128	—	1	—	—	406	489
Equity exposures	355	268	2	53	241	531	48	329	3	27	15	88	7	323	671	1,619
Other exposures	777	227	36	22	248	182	273	274	—	—	11	3	—	5	1,345	713
Total STD	37,290	642	1,007	832	27,247	5,022	20,594	8,882	14,995	1,299	7,086	825	692	398	108,911	17,900
Total IRB and STD	252,000	30,075	28,186	11,938	158,612	63,345	20,594	8,882	34,969	5,704	42,885	9,615	1,111	1,453	538,357	131,012

	UK Personal Banking		Ulster Bank Rol		Commercial Banking		Private Banking		RBS International		NatWest Markets		Central items & other		Total	
	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB																
2019																
Counterparty credit risk																
Central governments and central banks	129	1	—	—	81	2	—	—	—	—	1,112	472	—	—	1,322	475
Institutions	161	32	2	1	102	61	—	—	—	—	6,650	4,555	—	—	6,915	4,649
Corporates	277	35	27	19	174	67	—	—	—	—	15,121	6,205	—	—	15,599	6,326
<i>Specialised lending</i>	6	3	16	12	4	5	—	—	—	—	842	618	—	—	868	638
<i>SME</i>	—	—	1	1	—	—	—	—	—	—	80	41	—	—	81	42
<i>Other corporate</i>	271	32	10	6	170	62	—	—	—	—	14,199	5,546	—	—	14,650	5,646
Securitisation positions	—	—	—	—	—	—	—	—	—	—	745	487	—	—	745	487
Total IRB	567	68	29	20	357	130	—	—	—	—	23,628	11,719	—	—	24,581	11,937
STD																
Government and multilateral institutions (1)	187	—	—	—	118	—	27	—	—	—	392	—	—	—	724	—
Exposures to international organisations	—	—	—	—	—	—	—	—	—	—	20	2	—	—	20	2
Institutions	568	41	—	—	357	78	81	29	21	4	2,558	148	—	—	3,585	300
Corporates	—	—	—	—	—	—	34	35	14	15	440	342	—	—	488	392
Total STD	755	41	—	—	475	78	142	64	35	19	3,410	492	—	—	4,817	694
Total IRB and STD	1,322	109	29	20	832	208	142	64	35	19	27,038	12,211	—	—	29,398	12,631

Note:

(1) Comprises central governments or central banks, regional governments or local authorities, administrative bodies and non-commercial undertakings, and multilateral development banks.

Credit risk

CR3: IRB and STD: EAD, RWAs and MCR by CRR exposure class: RBS segments continued

	UK Personal Banking		Ulster Bank Rol		Commercial Banking		Private Banking		RBS International		NatWest Markets		Central items & other		Total	
	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m
IRB																
2018*																
Credit risk																
Central governments and central banks	15,271	548	5,768	580	9,666	907	—	—	6,102	143	17,563	1,000	80	25	54,450	3,203
Institutions	2,957	504	943	286	4,195	1,543	—	—	948	262	1,731	756	16	23	10,790	3,374
Corporates	388	123	5,011	3,237	102,605	53,316	—	—	14,101	4,164	10,228	2,999	2	4	132,335	63,843
<i>Specialised lending</i>	2	2	1,099	791	13,452	9,247	—	—	2,517	1,494	989	274	—	—	18,059	11,808
<i>SME</i>	7	1	1,152	551	19,550	9,857	—	—	291	206	12	1	—	—	21,012	10,616
<i>Other corporate</i>	379	120	2,760	1,895	69,603	34,212	—	—	11,293	2,464	9,227	2,724	2	4	93,264	41,419
Retail	174,585	22,871	16,184	8,342	14,193	4,766	—	—	—	—	17	9	—	—	204,979	35,988
<i>Secured by real estate property - SME</i>	34	19	—	—	1,325	489	—	—	—	—	—	—	—	—	1,359	508
<i>- non-SME</i>	147,057	11,089	15,033	7,608	3,291	205	—	—	—	—	—	—	—	—	165,381	18,902
<i>Qualifying revolving</i>	21,791	5,561	355	249	488	102	—	—	—	—	—	—	—	—	22,634	5,912
<i>Other retail - SME</i>	0	0	594	334	8,513	3,582	—	—	—	—	11	7	—	—	9,118	3,923
<i>- non-SME</i>	5,702	6,202	202	151	577	388	—	—	—	—	6	2	—	—	6,487	6,743
Equities (1)	95	162	7	32	580	1,257	—	—	10	22	29	110	1	7	722	1,590
Securitisation	958	48	67	10	6,400	1,465	—	—	79	5	6,632	1,013	5	2	14,141	2,543
Non-credit obligation assets	2,331	1,588	569	320	2,446	1,805	—	—	131	73	301	290	1	4	5,779	4,080
Total IRB	196,585	25,844	28,549	12,807	140,085	65,059	—	—	21,371	4,669	36,501	6,177	105	65	423,196	114,621

*2018 comparatives have been restated to reflect the transfer of Business Banking from UK Personal and Business Banking to Commercial Banking.

Note:

(1) Represents equity warrants held by RBS, granting it the option to purchase shares in corporate entities. For accounting purposes, the warrants are treated as over-the-counter derivatives and are reported under counterparty credit risk in regulatory disclosures.

Credit risk

CR3: IRB and STD: EAD, RWAs and MCR by CRR exposure class: RBS segments continued

	UK Personal Banking		Ulster Bank Rol		Commercial Banking		Private Banking		RBS International		NatWest Markets		Central items & other		Total	
	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m	EAD post CRM £m	RWAs £m
STD																
2018*																
Credit risk																
Central governments and central banks	40,427	213	2,645	43	23,754	334	4,424	160	13,423	20	10,709	84	213	12	95,595	866
Regional governments and local authorities	2	—	2	2	14	3	—	—	137	133	—	—	—	—	155	138
Multilateral development banks	—	—	—	—	—	—	—	—	—	—	31	—	—	—	31	—
Institutions	20	3	1	1	16	6	64	14	11	2	398	195	—	—	510	221
Corporates	34	13	684	661	2,450	2,379	1,192	1,036	193	190	5,880	5,309	—	—	10,433	9,588
Retail	63	45	15	8	1,165	705	855	519	100	75	638	478	—	—	2,836	1,830
Secured by mortgages on immovable property																
- residential	69	24	87	87	102	95	9,943	3,479	2,638	921	1	—	—	—	12,840	4,606
- commercial	4	2	8	8	451	468	2,393	2,379	28	26	1	1	—	—	2,885	2,884
Exposures in default	17	24	11	16	117	175	223	230	78	88	108	147	—	—	554	680
Items associated with particularly high risk	—	—	—	—	—	—	—	—	—	—	28	42	—	—	28	42
Covered bonds	67	7	5	1	41	10	8	5	6	1	10	3	—	—	137	27
Equity exposures	275	340	19	69	187	547	32	257	23	32	167	268	2	20	705	1,533
Other exposures	1,123	187	42	17	434	211	233	230	1	—	224	143	—	—	2,057	788
Total STD	42,101	858	3,519	913	28,731	4,933	19,367	8,309	16,638	1,488	18,195	6,670	215	32	128,766	23,203
Total IRB and STD	238,686	26,702	32,068	13,720	168,816	69,992	19,367	8,309	38,009	6,157	54,696	12,847	320	97	551,962	137,824

*2018 comparatives have been restated to reflect the transfer of Business Banking from UK Personal and Business Banking to Commercial Banking.

Credit risk

CR3: IRB and STD: EAD, RWAs and MCR by CRR exposure class: RBS segments continued

	UK Personal Banking		Ulster Bank Rol		Commercial Banking		Private Banking		RBS International		NatWest Markets		Central items & other		Total	
	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs	EAD post CRM	RWAs
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB																
2018																
Counterparty credit risk																
Central governments and central banks	—	—	—	—	—	—	—	—	—	—	1,454	304	—	—	1,454	304
Institutions	—	—	2	1	—	—	—	—	—	—	8,136	5,940	—	—	8,138	5,941
Corporates	—	—	47	36	—	—	—	—	—	—	14,314	6,266	—	—	14,361	6,302
<i>Specialised lending</i>	—	—	35	27	—	—	—	—	—	—	930	702	—	—	965	729
<i>SME</i>	—	—	1	1	—	—	—	—	—	—	101	55	—	—	102	56
<i>Other corporate</i>	—	—	11	8	—	—	—	—	—	—	13,283	5,509	—	—	13,294	5,517
Securitisation positions	—	—	—	—	—	—	—	—	—	—	777	427	—	—	777	427
Total IRB	—	—	49	37	—	—	—	—	—	—	24,681	12,937	—	—	24,730	12,974
STD																
Government and multilateral institutions (1)	—	—	—	—	—	—	—	—	—	—	1,019	—	—	—	1,019	—
Exposures to international organisations	—	—	—	—	—	—	—	—	—	—	15	3	—	—	15	3
Institutions	—	—	—	—	—	—	—	—	—	—	5,322	419	—	—	5,322	419
Corporates	—	—	—	—	—	—	36	36	14	14	225	188	—	—	275	238
Retail	—	—	—	—	—	—	7	5	—	—	—	—	—	—	7	5
Total STD	—	—	—	—	—	—	43	41	14	14	6,581	610	—	—	6,638	665
Total IRB and STD	—	—	49	37	—	—	43	41	14	14	31,262	13,547	—	—	31,368	13,639

Note:

(1) Comprises: central governments or central banks, regional governments or local authorities, administrative bodies and non-commercial undertakings, and multilateral development banks.

Key points

Credit risk

- **UK Personal Banking** – The increase in EAD and RWAs was mainly due to lending growth within the mortgage and unsecured personal credit portfolios.
- **Ulster Bank Rol** – EAD post CRM decreased, largely due to reductions in the UBI DAC mortgage portfolio. Larger movements in RWAs were mainly attributed to PD and LGD updates including decreases due to PD calibration for mortgages.
- **Private Banking** – The increase in EAD and RWAs reflected lending growth during the year.
- **Commercial Banking** – The decrease in RWAs was largely driven by revisions to LGD models in the corporates portfolio, active capital management and asset transfers to NatWest Markets.

- **RBS International** – The decrease in EAD and RWAs was primarily due to a revision of the treatment of nostro exposures.
- **NatWest Markets** – The EAD post CRM decrease was primarily attributed to the completion of the merger of Alawwal bank and SABB and partly due to reductions in exposures to central governments and central banks. The increase in RWAs was largely driven by new lending facilities and asset transfers from Commercial Banking.

Counterparty credit risk

- **NatWest Markets** – The decrease in EAD post CRM and RWAs was mainly attributed to reductions relating to derivatives exposures as well as credit valuation adjustments.

Credit risk

EU CRE_1: IRB Models: Credit RWA calculation approach by exposure class

There are three approaches available to calculate RWAs. These are:

- Standardised approach.
- Foundation internal ratings based (FIRB) approach.
- Advanced internal ratings based (AIRB) approach.

The CRR establishes the standardised approach as the method for banks to calculate RWAs for credit and counterparty credit risk.

To use the more complex FIRB or AIRB approaches, banks must gain regulatory permission. RBS has been granted permission by the PRA and other European regulators to use the AIRB approach to calculate RWAs for the majority of its credit and counterparty credit risk exposures.

RBS does not use the FIRB approach. Therefore, in these disclosures, IRB refers to the AIRB approach.

The IRB permission allows RBS to use own estimates for the following inputs to the regulatory formula used to calculate RWAs:

- PD and LGD for credit risk and counterparty credit risk.
- EAD for credit risk.

EAD for counterparty credit risk is estimated in accordance with RBS's internal model method permission – refer to page 63.

In the case of specialised lending to project finance and income-producing real estate customers, the IRB supervisory slotting methodology is used to calculate RWAs.

RBS uses the standardised approach for certain portfolios:

- On a permanent basis: for low default/data portfolios where modelling is not suitable and for immaterial/run-off portfolios.
- On a transitional basis: pending an application by RBS to its regulators to transition to the IRB approach in accordance with its strategy. In addition, the CRR also contains specific discretions for regulators to permit the use of the standardised approach on a permanent basis. RBS has these permissions for areas such as UK sovereign exposures and inter-Group exposures.

Credit risk

EU CRE_1: IRB models: Credit RWA calculation approach by exposure class

The table below shows total credit risk EAD and RWAs (including counterparty credit risk) under both IRB and STD approaches, on an IRB exposure class basis, as well as the percentage split between the two approaches.

Exposure class	EAD post CRM							RWAs						
	Total credit and counterparty credit risk £m	STD						Total credit and counterparty credit risk £m	STD					
		AIRB	Permanent portfolios		Portfolios subject to an IRB rollout plan		AIRB		Permanent portfolios		Portfolios subject to an IRB rollout plan			
			% of total	% of total	% of total	% of total			% of total	% of total	% of total	% of total		
2019														
Central governments and central banks	136,049	40	54,034	60	82,015	—	—	3,779	92	3,462	8	317	—	—
Institutions	20,605	81	16,668	19	3,937	—	—	7,410	95	7,059	5	351	—	—
Corporates	155,616	94	146,047	6	9,569	—	—	76,514	88	67,534	12	8,980	—	—
Specialised lending	19,426	90	17,570	10	1,856	—	—	13,672	86	11,816	14	1,856	—	—
SME	21,979	93	20,449	7	1,530	—	—	10,164	87	8,804	13	1,360	—	—
Other	114,211	95	108,028	5	6,183	—	—	52,678	89	46,914	11	5,764	—	—
Retail	231,304	93	215,130	7	16,174	—	—	43,744	85	37,150	15	6,594	—	—
Secured by real estate property - SME	1,385	93	1,291	7	94	—	—	555	94	523	6	32	—	—
- non-SME	188,270	93	174,529	7	13,741	—	—	24,061	79	18,939	21	5,122	—	—
Qualifying revolving	23,311	99	23,138	1	173	—	—	6,130	98	5,991	2	139	—	—
Other retail - SME	10,014	89	8,940	11	1,074	—	—	4,504	86	3,856	14	648	—	—
- Non-SME	8,324	87	7,232	13	1,092	—	—	8,494	92	7,841	8	653	—	—
Equities	2,037	67	1,366	33	671	—	—	4,232	62	2,613	38	1,619	—	—
Non-credit obligation assets	7,557	82	6,204	18	1,353	—	—	5,080	86	4,365	14	715	—	—
Total	553,168	79	439,449	21	113,719	—	—	140,759	87	122,183	13	18,576	—	—

Credit risk

EU CRE_1: IRB models: Credit RWA calculation approach by exposure class continued

Exposure class	EAD post CRM							RWAs						
	Total credit and counterparty credit risk £m	STD						Total credit and counterparty credit risk £m	STD					
		AIRB	Permanent portfolios		Portfolios subject to an IRB rollout plan		AIRB		Permanent portfolios		Portfolios subject to an IRB rollout plan			
			% of total	% of total	% of total	% of total			% of total	% of total	% of total			
2018														
Central governments and central banks	152,499	37	55,905	63	96,594	—	—	4,367	80	3,507	20	860	—	—
Institutions	24,913	76	18,928	24	5,985	—	—	10,075	92	9,315	8	760	—	—
Corporates	160,913	91	146,695	9	14,218	—	—	83,453	84	70,146	16	13,307	—	—
Specialised lending	19,116	100	19,023	—	93	—	—	12,630	99	12,537	1	93	—	—
SME	22,031	96	21,114	4	917	—	—	11,376	94	10,672	6	704	—	—
Other	119,766	89	106,558	11	13,208	—	—	59,447	79	46,937	21	12,510	—	—
Retail	220,813	93	204,979	7	15,834	—	—	42,604	84	35,987	16	6,617	—	—
Secured by real estate property - SME	1,420	96	1,359	4	61	—	—	525	97	508	3	17	—	—
- non-SME	178,301	93	165,381	7	12,920	—	—	23,630	80	18,901	20	4,729	—	—
Qualifying revolving	22,807	99	22,634	1	173	—	—	6,051	98	5,912	2	139	—	—
Other retail														
Other retail - SME	10,129	90	9,118	10	1,011	—	—	4,523	87	3,923	13	600	—	—
- Non-SME	8,156	80	6,487	20	1,669	—	—	7,875	86	6,743	14	1,132	—	—
Equities	1,427	51	722	49	705	—	—	3,123	51	1,590	49	1,533	—	—
Non-credit obligation assets	7,846	74	5,779	26	2,067	—	—	4,870	84	4,080	16	790	—	—
Total	568,411	76	433,008	24	135,403	—	—	148,492	84	124,625	16	23,867	—	—

Credit risk

EU CRE: Qualitative disclosures relating to IRB models (credit and counterparty risk)

Advanced IRB models

RBS uses credit risk models not only to calculate RWAs under the IRB approach but also to support risk assessments in the credit approval process as well as ongoing credit risk management, monitoring and reporting.

RBS develops credit risk models for both Retail and Wholesale customers. Retail models are automated and applied across a portfolio of products. Wholesale models generally rely on the input of customer data as part of the credit risk management process – usually at the time of the customer's annual review – and permit the use of expert judgement overrides, which are subject to Credit Risk approval.

Retail IRB models

Table EU CRE_2a presents an overview of the Retail IRB models used to calculate RWAs for UK and Republic of Ireland Retail customers and small business brands. Most Retail models are statistical models developed using logistic or linear regression techniques.

Probability of default/customer credit grade models

- PD models assess the probability that a customer will fail to honour their credit obligations in the next 12 months.
- RBS assigns a score to each customer account and this is used across the businesses to support decision-making and portfolio management. This score is used as an input into the PD model.
- Retail PD models are point-in-time by design, meaning they predict the probability of default under current economic conditions. They are typically developed applying logistic regression techniques using a range of customer and account data across portfolios, as well as data from credit bureaux.
- Different models are developed for different product types, with further distinctions based on other criteria such as whether a customer also has a current account with RBS. All Retail PD models produce both a best estimate measure, used for portfolio reporting and forecasting, and a downturn estimate, which is an input to RWA calculations. The downturn estimate is designed to consider normal volatility in actual default rates and is floored at 0.03%, as mandated by regulation.
- To ensure that the Retail PD models remain point-in-time, they are calibrated regularly using observed default data covering the most recent performance period for the underlying portfolio.
- All Retail PD models are regularly monitored for accuracy, discrimination and stability.

Loss given default models

- LGD models estimate the amount of exposure that will not be recovered by RBS in the event of customer default.
- These models are developed by product type using internal loss data reflecting the collections and recoveries processes. They use a combination of borrower and facility characteristics and take account of credit risk mitigants, including collateral.
- As LGD represents economic loss, the estimate also incorporates the cost of collections and the impact of discounting to account for delays in recovery. In accordance with regulatory requirements, the estimates are calibrated to reflect loss rates expected during an economic downturn.

Exposure at default models

- EAD models estimate the utilisation of a credit facility at the time of a customer's default, recognising that further drawings on unused credit facilities may be made prior to default.
- Historical data on limit utilisation, in the period prior to customer default, is used for estimation and calibration. EAD for revolving products (for example credit cards and current accounts) has a more material anticipation of further drawings.
- As required by regulation, EAD estimates are set to be no lower than the current balance and reflect economic downturn conditions.

Credit risk

EU CRE_2a: Overview of Retail IRB models

Portfolio	RWAs (£m)	Model type	Number of models	IRB exposure class	IRB model segmentation	Model characteristics
Mortgages	18,939	PD	4	Retail – Secured by real estate	Separate models are in place for the United Kingdom and Republic of Ireland. Within the United Kingdom, there are separate models for standard and non-standard products.	Key United Kingdom model drivers include the internal behaviour score of the related current account and loan-to-value (LTV).
		LGD	2	SME Retail – Secured by real estate		For United Kingdom portfolios, LGD is estimated by modelling the probability of possession given default and shortfall given repossession, using key drivers such as LTV. Regulatory floors are applied at the appropriate level.
		EAD	3	non-SME		EAD estimate is determined by account limit.
Personal unsecured loans and current accounts	10,201	PD	3	Retail – Other non-SME	Product level PD and EAD models are in place, with loans common across all regions and current account models split combined across the United Kingdom and Republic of Ireland. LGD models are combined across products and split across the United Kingdom and Republic of Ireland.	Model estimates are mainly based on internal behavioural data, with some also using external credit bureau data.
		LGD	2			Models estimate the probability of loss on a defaulted account, which is converted into an LGD estimate.
		EAD	2	Retail – Qualifying revolving		Current accounts: A combination of linear regression and average models have been developed using internal data, such as account limit and balance. Loans: EAD estimate is determined by account limit.
Small business loans and current accounts	4,277	PD	2	Retail – Other SME	For PD and EAD, separate models are in place for loans and current accounts, common across all regions. LGD models are split across the United Kingdom and Republic of Ireland.	Model estimates are mainly based on internal behaviour score.
		LGD	2			For unsecured lending the models estimate the probability of loss on a defaulted account which is converted into an LGD estimate. For secured lending the LGD model estimates are based on the estimated recoveries from the liquidation of collateral. Regulatory floors are applied depending on the type of security.
		EAD	2			Current accounts: A combination of linear regression and average models have been developed using internal data, such as account limit and balance. Loans: EAD estimate is determined by account balance.
Personal credit cards	3,439	PD	1	Retail – Qualifying revolving	PD, EAD and LGD models developed for use across the retail brands.	Model estimates are based on internal behavioural data.
		LGD	1			Statistical model developed using internal and external data.
		EAD	1			A combination of linear regression and average models has been developed using internal data, such as account limit and balance.
Personal and small business asset finance	328	PD	1	Retail – Other SME	PD, EAD and LGD models developed for use within the UK Lombard brand.	Statistical model segmented by time on book, customer type and entity type.
		LGD	1			For LGD, a statistical model is used based on long-run internal loss outcomes with key model drivers being security, together with customer and facility attributes.
		EAD	1	Retail – Other non-SME		EAD for leasing is the present value of lease payments per regulatory requirements.

Credit risk

Wholesale IRB models

Table EU CRE_2b presents the Wholesale IRB models RBS uses to calculate RWAs.

Probability of default/customer credit grade models

- As part of the credit assessment process, RBS assigns each customer a credit grade reflecting the customer's PD. RBS maintains and uses a number of credit grading models which consider risk characteristics relevant to the customer, incorporating both quantitative and qualitative inputs. RBS uses these credit grades in its risk management and measurement frameworks, including credit sanctioning and expected credit loss as well as managing single name concentration risk.
- Different models are developed for different customer types.
- Regulation defines the minimum time series and other attributes of the data used for developing and calibrating models. For the most material models, external data (historical default and rating data from rating agencies and insolvency rates) is referenced for estimation and calibration purposes so that models are based on over 20 years of default experience. The models applied to medium to large-size corporate customers and bank and sovereign counterparties (those used for the largest aggregate amounts of exposure) are the most material models.
- Most of the less material models are developed for portfolios with low default frequency – where customer loan volumes are lower or borrowers are of higher credit quality. In these cases, as required by the PRA, a specific low-default portfolio approach is applied to produce an appropriately prudent calibration to reflect the potential that future outcomes differ from the very low risk outcomes historically observed. The models applied to investment funds and quasi-government entities are considered less material models.
- The majority of the PD model suite discriminates risk levels well and is stable; current observed default rates are generally lower than model estimates. This reflects prudent calibrations and the combined effect of the models being largely through-the-cycle in nature and above-average credit cycle conditions experienced throughout 2019 for the majority of sectors and regions.
- PDs are floored at 0.03% (except for the sovereign asset class) as mandated by regulation.

Loss given default models

- Models are developed for different customer segments and reflect the recoveries approach applied to each segment.
- Where sufficient internal and external loss data exists, LGD is modelled based on this experience and directly incorporates the impact of credit cycle conditions.
- For low-default portfolios, where loss data is scarce or the effect of credit conditions is only of limited relevance, simple benchmark LGDs are assigned in accordance with the PRA's low-default portfolio framework.

Exposure at default models

- EAD is estimated on a product type basis, with different credit conversion factors (CCFs) – measuring the portion of unused credit facility expected to be further drawn prior to default – assigned to each product. For contingent products, such as trade letters of credit, a "probability of call" multiplier is also applied which reflects the likelihood of pay-out once issued.
- Exposure can be reduced by a netting agreement, subject to meeting standards of legal enforceability.
- Where sufficient internal historical data exists, CCF estimates are developed to reflect economic downturn conditions and are based on limit utilisation in the period prior to customer default.
- For low-default portfolios, where data is scarce, products are rank-ordered and CCFs benchmarked to modelled products or relevant regulatory values.
- The most material product families for EAD are those applying to non-contingent products, in particular loans, overdrafts and revolving credit facilities.

Credit risk

EU CRE_2b: Overview of Wholesale IRB models

Portfolio	RWAs (£m)	Model type	Number of models	IRB exposure class	IRB model segmentation	Model characteristics
Sovereign and quasi-government entities	6,954	PD	4	Central governments and central banks	Global PD and LGD models are developed for sovereign and quasi-government type entities.	Sovereign: external rating agency replication model calibrated to the agency long-run average default rates. Local authority, housing association and UK university: expert-driven scorecard models using qualitative and in some cases quantitative inputs.
		LGD	2	Institutions Corporate - Other		Sovereign: an unsecured model calibrated using a logistic regression on a limited dataset of internal and external observations. LGD is floored at 45% in accordance with PRA requirements. Quasi-Government: the model is based on sovereign LGDs or regulatory LGD benchmarks due to its low-default nature.
Financial institutions	14,084	PD	7	Central governments and central banks Institutions Corporate – Other Equity IRB	Global PD and LGD models are developed for bank and non-bank financial institutions (NBFIs).	PD models are developed by counterparty type: Bank and insurance companies: external rating agency replication models calibrated to agency long-run average default rates. Broker dealer: a mix of external rating replication and calibration to internal default rates. Geared investment fund: statistical model which is directly calibrated to internal default experience. Investment fund bridging: expert-driven model using quantitative and qualitative inputs. Hedge fund and managed fund: expert-driven scorecard models based mainly on qualitative inputs, due to their low-default nature.
		LGD	2			Bank models and a single NBFi model are structured as simple decision trees relying on a few regulatory LGD benchmarks, due to low frequency or loss data.
Corporations : Turnover above £50 million	31,155	PD	2	Corporates – Other Equity IRB	PD: global large corporate model is used to grade customers that are externally rated or have a turnover in excess of £500 million.	Large corporate: external rating agency replication model which is calibrated to external and internal long-run average default data. Mid-large corporate: statistical model which is calibrated to internal long run data.
		LGD	1		Mid-large corporate model is used to grade customers in key countries (United Kingdom, US & Republic of Ireland) with turnover between £50 million and £500 million, and that are not externally rated. LGD: single global LGD model is used for large and mid-large corporate customers.	Statistical model using a combination of internal and external loss data. Key model drivers are seniority, collateral, industry facility type and a credit cycle index. Lease facilities use secured collateral specific recovery rate models, calibrated to internal loss data. A 35% LGD floor is applied for certain countries due to scarcity of loss data.

Credit risk

EU CRE_2b: Overview of Wholesale IRB models continued

Portfolio	RWAs (£m)	Model type	Number of models	IRB exposure class	IRB model segmentation	Model characteristics
Corporations : Turnover below £50 million	13,771	PD	1	Corporates – SME	United Kingdom and Republic of Ireland PD and LGD models for corporates with a turnover below £50 million.	Statistical rating model which uses qualitative and quantitative inputs to produce a score that is transformed into a PD. Separate long-run average default rate calibrations exist for Great Britain and Ulster Bank customers, based on internal and external data and taking into account differences between industry and sectors.
		LGD	4	Corporate – Other Equity IRB		For the UK portfolio, a statistical model is used based on long-run internal loss outcomes with key model drivers being security, together with customer and facility attributes. For the RoI portfolio, LGD is based on a framework which uses an unsecured recovery rate model and a suite of secured recovery rate models. The framework accounts for the value of collateral linked to each facility, together with costs and haircuts associated with the recovery of collateral.
Shipping	16	PD	1	Corporates – Specialised lending	Global PD and LGD model for ship finance customers meeting the CRR specialised lending definition.	Expert-driven scorecard model based on a mix of qualitative and quantitative inputs.
		LGD	1			Simple model based on benchmarks (which are different for different ship types) calibrated to internal loss data.
Credit risk (excluding counterparty credit risk) EAD model			2	Central governments and central banks Institutions Corporates – SME Corporates – Specialised lending Corporates - Other	Consists of a global wholesale EAD model for banking book portfolios and a specialist EAD model for the RBS Invoice Finance brand.	EAD is modelled by grouping product types (products sharing similar contractual features and expected drawdown behaviour) and calculated based on the assigned CCF. CCFs are estimated either using historical internal data or based on benchmarks when data is scarce.

Credit risk

IRB modelling governance

The governance process for approval and oversight of IRB credit models involves the model developers, model users and independent model validation. The process applies increased scrutiny to the more material models. Credit risk models are developed and maintained within a framework that includes the following key components:

- A high level policy framework that establishes responsibilities and minimum requirements applying to each stage of the modelling lifecycle:
 - Data sourcing and preparation.
 - Model specification.
 - Model approval.
 - Model implementation.
 - Model monitoring and performance assessment.
- Detailed standards that define the approaches and activities undertaken at each of these stages.
- Defined structures and individually delegated authorities that approve or oversee each stage.
- Model development teams that are part of the independent risk management function, separate from the functions responsible for originating or renewing exposures.
- An independent Model Risk function that is organisationally separate from the model development teams and sets validation standards.
- All activities are independently reviewed by the dedicated Independent Model Validation team that also undertake a formal regular validation for each model.

The framework aims to ensure RBS model risk is managed appropriately and that the approaches deployed continue to meet both internal and regulatory standards.

The model performance is tested by monitoring and regular validation. Each model is subjected to a comparison of estimates to outcomes to assess the accuracy of the model. Other statistical tests assess the ability of the models to discriminate risk (i.e. its ability to determine the relative risk of a particular customer or exposure), the extent to which portfolio composition remains stable and, where relevant, the frequency and magnitude of overrides applied to modelled estimates.

Validation reports include further analyses that consider:

- Ongoing user acceptance and confidence in the model and its performance.
- Movements in the portfolio (both observed and anticipated).
- Other relevant data that might be used to explain or assess model performance.

Action is taken when model performance is determined to be outside tolerance. This may entail recalibration of the model, enhancement (such as by reweighting existing model factors) or redevelopment. Interim adjustments may be applied whilst the remediation activity is undertaken if management believe the underperformance may lead to insufficient capital requirements for the portfolio.

Because IRB models are used in the calculation of credit risk regulatory capital requirements, once they have been approved through internal governance, they need to follow appropriate regulatory approval or notification processes before implementation.

Independent model validation

All new and changed credit risk models are subject to detailed independent review aimed at testing that the models are appropriate for regulatory capital calculations. The following (non-exhaustive) list outlines key areas of focus:

- Conceptual soundness of the methodology.
- Testing the assumptions underlying the model, where feasible, against actual behaviour.
- Checking the accuracy of calculations.
- Comparing outputs with results from alternative methods.

- Testing parameter selection and calibration.
- Back-testing of key model metrics (accuracy, discrimination and stability).
- Sensitivity analysis.

Based on the review findings, the relevant model approver will consider whether a model or model change can be approved and whether any conditions need to be imposed, including those relating to the remediation of material issues raised through the review process.

Model Risk Management sets standards for all independent reviews and conducts the majority of them. They also provide technical oversight of model performance monitoring.

Internal Audit

Internal Audit includes within the scope of its assurance work, the modelling and management of the organisation's capital and liquidity risks. Internal Audit is independent from the risk management function, and therefore from those responsible for the development and independent validation activity. Any material gaps in control identified by Internal Audit are escalated through standard board reporting and action plans agreed with those accountable for the activity behind the control.

EAD calculation methods for counterparty credit risk

For counterparty credit risk, RWAs are calculated under the IRB or standardised approaches. The PD and LGD values for the IRB approach are estimated from the above wholesale IRB models, while EAD estimates are calculated using one of the following methods.

Internal model method (IMM)

RBS has permission from the PRA to use an internal model for calculating EADs for certain derivatives.

The IMM calculates EAD as the product of effective expected positive exposure (EEPE) or stressed EEPE, whichever is the higher, and the regulatory prescribed alpha multiplier. The alpha multiplier, which was 1.4 for both 2019 and for 2018, uplifts the EAD. It is indicative of the robustness of an institution's approach and governance framework for managing counterparty credit risk.

In accordance with the CRR requirements, the EAD for over-the-counter derivatives is adjusted for wrong-way risk (for more information on wrong-way risks, refer to page 105), collateral and an increased margin period of risk, when appropriate.

Mark-to-market (mtm) method

For derivatives that fall outside the IMM and for exchange-traded derivatives where RBS does not have permission to use the IMM to calculate EAD for regulatory capital purposes, it calculates counterparty credit risk exposures using the mtm method. Exposure is calculated as the positive mtm value of outstanding contracts plus a potential future exposure. Exposure is adjusted for collateral, including any haircuts applied to collateral in accordance with regulatory requirements.

Financial collateral comprehensive method

RBS uses the financial collateral comprehensive method for calculating EAD on securities financing transactions. Exposure is adjusted for collateral, after volatility adjustments are applied.

Credit risk

CR9: IRB: IRB models back-testing

Probability of default and exposure at default

Wholesale credit grading models are hybrid models. They exhibit a degree of cyclicalities that reflects broader credit conditions, but not the full cyclicalities of a more point-in-time methodology. In contrast, retail PD models are point-in-time models and estimate the probability of default under current economic conditions, resulting in more variable estimates.

Refer to EU CRE_2: IRB models for more details on the methodology and characteristics of the models.

CR9_a: IRB: IRB models - Estimated probability of default, actual default rates and EAD outcomes versus estimates

The table below compares, across a two-year period, the PD estimates for the current year with the actual realised default rate across the year.

- For wholesale exposures, the estimate shown is the averaged obligor PD. For retail exposures, it is the averaged account-level PD.

	PD				EAD	
	Estimated at	Actual	Estimated at	Actual	Estimated to actual ratio	Estimated to actual ratio
	2018	2019	2017	2018	2019	2018
	%	%	%	%	%	%
Retail						
- SME	2.15	1.92	2.32	1.89	111	114
- Secured by real estate non-SME	0.82	0.54	0.77	0.58	102	103
- Qualifying revolving	1.28	1.13	1.33	1.17	115	115
- Other	4.02	4.33	3.79	4.16	109	109
Central governments and central banks	0.14	—	0.46	1.27	—	—
Institutions	0.57	—	0.66	0.20	—	—
Corporates	1.86	0.97	1.95	1.13	110	118
Equities	2.04	—	2.10	—	—	—

Key points

- The actual default experience in 2019 for all retail asset classes was below estimated outcomes except for retail - other.
- Improved economic conditions in the Republic of Ireland caused actual default rates for retail exposures secured by real estate non-SME to fall, while the estimated PDs, calibrated to historical experience in the UK and Ireland rose slightly.
- The underestimation in the retail – other asset class decreased compared to the previous year. This class consisted mainly of fixed rate personal loans in the UK.
- The PD estimates for central governments and central banks continued to reduce year-on-year, reflecting the exit from higher-risk sovereign exposures.
- The corporates EAD ratio reflected a change in the product mix of defaulted exposures between 2018 and 2019.

- For wholesale exposures, estimated PDs are through-the-cycle whilst actual PDs are point-in-time.
- Exposures in default at the end of the previous year are excluded from the PD estimates because their probability of default is 100%.
- The default rate is the number of defaults observed during the year, divided by the number of obligors or accounts at the end of the previous year.
- The EAD ratio represents the total EAD estimated at the end of the previous year, against the total actual exposure at the time of default, for the defaulted exposures.

Back-testing of PD by exposure band

To enhance disclosure on the PD analysis, the two tables below provide a further breakdown by exposure class and asset quality band: Table EU CR9_a_1 for retail classes and Table EU CR9_a_2 for wholesale classes.

The EU CR9_a tables include the following:

- The PDs estimated for 2019 as at the end of 2018, on both an EAD-weighted and obligor-weighted basis.
- The actual default rates for 2019 and the average annual default rates across the five-year period covering 2015-2019 – both on an obligor-weighted basis.
- The number of obligors at 2019 and 2018 year-ends respectively. These numbers differ slightly from the obligor numbers in EU CR6 and EU CCR4 due to the application of specific modelling filters or due to scope differences.
- The total default count in 2019.
- The number of clients defaulting in 2019 that did not have committed facilities granted at the end of 2018. These newly-funded clients are not included in the actual 2019 default rates.

Credit risk

CR9_a_1: IRB models – Back-testing of PD by exposure class – Retail – total credit risk

In the table below, defaults are recognised at an individual account level for the retail classes. Obligor therefore relate to accounts in the figures shown in the table and the two terms are equivalent in this context.

Exposure class	AQ band	PD range	PD estimate at		Defaulted rates actual		Number of obligors		Number of defaulted obligors	
			EAD weighted	Obligor weighted	Obligor weighted	Obligor weighted	2018	2019	All 2019	of which: newly funded obligors during the year 2019
			2018 %	2018 %	2019 %	2015-2019 %				
2019										
Retail - SME	AQ01	0% to 0.034%	—	—	—	0.09%	1	415	—	—
Retail - SME	AQ02	0.034% to 0.048%	0.05%	0.05%	—	—	389	2,248	—	—
Retail - SME	AQ03	0.048% to 0.095%	0.07%	0.08%	0.05%	0.05%	39,080	27,303	20	—
Retail - SME	AQ04	0.095% to 0.381%	0.16%	0.17%	0.16%	0.19%	438,121	433,705	707	—
Retail - SME	AQ05	0.381% to 1.076%	0.74%	0.68%	0.61%	0.59%	311,848	273,817	1,913	19
Retail - SME	AQ06	1.076% to 2.153%	1.46%	1.58%	1.54%	1.43%	220,391	196,841	3,523	122
Retail - SME	AQ07	2.153% to 6.089%	3.29%	3.43%	2.70%	2.79%	166,566	180,296	5,095	605
Retail - SME	AQ08	6.089% to 17.222%	9.89%	9.70%	10.06%	9.43%	54,133	56,418	5,574	130
Retail - SME	AQ09	17.222% to 100%	31.86%	33.74%	28.52%	29.29%	28,635	28,211	8,233	66
Retail - SME	AQ10	100%	—	—	—	—	26,992	25,013	—	—
Total - Retail - SME			2.73%	2.15%	1.92%	1.97%	1,286,155	1,224,267	25,065	942
Retail - Secured by real estate non-SME	AQ01	0% to 0.034%	0.03%	0.03%	—	0.00%	184	12,848	—	—
Retail - Secured by real estate non-SME	AQ02	0.034% to 0.048%	0.04%	0.04%	0.01%	0.07%	14,612	4,589	1	—
Retail - Secured by real estate non-SME	AQ03	0.048% to 0.095%	0.08%	0.08%	0.10%	0.07%	57,295	34,186	62	2
Retail - Secured by real estate non-SME	AQ04	0.095% to 0.381%	0.22%	0.21%	0.16%	0.15%	769,844	730,997	1,268	18
Retail - Secured by real estate non-SME	AQ05	0.381% to 1.076%	0.56%	0.57%	0.32%	0.37%	341,769	431,598	1,115	20
Retail - Secured by real estate non-SME	AQ06	1.076% to 2.153%	1.52%	1.53%	0.87%	0.69%	18,152	18,732	159	1
Retail - Secured by real estate non-SME	AQ07	2.153% to 6.089%	3.79%	3.75%	2.62%	2.54%	9,776	9,758	257	1
Retail - Secured by real estate non-SME	AQ08	6.089% to 17.222%	10.65%	10.74%	8.66%	10.55%	12,270	11,264	1,065	2
Retail - Secured by real estate non-SME	AQ09	17.222% to 100%	28.35%	28.31%	17.62%	17.74%	15,984	15,073	2,834	17
Retail - Secured by real estate non-SME	AQ10	100%	—	—	—	—	25,271	21,898	—	—
Total - Retail - Secured by real estate non-SME			0.81%	0.82%	0.54%	0.64%	1,265,157	1,290,943	6,761	61

Credit risk

CR9_a_1: IRB models – Back-testing of PD by exposure class – Retail – total credit risk continued

Exposure class	AQ band	PD range	PD estimate at		Default rates actual		Number of obligors		Number of defaulted obligors	
			EAD weighted	Obligor	Obligor	Obligor	2018	2019	All 2019	of which: newly funded obligors during the year 2019
			2018	weighted 2018	weighted 2019	weighted 2015-2019				
			%	%	%	%				
2019										
Retail - Qualifying revolving	AQ01	0% to 0.034%	0.03%	0.03%	0.02%	0.02%	4,794,295	5,395,832	931	8
Retail - Qualifying revolving	AQ02	0.034% to 0.048%	0.04%	0.04%	0.04%	0.05%	1,043,501	1,345,379	513	56
Retail - Qualifying revolving	AQ03	0.048% to 0.095%	0.06%	0.06%	0.07%	0.08%	1,229,033	622,010	806	4
Retail - Qualifying revolving	AQ04	0.095% to 0.381%	0.23%	0.23%	0.18%	0.20%	2,179,987	2,744,704	3,954	56
Retail - Qualifying revolving	AQ05	0.381% to 1.076%	0.62%	0.60%	0.52%	0.50%	4,226,301	3,681,976	22,149	196
Retail - Qualifying revolving	AQ06	1.076% to 2.153%	1.52%	1.50%	1.49%	1.45%	1,809,880	1,778,732	27,237	283
Retail - Qualifying revolving	AQ07	2.153% to 6.089%	3.68%	3.61%	2.80%	2.84%	1,688,421	1,486,732	52,293	5,085
Retail - Qualifying revolving	AQ08	6.089% to 17.222%	9.27%	9.66%	8.61%	7.85%	501,413	463,548	44,670	1,486
Retail - Qualifying revolving	AQ09	17.222% to 100%	34.86%	32.71%	31.88%	28.32%	169,987	149,404	55,915	1,715
Retail - Qualifying revolving	AQ10	100%	—	—	—	—	390,132	397,125	—	—
Total - Retail - Qualifying revolving			1.42%	1.28%	1.13%	1.21%	18,032,950	18,065,442	208,468	8,889
Retail - Other	AQ01	0% to 0.034%	—	—	—	—	—	—	—	—
Retail - Other	AQ02	0.034% to 0.048%	—	—	—	—	—	—	—	—
Retail - Other	AQ03	0.048% to 0.095%	—	—	—	—	—	—	—	—
Retail - Other	AQ04	0.095% to 0.381%	0.28%	0.27%	0.26%	0.58%	8,075	7,383	37	16
Retail - Other	AQ05	0.381% to 1.076%	0.77%	0.77%	0.80%	0.70%	348,056	350,927	3,288	499
Retail - Other	AQ06	1.076% to 2.153%	1.46%	1.52%	1.96%	1.83%	170,719	160,400	3,878	540
Retail - Other	AQ07	2.153% to 6.089%	3.66%	3.80%	4.50%	3.82%	138,134	198,113	7,696	1,478
Retail - Other	AQ08	6.089% to 17.222%	9.52%	9.68%	9.61%	9.72%	65,125	89,227	7,485	1,224
Retail - Other	AQ09	17.222% to 100%	39.28%	41.33%	42.98%	44.37%	33,614	38,784	14,867	419
Retail - Other	AQ10	100%	—	—	—	—	57,836	68,570	—	—
Total - Retail - Other			3.90%	4.02%	4.33%	3.68%	821,559	913,404	37,251	4,176

Credit risk

CR9_a_1: IRB models – Back-testing of PD by exposure class – Retail – total credit risk continued

Exposure class	AQ band	PD range	PD estimate at		Defaulted rates actual		Number of obligors		Number of defaulted obligors	
			EAD weighted	Obligor weighted	Obligor weighted	Obligor weighted	2017	2018	All 2018	of which: newly funded obligors during the year 2018
			2017	2017	2018	2014-2018				
			%	%	%	%				
2018										
Retail - SME	AQ01	0% to 0.034%	—	—	—	0.19%	—	—	—	—
Retail - SME	AQ02	0.034% to 0.048%	—	—	—	0.04%	—	389	—	—
Retail - SME	AQ03	0.048% to 0.095%	0.08%	0.08%	0.02%	0.04%	17,899	39,080	3	—
Retail - SME	AQ04	0.095% to 0.381%	0.18%	0.19%	0.15%	0.19%	424,109	438,121	650	—
Retail - SME	AQ05	0.381% to 1.076%	0.76%	0.67%	0.56%	0.56%	310,204	311,848	1,814	85
Retail - SME	AQ06	1.076% to 2.153%	1.41%	1.47%	1.12%	1.29%	228,764	220,391	2,627	73
Retail - SME	AQ07	2.153% to 6.089%	3.28%	3.53%	2.80%	2.69%	220,466	166,566	6,778	609
Retail - SME	AQ08	6.089% to 17.222%	9.63%	9.65%	9.05%	8.74%	63,876	54,133	5,934	155
Retail - SME	AQ09	17.222% to 100%	31.47%	33.64%	25.93%	28.67%	29,392	28,635	7,677	56
Retail - SME	AQ10	100%	N/A	N/A	N/A	N/A	30,250	26,992	N/A	N/A
Total - Retail - SME			2.18%	2.32%	1.89%	2.04%	1,324,960	1,286,155	25,483	978
Retail - Secured by real estate non-SME	AQ01	0% to 0.034%	0.03%	0.03%	0.01%	0.00%	15,357	184	2	1
Retail - Secured by real estate non-SME	AQ02	0.034% to 0.048%	0.04%	0.04%	0.03%	0.07%	3,724	14,612	2	1
Retail - Secured by real estate non-SME	AQ03	0.048% to 0.095%	0.08%	0.08%	0.08%	0.07%	99,944	57,295	84	4
Retail - Secured by real estate non-SME	AQ04	0.095% to 0.381%	0.21%	0.20%	0.16%	0.15%	807,360	769,844	1,290	19
Retail - Secured by real estate non-SME	AQ05	0.381% to 1.076%	0.58%	0.61%	0.34%	0.38%	249,640	341,769	851	11
Retail - Secured by real estate non-SME	AQ06	1.076% to 2.153%	1.37%	1.37%	0.74%	0.69%	32,049	18,152	241	3
Retail - Secured by real estate non-SME	AQ07	2.153% to 6.089%	3.97%	3.88%	3.47%	2.36%	10,880	9,776	379	1
Retail - Secured by real estate non-SME	AQ08	6.089% to 17.222%	11.54%	11.36%	12.48%	10.31%	13,895	12,270	1,744	10
Retail - Secured by real estate non-SME	AQ09	17.222% to 100%	28.85%	28.82%	19.51%	19.46%	13,773	15,984	2,690	3
Retail - Secured by real estate non-SME	AQ10	100%	N/A	N/A	N/A	N/A	30,408	25,271	N/A	N/A
Total - Retail - Secured by real estate non-SME			0.80%	0.77%	0.58%	0.76%	1,277,030	1,265,157	7,283	53

Credit risk

CR9_a_1: IRB models – Back-testing of PD by exposure class – Retail – total credit risk continued

Exposure class	AQ band	PD range	PD estimate at		Default rates actual		Number of obligors		Number of defaulted obligors	
			EAD weighted	Obligor weighted	Obligor weighted	Obligor weighted	2017	2018	All 2018	of which: newly funded obligors during the year 2018
			2017	2017	2018	2014-2018				
			%	%	%	%				
2018										
Retail - Qualifying revolving	AQ01	0% to 0.034%	0.03%	0.03%	0.02%	0.02%	5,672,262	4,794,295	1,330	21
Retail - Qualifying revolving	AQ02	0.034% to 0.048%	0.04%	0.04%	0.06%	0.05%	765,969	1,043,501	483	9
Retail - Qualifying revolving	AQ03	0.048% to 0.095%	0.06%	0.06%	0.08%	0.08%	494,041	1,229,033	452	61
Retail - Qualifying revolving	AQ04	0.095% to 0.381%	0.21%	0.22%	0.17%	0.22%	2,332,095	2,179,987	4,093	29
Retail - Qualifying revolving	AQ05	0.381% to 1.076%	0.63%	0.61%	0.50%	0.50%	4,384,804	4,226,301	22,274	242
Retail - Qualifying revolving	AQ06	1.076% to 2.153%	1.57%	1.56%	1.46%	1.43%	1,745,102	1,809,880	26,345	785
Retail - Qualifying revolving	AQ07	2.153% to 6.089%	3.72%	3.70%	3.02%	2.81%	1,623,629	1,688,421	55,902	6,915
Retail - Qualifying revolving	AQ08	6.089% to 17.222%	9.16%	9.53%	8.47%	7.57%	524,367	501,413	46,596	2,202
Retail - Qualifying revolving	AQ09	17.222% to 100%	35.02%	33.41%	31.05%	28.63%	193,702	169,987	62,870	2,722
Retail - Qualifying revolving	AQ10	100%	N/A	N/A	N/A	N/A	491,282	390,132	N/A	N/A
Total - Retail - Qualifying revolving			1.46%	1.33%	1.17%	1.31%	18,227,253	18,032,950	220,345	12,986
Retail - Other	AQ01	0% to 0.034%	—	—	—	—	—	—	—	—
Retail - Other	AQ02	0.034% to 0.048%	—	—	—	—	—	—	—	—
Retail - Other	AQ03	0.048% to 0.095%	—	—	—	—	—	—	—	—
Retail - Other	AQ04	0.095% to 0.381%	0.30%	0.30%	0.60%	0.56%	9,152	8,075	85	30
Retail - Other	AQ05	0.381% to 1.076%	0.75%	0.73%	0.77%	0.65%	338,636	348,056	3,214	621
Retail - Other	AQ06	1.076% to 2.153%	1.51%	1.55%	1.99%	1.71%	122,638	170,719	2,947	504
Retail - Other	AQ07	2.153% to 6.089%	3.57%	3.64%	4.28%	3.48%	133,660	138,134	7,602	1,883
Retail - Other	AQ08	6.089% to 17.222%	9.38%	9.45%	9.57%	9.24%	57,285	65,125	6,578	1,098
Retail - Other	AQ09	17.222% to 100%	38.63%	40.07%	43.31%	43.15%	28,611	33,614	12,767	375
Retail - Other	AQ10	100%	N/A	N/A	N/A	N/A	83,175	57,836	N/A	N/A
Total - Retail - Other			3.63%	3.79%	4.16%	3.47%	773,157	821,559	33,193	4,511

Credit risk

CR9_a_2: IRB models – Back-testing of PD by exposure class – Wholesale – total credit risk

Exposure class	AQ band	PD range	Equivalent S&P Rating	PD estimate at		Default rates actual		Number of obligors		Number of defaulted obligors	
				EAD weighted	Obligor weighted	Obligor weighted	Obligor weighted	2018	2019	All 2019	of which: newly funded obligors during the year 2019
				2018 %	2018 %	2019 %	2015-2019 %				
2019											
Central governments and central banks	AQ01	0% to 0.034%	AAA to AA	0.01%	0.01%	—	—	56	55	—	—
Central governments and central banks	AQ02	0.034% to 0.048%	AA-	0.04%	0.04%	—	—	2	2	—	—
Central governments and central banks	AQ03	0.048% to 0.095%	A+ to A-	0.06%	0.06%	—	—	15	12	—	—
Central governments and central banks	AQ04	0.095% to 0.381%	BBB+ to BBB-	0.22%	0.22%	—	—	7	5	—	—
Central governments and central banks	AQ05	0.381% to 1.076%	BB+ to BB-	0.45%	0.45%	—	—	1	1	—	—
Central governments and central banks	AQ06	1.076% to 2.153%	B+	—	—	—	—	—	1	—	—
Central governments and central banks	AQ07	2.153% to 6.089%	B to B-	5.12%	3.81%	—	—	2	—	—	—
Central governments and central banks	AQ08	6.089% to 17.222%	CCC+	—	—	—	—	—	—	—	—
Central governments and central banks	AQ09	17.222% to 100%	CCC to CC	—	—	—	20.00%	—	—	—	—
Central governments and central banks	AQ10	100%	D	n/a	n/a	n/a	n/a	1	1	—	—
Total - Central governments and central banks				0.01%	0.14%	—	0.25%	84	77	—	—
Institutions	AQ01	0% to 0.034%	AAA to AA	0.03%	0.03%	—	—	91	92	—	—
Institutions	AQ02	0.034% to 0.048%	AA-	0.04%	0.04%	—	—	70	68	—	—
Institutions	AQ03	0.048% to 0.095%	A+ to A-	0.07%	0.07%	—	—	97	94	—	—
Institutions	AQ04	0.095% to 0.381%	BBB+ to BBB-	0.15%	0.20%	—	0.05%	414	359	—	—
Institutions	AQ05	0.381% to 1.076%	BB+ to BB-	0.55%	0.62%	—	—	129	97	—	—
Institutions	AQ06	1.076% to 2.153%	B+	1.66%	1.55%	—	0.90%	37	35	—	—
Institutions	AQ07	2.153% to 6.089%	B to B-	4.98%	3.45%	—	1.25%	33	23	—	—
Institutions	AQ08	6.089% to 17.222%	CCC+	7.37%	10.86%	—	2.00%	6	1	—	—
Institutions	AQ09	17.222% to 100%	CCC to CC	21.88%	30.13%	—	6.67%	3	3	—	—
Institutions	AQ10	100%	D	n/a	n/a	n/a	n/a	1	—	—	—
Total - Institutions				0.21%	0.57%	—	0.15%	881	772	—	—

Credit risk

CR9_a_2: IRB models – Back-testing of PD by exposure class – Wholesale – total credit risk continued

Exposure class	AQ band	PD range	Equivalent S&P Rating	PD estimate at		Default rates actual		Number of obligors		Number of defaulted obligors	
				EAD weighted 2018 %	Obligor weighted 2018 %	Obligor weighted 2019 %	Obligor weighted 2015-2019 %	2018	2019	All 2019	of which: newly funded obligors during the year 2019
2019											
Corporates	AQ01	0% to 0.034%	AAA to AA	0.03%	0.03%	—	0.01%	2,918	3,347	—	—
Corporates	AQ02	0.034% to 0.048%	AA-	0.04%	0.04%	—	—	424	420	—	—
Corporates	AQ03	0.048% to 0.095%	A+ to A-	0.07%	0.07%	—	—	1,046	1,008	—	—
Corporates	AQ04	0.095% to 0.381%	BBB+ to BBB-	0.20%	0.25%	0.17%	0.11%	6,944	6,576	12	—
Corporates	AQ05	0.381% to 1.076%	BB+ to BB-	0.67%	0.69%	0.34%	0.39%	19,647	18,808	68	1
Corporates	AQ06	1.076% to 2.153%	B+	1.53%	1.53%	0.69%	0.71%	17,037	15,808	120	3
Corporates	AQ07	2.153% to 6.089%	B to B-	3.24%	3.10%	1.52%	1.66%	13,248	11,462	223	22
Corporates	AQ08	6.089% to 17.222%	CCC+	9.90%	10.17%	6.71%	7.94%	1,938	1,714	132	2
Corporates	AQ09	17.222% to 100%	CCC to CC	25.95%	28.02%	16.01%	13.66%	581	558	95	2
Corporates	AQ10	100%	D	n/a	n/a	n/a	n/a	2,568	2,143	—	—
Total - Corporates				0.76%	1.86%	0.97%	1.18%	66,351	61,844	650	30
Equities	AQ01	0% to 0.034%	AAA to AA	—	—	—	—	—	—	—	—
Equities	AQ02	0.034% to 0.048%	AA-	—	—	—	—	—	—	—	—
Equities	AQ03	0.048% to 0.095%	A+ to A-	—	—	—	—	—	—	—	—
Equities	AQ04	0.095% to 0.381%	BBB+ to BBB-	—	—	—	—	—	1	—	—
Equities	AQ05	0.381% to 1.076%	BB+ to BB-	—	—	—	—	—	—	—	—
Equities	AQ06	1.076% to 2.153%	B+	1.27%	1.31%	—	—	10	9	—	—
Equities	AQ07	2.153% to 6.089%	B to B-	2.50%	2.51%	—	0.71%	16	14	—	—
Equities	AQ08	6.089% to 17.222%	CCC+	—	—	—	4.00%	—	—	—	—
Equities	AQ09	17.222% to 100%	CCC to CC	—	—	—	5.00%	—	—	—	—
Equities	AQ10	100%	D	n/a	n/a	n/a	n/a	1	—	—	—
Total - Equities				1.60%	2.04%	—	0.86%	27	24	—	—

Credit risk

CR9_a_2: IRB models – Back-testing of PD by exposure class – Wholesale – total credit risk continued

Exposure class	AQ band	PD range	Equivalent S&P Rating	PD estimate at		Default rates actual		Number of obligors		Number of defaulted obligors	
				EAD weighted	Obligor	Obligor	Obligor	2017	2018	All 2018	of which: newly funded obligors during the year 2018
				2017 %	weighted 2017 %	weighted 2018 %	weighted 2014-2018 %				
2018											
Central governments and central banks	AQ01	0% to 0.034%	AAA to AA	0.01%	0.02%	—	—	52	55	—	—
Central governments and central banks	AQ02	0.034% to 0.048%	AA-	0.04%	0.04%	—	—	1	2	—	—
Central governments and central banks	AQ03	0.048% to 0.095%	A+ to A-	0.06%	0.06%	—	—	12	15	—	—
Central governments and central banks	AQ04	0.095% to 0.381%	BBB+ to BBB-	0.21%	0.17%	—	—	8	7	—	—
Central governments and central banks	AQ05	0.381% to 1.076%	BB+ to BB	0.55%	0.57%	—	—	4	1	—	—
Central governments and central banks	AQ06	1.076% to 2.153%	BB- to B+	1.81%	1.81%	—	—	1	—	—	—
Central governments and central banks	AQ07	2.153% to 6.089%	B	—	—	—	—	—	2	—	—
Central governments and central banks	AQ08	6.089% to 17.222%	B- to CCC+	—	—	—	—	—	—	—	—
Central governments and central banks	AQ09	17.222% to 100%	CCC to CC	28.96%	28.96%	100.00%	20.00%	1	—	1	—
Central governments and central banks	AQ10	100%	D	—	—	—	—	—	1	—	—
Total - Central governments and central banks				0.01%	0.46%	1.27%	0.25%	79	83	1	—
Institutions	AQ01	0% to 0.034%	AAA to AA	0.03%	0.03%	—	—	88	92	—	—
Institutions	AQ02	0.034% to 0.048%	AA-	0.04%	0.04%	—	—	87	70	—	—
Institutions	AQ03	0.048% to 0.095%	A+ to A-	0.07%	0.07%	—	—	106	97	—	—
Institutions	AQ04	0.095% to 0.381%	BBB+ to BBB-	0.13%	0.19%	0.23%	0.08%	433	414	1	—
Institutions	AQ05	0.381% to 1.076%	BB+ to BB	0.55%	0.60%	—	—	177	129	—	—
Institutions	AQ06	1.076% to 2.153%	BB- to B+	1.47%	1.56%	2.44%	0.90%	41	37	1	—
Institutions	AQ07	2.153% to 6.089%	B	2.74%	3.08%	—	0.78%	36	33	—	—
Institutions	AQ08	6.089% to 17.222%	B- to CCC+	10.19%	11.46%	—	4.00%	9	6	—	—
Institutions	AQ09	17.222% to 100%	CCC to CC	28.96%	33.76%	—	—	5	8	—	—
Institutions	AQ10	100%	D	—	—	—	—	1	2	—	—
Total - Institutions				0.13%	0.66%	0.20%	0.15%	983	888	2	—

Credit risk

CR9_a_2: IRB models – Back-testing of PD by exposure class – Wholesale – total credit risk continued

Exposure class	AQ band	PD range	Equivalent S&P Rating	PD estimate at		Default rates actual		Number of obligors		Number of defaulted obligors	
				EAD weighted	Obligor	Obligor	Obligor	2017	2018	All 2018	of which: newly funded obligors during the year 2018
				2017 %	2017 %	2018 %	2014-2018 %				
2018											
Corporates	AQ01	0% to 0.034%	AAA to AA	0.03%	0.03%	—	0.01%	2,539	2,918	—	—
Corporates	AQ02	0.034% to 0.048%	AA-	0.04%	0.04%	—	—	412	424	—	—
Corporates	AQ03	0.048% to 0.095%	A+ to A-	0.07%	0.07%	—	—	1,147	1,046	—	—
Corporates	AQ04	0.095% to 0.381%	BBB+ to BBB-	0.19%	0.25%	0.14%	0.09%	7,177	6,943	10	—
Corporates	AQ05	0.381% to 1.076%	BB+ to BB	0.67%	0.70%	0.42%	0.40%	20,427	19,644	88	2
Corporates	AQ06	1.076% to 2.153%	BB- to B+	1.50%	1.53%	0.73%	0.76%	18,835	17,033	143	5
Corporates	AQ07	2.153% to 6.089%	B	3.27%	3.11%	1.96%	1.70%	15,856	13,249	318	7
Corporates	AQ08	6.089% to 17.222%	B- to CCC+	9.75%	10.06%	7.59%	8.33%	2,294	1,940	176	2
Corporates	AQ09	17.222% to 100%	CCC to CC	26.62%	28.22%	10.03%	14.25%	628	585	63	—
Corporates	AQ10	100%	D	—	—	—	—	3,209	2,571	—	—
Total - Corporates				0.79%	1.95%	1.13%	1.34%	72,524	66,353	798	16
Equities	AQ01	0% to 0.034%	AAA to AA	—	—	—	—	—	—	—	—
Equities	AQ02	0.034% to 0.048%	AA-	—	—	—	—	—	—	—	—
Equities	AQ03	0.048% to 0.095%	A+ to A-	—	—	—	—	—	—	—	—
Equities	AQ04	0.095% to 0.381%	BBB+ to BBB-	—	—	—	—	—	—	—	—
Equities	AQ05	0.381% to 1.076%	BB+ to BB	0.40%	0.40%	—	—	1	—	—	—
Equities	AQ06	1.076% to 2.153%	BB- to B+	1.52%	1.32%	—	—	8	10	—	—
Equities	AQ07	2.153% to 6.089%	B	2.50%	2.50%	—	1.12%	20	16	—	—
Equities	AQ08	6.089% to 17.222%	B- to CCC+	—	—	—	4.00%	—	—	—	—
Equities	AQ09	17.222% to 100%	CCC to CC	—	—	—	5.00%	—	—	—	—
Equities	AQ10	100%	D	—	—	—	—	—	1	—	—
Total - Equities				1.67%	2.10%	—	1.10%	29	27	—	—

Credit risk

Loss given default

Both estimated and actual LGDs are EAD-weighted. Corporate exposures where EAD varies more can give rise to significant movements when compared year-on-year.

More generally, differences between estimates and actuals can arise when comparing regulatory capital downturn estimates to actual outcomes that have been realised in non-downturn conditions.

Corporates

In the corporates exposure class, the actual LGD includes all defaulted client cases that closed during the year, excluding disposal and run-off portfolios.

The estimated LGDs are the average pre-default downturn estimates for these defaults, with actual LGDs being the averaged observed outcomes, time-discounted to reflect actual workout periods.

Closure of a defaulted customer case occurs when none of the defined default criteria have been met. This may include instances where debt is repaid, fully or partially written off, or returned to the performing book.

Retail

In the retail exposure classes, estimated LGDs relate to loss estimates on defaulted exposures over defined outcome periods, which vary by exposure class, from 36 to 72 months. These periods align with the collections and recoveries process. The actual losses included in the table below relate to the corresponding defaulted exposures, which reached the relevant outcome period during 2019.

CR9_b: IRB: IRB models: Back-testing of LGD by exposure class – total credit risk

IRB exposure class	2019		2018	
	LGD - estimated %	LGD - actual %	LGD - estimated %	LGD - actual %
Retail				
- SME	70.08	62.88	70.09	58.28
- Secured by real estate non-SME	32.90	16.80	31.31	18.48
- Qualifying revolving	80.43	70.89	75.47	69.00
- Other	78.37	72.66	81.33	75.66
Corporates	40.20	23.57	45.44	36.33

Key points

- The reduction in the actual LGD of the retail – other asset class was due to a methodology change which now includes proceeds from debt sales when calculating losses.
- Data for Republic of Ireland SME losses, included for the first time in 2019, was a key contributor to the year-on-year movement in actual LGDs.
- Changes in the portfolio mix increased LGD estimates for qualifying revolving exposures.
- The reduction in actual LGD in the secured by real estate non-SME asset class was driven by improved economic conditions in the Republic of Ireland and also Ulster Bank loan sales.
- The year-on-year decreases for estimated and actual LGDs for corporate exposures were respectively due to changes in product mix and a high number of return to satisfactory cases.

CR9_c: IRB: IRB models: Back-testing of EL by exposure class – total credit risk

	Expected loss estimated for following year at the end of						Impairment charge/(release) for the year	
	2018			2017			2019 £m	2018 £m
	Non-defaulted (AQ1-AQ9) £m	Defaulted (AQ10) £m	Total £m	Non-defaulted (AQ1-AQ9) £m	Defaulted (AQ10) £m	Total £m		
Retail								
- SME	119	191	310	117	252	369	80	111
- Secured by real estate non-SME	213	586	799	225	909	1,134	24	58
- Qualifying revolving	226	262	488	232	339	571	145	174
- Other non-SME	232	325	557	154	485	639	195	(21)
Central governments and central banks	4	—	4	3	—	3	—	—
Institutions	19	16	35	12	—	12	(1)	10
Corporates	369	1,377	1,746	430	1,736	2,166	292	100
Equities	7	—	7	9	—	9	—	—
	1,189	2,757	3,946	1,182	3,721	4,903	735	432

Key point

- The decrease in expected loss estimates reflected a significant fall in corporates and retail defaults, primarily due to improved default rates.

Credit risk

Credit risk (excluding counterparty credit risk)

This section provides more detailed analysis of credit risk exposures (excluding counterparty credit risk).

Risk profile by asset concentrations

EU CRB_B: IRB & STD: Credit risk exposures by exposure class

The table below shows credit risk EAD pre and post CRM on a period end and 12 month average basis, analysed by regulatory approach and exposure class. It excludes counterparty credit risk and securitisations.

	EAD pre CRM		EAD post CRM	
	Period end	Average	Period end	Average
2019	£m	£m	£m	£m
IRB				
Central governments and central banks	52,839	56,247	52,712	56,133
Institutions	11,716	12,363	9,753	10,435
Corporates	140,230	141,476	130,448	131,571
<i>Specialised lending</i>	<i>16,772</i>	<i>17,846</i>	<i>16,702</i>	<i>17,706</i>
<i>SME</i>	<i>20,800</i>	<i>21,278</i>	<i>20,368</i>	<i>20,773</i>
<i>Other corporate</i>	<i>102,658</i>	<i>102,352</i>	<i>93,378</i>	<i>93,092</i>
Retail	215,130	208,749	215,130	208,749
<i>Secured by real estate property - SME</i>	<i>1,291</i>	<i>1,328</i>	<i>1,291</i>	<i>1,328</i>
<i>- non-SME</i>	<i>174,529</i>	<i>168,720</i>	<i>174,529</i>	<i>168,720</i>
<i>Qualifying revolving</i>	<i>23,138</i>	<i>22,696</i>	<i>23,138</i>	<i>22,696</i>
<i>Other retail - SME</i>	<i>8,940</i>	<i>9,067</i>	<i>8,940</i>	<i>9,067</i>
<i>- non-SME</i>	<i>7,232</i>	<i>6,938</i>	<i>7,232</i>	<i>6,938</i>
Equities	1,366	1,105	1,366	1,105
Non-credit obligation assets	6,204	6,453	6,204	6,453
Total IRB	427,485	426,393	415,613	414,446
STD				
Central governments and central banks	81,335	89,146	81,339	89,121
Regional governments and local authorities	20	65	20	65
Multilateral development banks	—	13	—	13
Institutions	307	519	353	570
Corporates	8,747	8,218	8,212	7,767
Retail	2,445	2,714	2,380	2,680
Secured by mortgages on immovable property - residential	13,507	13,257	13,507	13,258
<i>- commercial</i>	<i>697</i>	<i>2,660</i>	<i>678</i>	<i>2,633</i>
Exposures in default	468	508	406	444
Items associated with particularly high risk	—	17	—	17
Covered bonds	—	95	—	95
Equity exposures	671	633	671	633
Other exposures	1,345	1,495	1,345	1,495
Total STD	109,542	119,340	108,911	118,791
Total IRB and STD	537,027	545,733	524,524	533,237

Credit risk

EU CRB_B: IRB & STD: Credit risk exposures by exposure class continued

	EAD pre CRM		EAD post CRM	
	Period end	Average	Period end	Average
	£m	£m	£m	£m
2018				
IRB				
Central governments and central banks	54,519	57,616	54,450	57,541
Institutions	12,577	16,504	10,790	14,623
Corporates	142,127	144,360	132,335	135,314
<i>Specialised lending</i>	18,282	19,873	18,059	19,664
<i>SME</i>	21,633	21,973	21,012	21,330
<i>Other corporate</i>	102,212	102,514	93,264	94,320
Retail	204,979	203,649	204,979	203,650
<i>Secured by real estate property - SME</i>	1,359	1,368	1,359	1,368
<i>- non-SME</i>	165,381	164,132	165,381	164,133
<i>Qualifying revolving</i>	22,634	22,528	22,634	22,528
<i>Other retail - SME</i>	9,118	9,274	9,118	9,274
<i>- non-SME</i>	6,487	6,347	6,487	6,347
Equities	722	791	722	791
Non-credit obligation assets	5,779	5,824	5,779	5,824
Total IRB	420,703	428,744	409,055	417,743
STD				
Central governments and central banks	95,657	95,204	95,595	95,183
Regional governments and local authorities	155	158	155	157
Multilateral development banks	31	30	31	30
Institutions	471	472	510	513
Corporates	11,047	10,759	10,433	10,230
Retail	2,859	3,113	2,836	3,080
Secured by mortgages on immovable property - residential	12,840	12,677	12,840	12,677
<i>- commercial</i>	2,909	2,765	2,885	2,747
Exposures in default	555	777	554	775
Items associated with particularly high risk	28	30	28	30
Covered bonds	137	143	137	143
Equity exposures	705	685	705	685
Other exposures	2,057	2,222	2,057	2,222
Total STD	129,451	129,035	128,766	128,472
Total IRB and STD	550,154	557,779	537,821	546,215

Credit risk

EU CRB_C: IRB & STD: Credit risk exposures by geographic region

The table below shows credit risk EAD post CRM analysed by geography, split by regulatory approach and exposure class. It excludes counterparty credit risk and securitisations. Geographical analysis is based on country of operation of the customer.

	UK £m	Other £m	Western Europe £m	US £m	Rest of world £m	Total £m
2019						
IRB						
Central governments and central banks	420	3,158	31,968	12,385	4,781	52,712
Institutions	1,512	22	2,631	4,789	799	9,753
Corporates	97,603	5,792	17,551	6,791	2,711	130,448
<i>Specialised lending</i>	14,019	1,074	1,217	55	337	16,702
<i>SME</i>	18,823	1,493	18	10	24	20,368
<i>Other corporate</i>	64,761	3,225	16,316	6,726	2,350	93,378
Retail	199,697	15,120	132	46	135	215,130
<i>Secured by real estate property - SME</i>	1,286	1	2	—	2	1,291
- <i>non-SME</i>	160,479	14,050	—	—	—	174,529
<i>Qualifying revolving</i>	22,501	347	122	43	125	23,138
<i>Other retail - SME</i>	8,402	530	3	2	3	8,940
- <i>non-SME</i>	7,029	192	5	1	5	7,232
Equities	741	—	7	17	601	1,366
Non-credit obligation assets	4,807	598	609	89	101	6,204
Total IRB	304,780	24,690	52,898	24,117	9,128	415,613
Proportion	73%	6%	13%	6%	2%	100%
STD						
Central governments and central banks	78,643	—	178	2,001	517	81,339
Regional governments and local authorities	19	1	—	—	—	20
Institutions	140	—	146	14	53	353
Corporates	5,592	721	1,094	142	663	8,212
Retail	2,237	1	67	8	67	2,380
Secured by mortgages on immovable property						
- residential	11,376	108	257	247	1,519	13,507
- commercial	524	33	108	10	3	678
Exposures in default	338	13	6	12	37	406
Equity exposures	635	1	16	1	18	671
Other exposures	1,275	20	50	—	—	1,345
Total STD	100,779	898	1,922	2,435	2,877	108,911
Proportion	92%	1%	2%	2%	3%	100%
Total IRB and STD	405,559	25,588	54,820	26,552	12,005	524,524
Proportion	78%	5%	10%	5%	2%	100%
Of which: by significant subsidiary (excludes inter-Group exposures)						
NatWest Holdings Group	371,483	25,298	31,631	16,553	7,378	452,343
NWM Plc	10,195	128	9,031	5,958	3,115	28,427

Credit risk

EU CRB_C: IRB & STD: Credit risk exposures by geographic region continued

2018	UK £m	Rol £m	Other Western Europe £m	US £m	Rest of world £m	Total £m
IRB						
Central governments and central banks	278	2,499	35,352	11,713	4,608	54,450
Institutions	1,444	33	3,576	4,805	932	10,790
Corporates	100,455	5,423	16,483	7,170	2,804	132,335
<i>Specialised lending</i>	<i>15,147</i>	<i>1,020</i>	<i>1,508</i>	<i>115</i>	<i>269</i>	<i>18,059</i>
<i>SME</i>	<i>19,672</i>	<i>1,250</i>	<i>48</i>	<i>11</i>	<i>31</i>	<i>21,012</i>
<i>Other corporate</i>	<i>65,636</i>	<i>3,153</i>	<i>14,927</i>	<i>7,044</i>	<i>2,504</i>	<i>93,264</i>
Retail	188,455	16,196	145	48	135	204,979
<i>Secured by real estate property - SME</i>	<i>1,353</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>1,359</i>
<i>- non-SME</i>	<i>150,348</i>	<i>15,033</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>165,381</i>
<i>Qualifying revolving</i>	<i>21,962</i>	<i>373</i>	<i>132</i>	<i>44</i>	<i>123</i>	<i>22,634</i>
<i>Other retail - SME</i>	<i>8,521</i>	<i>587</i>	<i>4</i>	<i>2</i>	<i>4</i>	<i>9,118</i>
<i>- non-SME</i>	<i>6,271</i>	<i>202</i>	<i>7</i>	<i>1</i>	<i>6</i>	<i>6,487</i>
Equities	699	—	10	8	5	722
Non-credit obligation assets	4,632	462	612	11	62	5,779
Total IRB	295,963	24,613	56,178	23,755	8,546	409,055
Proportion	72%	6%	14%	6%	2%	100%
STD						
Central governments and central banks	93,251	—	149	268	1,927	95,595
Regional governments and local authorities	153	2	—	—	—	155
Multilateral development banks	—	—	—	—	31	31
Institutions	31	—	67	5	407	510
Corporates	3,024	665	940	3	5,801	10,433
Retail	2,066	1	69	7	693	2,836
Secured by mortgages on immovable property						
- residential	10,990	136	262	205	1,247	12,840
- commercial	2,555	16	157	11	146	2,885
Exposures in default	362	16	24	12	140	554
Items associated with particularly high risk	—	—	28	—	—	28
Covered bonds	—	—	137	—	—	137
Equity exposures	549	3	16	99	38	705
Other exposures	1,734	32	69	—	222	2,057
Total STD	114,715	871	1,918	610	10,652	128,766
Proportion	90%	1%	1%	0%	8%	100%
Total IRB and STD	410,678	25,484	58,096	24,365	19,198	537,821
Proportion	75%	5%	11%	5%	4%	100%
Of which: by significant subsidiary (excludes inter-Group exposures)						
NWM Plc	9,568	159	13,350	5,402	3,237	31,716

Key points

- The overall decrease in exposures to the UK were due to reduced placements with central governments and central banks as well as a revision of the treatment of nostro exposures. The offsetting decreases were attributed to lending growth in the UK personal portfolio.
- The decrease in the rest of world exposures was primarily attributed to the completion of the Alawwal bank and SABB merger.

Credit risk

EU CRB_D: IRB& STD: Credit risk exposures by industry sector

The table below shows credit risk EAD post CRM analysed by industry, split by regulatory approach and exposure class. It excludes counterparty credit risk and securitisations. Industry analysis reflects the sector classification used by RBS for risk management purposes.

	Sovereign			Financial institutions			Corporates							Personal		Other	
	Central banks	Central governments	Other sovereign	Banks	Non-bank	SSPEs	Property	Natural resources	Transport	Manufacturing	Retail and leisure	Services	TMT	Mortgages	Other personal	Not allocated	Total
2019	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB																	
Central governments and central banks	26,564	20,979	789	4,308	32	—	—	—	—	—	—	40	—	—	—	—	52,712
Institutions	—	—	760	8,932	1	—	24	—	36	—	—	—	—	—	—	—	9,753
Corporates	—	—	42	20	21,608	240	35,442	12,048	14,911	12,246	13,538	14,133	6,101	—	116	3	130,448
Specialised lending	—	—	14	—	(277)	29	13,534	2,000	87	317	18	637	340	—	3	—	16,702
SME	—	—	—	—	1,067	—	2,161	523	2,326	4,186	4,061	5,452	587	—	5	—	20,368
Other corporate	—	—	28	20	20,818	211	19,747	9,525	12,498	7,743	9,459	8,044	5,174	—	108	3	93,378
Retail	—	—	13	1	119	—	2,246	72	612	2,043	2,319	2,503	216	174,529	30,457	—	215,130
Secured by real estate property - SME	—	—	—	—	5	—	540	5	64	166	267	218	19	—	7	—	1,291
- non-SME	—	—	—	—	—	—	—	—	—	—	—	—	—	174,529	—	—	174,529
Qualifying revolving	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23,138	—	23,138
Other retail - SME	—	—	13	1	114	—	1,706	67	548	1,877	2,052	2,284	197	—	81	—	8,940
- non-SME	—	—	—	—	—	—	—	—	—	—	—	1	—	—	7,231	—	7,232
Equities	—	—	—	5	1,331	—	—	—	2	6	—	5	17	—	—	—	1,366
Non-credit obligation assets	—	19	78	64	36	—	128	31	305	55	92	14	53	—	—	5,329	6,204
Total IRB	26,564	20,998	1,682	13,330	23,127	240	37,840	12,151	15,866	14,350	15,949	16,695	6,387	174,529	30,573	5,332	415,613
STD																	
Central governments and central banks	54,317	26,475	547	—	—	—	—	—	—	—	—	—	—	—	—	—	81,339
Regional governments and local authorities	—	—	20	—	—	—	—	—	—	—	—	—	—	—	—	—	20
Institutions	—	—	—	110	243	—	—	—	—	—	—	—	—	—	—	—	353
Corporates	—	—	2	13	802	369	2,471	158	810	592	930	1,080	294	10	681	—	8,212
Retail	—	—	—	86	6	—	199	48	30	222	11	174	5	78	1,521	—	2,380
Secured by mortgages on immovable property	—	—	—	9	117	5	459	—	—	32	19	18	7	12,367	474	—	13,507
- residential	—	—	—	—	65	—	228	36	—	7	214	56	2	8	62	—	678
- commercial	—	—	—	38	2	—	24	12	15	16	13	9	1	176	100	—	406
Exposures in default	—	—	—	—	647	—	—	—	18	—	—	—	6	—	—	—	671
Equity exposures	—	—	—	—	—	—	54	4	2	5	1	48	—	—	—	1,231	1,345
Other exposures	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total STD	54,317	26,475	569	256	1,882	374	3,435	258	875	874	1,188	1,385	315	12,639	2,838	1,231	108,911
Total IRB and STD	80,881	47,473	2,251	13,586	25,009	614	41,275	12,409	16,741	15,224	17,137	18,080	6,702	187,168	33,411	6,563	524,524

Credit risk

EU CRB_D: IRB& STD: Credit risk exposures by industry sector continued

	Sovereign			Financial institutions			Corporates							Personal		Other	Total
	Central banks	Central governments	Other sovereign	Banks	Non-bank	SSPEs	Property	Natural resources	Transport	Manufacturing	Retail and leisure	Services	TMT	Mortgages	Other personal	Not allocated	
2018	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB																	
Central governments and central banks	28,045	22,662	818	2,885	—	—	—	—	—	—	—	40	—	—	—	—	54,450
Institutions	—	—	1,300	9,409	1	—	45	—	31	—	—	4	—	—	—	—	10,790
Corporates	—	105	57	19	21,928	483	35,527	12,076	13,825	12,081	14,634	15,853	5,604	—	140	3	132,335
<i>Specialised lending</i>	—	—	34	—	113	—	14,108	2,389	128	130	68	847	238	—	4	—	18,059
<i>SME</i>	—	—	—	—	917	—	1,881	636	2,320	4,408	4,306	5,832	705	—	7	—	21,012
<i>Other corporate</i>	—	105	23	19	20,898	483	19,538	9,051	11,377	7,543	10,260	9,174	4,661	—	129	3	93,264
Retail	—	—	15	1	119	—	2,366	72	633	2,076	2,311	2,563	223	165,381	29,219	—	204,979
<i>Secured by real estate property - SME</i>	—	—	—	—	6	—	581	6	67	157	281	232	21	—	8	—	1,359
<i>- non-SME</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	165,381	—	—	165,381
<i>Qualifying revolving</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22,634	—	22,634
<i>Other retail - SME</i>	—	—	15	1	113	—	1,785	66	566	1,919	2,030	2,330	202	—	91	—	9,118
<i>- non-SME</i>	—	—	—	—	—	—	—	—	—	—	—	1	—	—	6,486	—	6,487
Equities	—	—	—	9	686	—	—	—	2	4	—	4	17	—	—	—	722
Non-credit obligation assets	—	20	83	—	38	—	141	31	325	61	140	11	65	—	—	4,864	5,779
Total IRB	28,045	22,787	2,273	12,323	22,772	483	38,079	12,179	14,816	14,222	17,085	18,475	5,909	165,381	29,359	4,867	409,055
STD																	
Central governments and central banks	70,437	24,698	460	—	—	—	—	—	—	—	—	—	—	—	—	—	95,595
Regional governments and local authorities	—	—	153	—	—	—	—	—	—	—	2	—	—	—	—	—	155
Multilateral development banks	—	—	—	31	—	—	—	—	—	—	—	—	—	—	—	—	31
Institutions	—	—	—	471	39	—	—	—	—	—	—	—	—	—	—	—	510
Corporates	—	—	2	10	827	235	2,622	431	824	1,791	1,803	978	192	58	660	—	10,433
Retail	—	—	—	28	3	—	190	39	27	200	11	166	3	45	2,124	—	2,836
Secured by mortgages on immovable property																	
- residential	—	—	—	8	129	5	429	—	—	33	30	22	20	11,637	527	—	12,840
- commercial	—	—	—	14	120	—	1,634	21	24	25	433	317	32	11	254	—	2,885
Exposures in default	—	—	—	—	6	10	23	12	26	43	101	39	9	187	98	—	554
Items associated with particularly high risk	—	—	—	—	—	—	28	—	—	—	—	—	—	—	—	—	28
Covered bonds	—	—	—	—	137	—	—	—	—	—	—	—	—	—	—	—	137
Equity exposures	—	—	—	—	659	—	—	1	21	—	18	—	6	—	—	—	705
Other exposures	—	—	—	—	—	—	51	3	1	6	243	49	—	—	—	1,704	2,057
Total STD	70,437	24,698	615	562	1,920	250	4,977	507	923	2,098	2,641	1,571	262	11,938	3,663	1,704	128,766
Total IRB and STD	98,482	47,485	2,888	12,885	24,692	733	43,056	12,686	15,739	16,320	19,726	20,046	6,171	177,319	33,022	6,571	537,821

Credit risk

EU CRB_E: IRB & STD: Credit risk exposures by maturity profile

The table below shows credit risk EAD post CRM analysed by residual maturity, split by regulatory approach and exposure class. It excludes counterparty credit risk and securitisations. Exposures with no stated maturity, principally equities, are reported within the >5 years band.

2019	On demand £m	<=1 year £m	>1 year <=5 years £m	>5 years £m	Total £m
IRB					
Central governments and central banks	1,485	30,860	12,268	8,099	52,712
Institutions	5,336	1,585	1,605	1,227	9,753
Corporates	7,737	34,233	67,237	21,241	130,448
Specialised lending	92	3,827	9,899	2,884	16,702
SME	2,632	4,644	8,781	4,311	20,368
Other corporate	5,013	25,762	48,557	14,046	93,378
Retail	25,992	2,274	13,262	173,602	215,130
Secured by real estate property - SME	160	95	327	709	1,291
- non-SME	—	1,498	6,078	166,953	174,529
Qualifying revolving	23,138	—	—	—	23,138
Other retail - SME	2,691	352	1,805	4,092	8,940
- non-SME	3	329	5,052	1,848	7,232
Equities	—	—	—	1,366	1,366
Non-credit obligation assets	—	127	5,621	456	6,204
Total IRB	40,550	69,079	99,993	205,991	415,613
Proportion	9%	17%	24%	50%	100%
STD					
Central governments and central banks	461	11,598	54,761	14,519	81,339
Regional governments and local authorities	18	—	1	1	20
Multilateral development banks	—	—	—	—	—
Institutions	155	29	169	—	353
Corporates	445	1,306	5,313	1,148	8,212
Retail	755	167	856	602	2,380
Secured by mortgages on immovable property - residential	13	971	3,290	9,233	13,507
- commercial	23	90	502	63	678
Exposures in default	44	198	103	61	406
Equity exposures	—	—	—	671	671
Other exposures	—	22	1,283	40	1,345
Total STD	1,914	14,381	66,278	26,338	108,911
Proportion	2%	13%	61%	24%	100%
Total IRB and STD	42,464	83,460	166,271	232,329	524,524
Proportion	8%	16%	32%	44%	100%
Of which: by significant subsidiary (excludes inter-Group exposures)					
NatWest Holdings Group	40,367	45,311	142,252	224,413	452,343
NWM Plc	63	11,058	15,021	2,285	28,427

Credit risk

EU CRB_E: IRB & STD: Credit risk exposures by maturity profile continued

2018	On demand £m	<=1 year £m	>1 year <=5 years £m	>5 years £m	Total £m
IRB					
Central governments and central banks	12,351	22,234	12,704	7,161	54,450
Institutions	5,983	1,474	1,254	2,079	10,790
Corporates	9,224	35,703	65,002	22,406	132,335
<i>Specialised lending</i>	109	4,933	9,521	3,496	18,059
<i>SME</i>	2,967	4,765	8,401	4,879	21,012
<i>Other corporate</i>	6,148	26,005	47,080	14,031	93,264
Retail	25,582	2,580	12,916	163,901	204,979
<i>Secured by real estate property - SME</i>	157	88	369	745	1,359
<i>- non-SME</i>	—	1,794	5,981	157,606	165,381
<i>Qualifying revolving</i>	22,634	—	—	—	22,634
<i>Other retail - SME</i>	2,785	374	1,968	3,991	9,118
<i>- non-SME</i>	6	324	4,598	1,559	6,487
Equities	—	—	—	722	722
Non-credit obligation assets	—	130	5,130	519	5,779
Total IRB	53,140	62,121	97,006	196,788	409,055
Proportion	13%	15%	24%	48%	100%
STD					
Central governments and central banks	6,952	4,988	73,071	10,584	95,595
Regional governments and local authorities	16	94	3	42	155
Multilateral development banks	—	—	31	—	31
Institutions	82	13	373	42	510
Corporates	379	1,115	8,220	719	10,433
Retail	771	119	1,534	412	2,836
Secured by mortgages on immovable property - residential	22	285	8,978	3,555	12,840
<i>- commercial</i>	33	139	2,654	59	2,885
Exposures in default	47	127	334	46	554
Items associated with particularly high risk	—	28	—	—	28
Covered bonds	—	16	22	99	137
Equity exposures	—	—	—	705	705
Other exposures	—	22	1,972	63	2,057
Total STD	8,302	6,946	97,192	16,326	128,766
Proportion	6%	5%	76%	13%	100%
Total IRB and STD	61,442	69,067	194,198	213,114	537,821
Proportion	11%	13%	36%	40%	100%
Of which: by significant subsidiary (excludes inter-Group exposures)					
NWM Plc	8,353	9,163	12,284	1,916	31,716

Credit risk

Risk profile by credit quality

EU CR1_A: IRB and STD: Credit risk exposures by exposure class – Defaulted and non-defaulted split

The table below shows gross carrying values of credit risk exposures and specific credit risk adjustments (SCRA) analysed by credit quality, split by regulatory approach and exposure class. It excludes counterparty credit risk and securitisations. Gross carrying value comprises both on and off-balance sheet exposures including SCRA. The table has been prepared on an accounting basis adjusted for regulatory consolidation.

Exposure class	2019					2018				
	Gross carrying values		SCRA (2)	Year-to-date accumulated write-offs	Net value	Gross carrying values		SCRA (2)	Year-to-date accumulated write-offs	Net value
	Defaulted	Non-defaulted				Defaulted	Non-defaulted			
	exposures (1)	exposures				exposures (1)	exposures			
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
IRB										
1 Central governments and central banks	3	52,943	3	—	52,943	2	75,355	2	—	75,355
2 Institutions	—	12,443	22	—	12,421	—	19,399	19	—	19,380
3 Corporates	2,337	178,337	1,348	394	179,326	3,293	181,832	1,351	537	183,774
4 <i>Specialised lending</i>	596	16,888	296	183	17,188	1,223	17,568	333	151	18,458
5 <i>SME</i>	681	22,744	367	74	23,058	770	23,517	361	189	23,926
5 <i>Other corporate</i>	1,060	138,705	685	137	139,080	1,300	140,747	657	197	141,390
6 Retail	3,870	219,807	2,310	383	221,367	4,305	208,992	1,976	503	211,321
8 <i>Secured by real estate property - SME</i>	26	1,302	13	1	1,315	25	1,369	11	—	1,383
9 <i>- non-SME</i>	2,531	172,413	927	76	174,017	3,054	162,459	810	359	164,703
10 <i>Qualifying revolving</i>	606	31,315	552	187	31,369	601	30,900	520	10	30,981
12 <i>Other retail - SME</i>	269	8,145	236	79	8,178	260	8,292	200	10	8,352
13 <i>- non-SME</i>	438	6,632	582	40	6,488	365	5,972	435	124	5,902
14 Equities	—	1,366	—	—	1,366	—	740	—	—	740
Non-credit obligation assets	—	5,329	—	—	5,329	—	4,864	1	—	4,863
15 Total IRB	6,210	470,225	3,683	777	472,752	7,600	491,182	3,349	1,040	495,433
<i>Of which: Loans</i>	5,664	291,401	3,539	745	293,526	7,013	279,053	3,258	807	282,808
Debt securities	—	27,765	3	—	27,762	—	27,881	3	—	27,878
Other assets	8	30,890	11	—	30,887	20	26,239	1	233	26,258
Off-balance sheet exposures	538	120,169	130	32	120,577	567	158,009	87	—	158,489

For the notes to this table refer to the following page.

Credit risk

EU CR1_A: IRB and STD: Credit risk exposures by exposure class – Defaulted and non-defaulted split continued

	2019					2018				
	Gross carrying values		SCRA (2)	Year-to-date accumulated write-offs	Net value	Gross carrying values		SCRA (2)	Year-to-date accumulated write-offs	Net value
	Defaulted	Non-defaulted				Defaulted	Non-defaulted			
	exposures (1)	exposures				exposures (1)	exposures			
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
STD										
16 Central governments and central banks	—	81,965	5	—	81,960	—	99,075	4	—	99,071
17 Regional governments and local authorities	—	222	—	—	222	—	377	—	—	377
19 Multilateral development banks	—	—	—	—	—	—	31	—	—	31
21 Institutions	—	385	—	—	385	—	973	—	—	973
22 Corporates	249	10,276	86	12	10,439	434	14,359	277	292	14,516
24 Retail	91	6,367	21	1	6,437	94	6,347	38	40	6,403
Secured by mortgages on immovable property:										
26 - residential	233	14,498	14	2	14,717	102	13,706	15	39	13,793
27 - commercial	10	892	2	—	900	205	3,237	15	82	3,427
28 Exposures in default (3)	583	—	59	15	524	835	—	251	449	584
29 Items associated with particularly high risk	—	—	—	—	—	—	77	49	—	28
30 Covered bonds	—	—	—	—	—	—	136	—	—	136
33 Equity exposures	—	671	—	—	671	—	705	—	—	705
34 Other exposures	—	1,232	—	—	1,232	—	1,927	—	—	1,927
35 Total STD	583	116,508	128	15	116,963	835	140,950	398	453	141,387
<i>Of which: Loans</i>										
Debt securities	479	25,853	118	6	26,214	535	29,392	212	452	29,715
Other assets	—	26,726	2	—	26,724	—	24,905	2	—	24,903
Off-balance sheet exposures	1	55,314	4	—	55,311	273	72,430	180	1	72,523
	103	8,615	4	9	8,714	27	14,223	4	—	14,246
37 Total: Loans	6,143	317,254	3,657	751	319,740	7,548	308,445	3,470	1,259	312,523
38 Debt securities	—	54,491	5	—	54,486	—	52,786	5	—	52,781
Other assets	9	86,204	15	—	86,198	293	98,669	181	234	98,781
39 Off-balance sheet exposures	641	128,784	134	41	129,291	594	172,232	91	—	172,735
36 Total IRB and STD	6,793	586,733	3,811	792	589,715	8,435	632,132	3,747	1,493	636,820

Notes:

(1) Defaulted exposures are those with a PD of one and past due exposures of one day or more on the payment of a credit obligation.

(2) SCRA includes ECL for defaulted and non-defaulted customers.

(3) The breakdown of the standardised exposures in default is reported by the exposure class that corresponded to the exposure before default. The reported values for December 2018 have been restated for comparison.

Credit risk

This section contains disclosures on non-performing exposures (NPEs), forborne exposures (FBEs) and foreclosed assets in accordance with EBA guidelines issued in 2018. The aim of the newly introduced tables is to facilitate effective management of NPEs and achieve a sustainable reduction in NPEs in credit institutions' balance sheets. Previously reported templates 'EU CR1-B – Credit quality of exposures by industry or counterparty types' and 'EU CR1-C – Credit quality of exposures by geography' have been replaced with the new Template 5: Quality of non-performing exposures by geography' and 'Template 6: Credit quality of loans and advances by industry'. In line with EBA guidelines, only templates mandatory for all institutions are disclosed. RBS monitors its gross non performing loan (NPL) ratio to ensure that it is not required to disclose the additional templates for institutions with an NPL ratio above 5%.

Template 1: Credit quality of forborne exposures

The table below provides a breakdown of gross carrying amount of forborne exposures and the related accumulated impairment, provisions, accumulated change in fair value due to credit risk and collateral and financial guarantees received by portfolio and exposure class.

	a	b	c	d	e	f	g	h
	Gross carrying amount/nominal amount of exposures with forbearance measures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
	Performing forborne	Non-performing forborne	Of which defaulted	Of which impaired	On performing forborne exposures	On non-performing forborne exposures		
1 Loans and advances	3,305	3,438	2,954	2,936	(76)	(982)	4,674	2,290
2 Central banks	—	—	—	—	—	—	—	—
3 General governments	—	—	—	—	—	—	—	—
4 Credit institutions	—	—	—	—	—	—	—	—
5 Other financial corporations	33	2	2	2	—	—	3	1
6 Non-financial corporations	2,116	884	757	757	(54)	(318)	1,716	424
7 Households	1,156	2,552	2,195	2,177	(22)	(664)	2,955	1,865
8 Debt Securities	—	—	—	—	—	—	—	—
9 Loan commitments given	332	36	28	28	—	—	124	14
10 Total	3,637	3,474	2,982	2,964	(76)	(982)	4,798	2,304

Credit risk

Template 3: Credit quality of performing and non-performing exposures by past due days

The table below provides a breakdown of performing and non-performing exposures by portfolio, exposure class and days past due buckets.

	a	b	c	d	e	f	g	h	i	j	k	l
	Gross carrying amount/nominal amount											
	Performing exposures	Of which: Not past due or past due ≤ 30 days	Of which: Past due > 30 days ≤ 90 days	Non-performing exposures	Unlikely to pay that are not past due or are past due ≤ 90 days	Of which: Past due > 90 days ≤ 180 days	Of which: Past due > 180 days ≤ 1 year	Of which: Past due > 1 year ≤ 2 years	Of which: Past due > 2 years ≤ 5 years	Of which: Past due > 5 years ≤ 7 years	Of which: Past due > 7 years	Of which : defaulted
1 Loans and advances	422,619	421,866	753	7,176	3,408	772	762	842	816	242	334	6,491
2 Central banks	80,446	80,446	—	—	—	—	—	—	—	—	—	—
3 General governments	3,428	3,428	—	3	3	—	—	—	—	—	—	3
4 Credit institutions	15,552	15,552	—	—	—	—	—	—	—	—	—	—
5 Other financial corporations	31,890	31,883	7	12	3	—	3	4	1	—	1	12
6 Non-financial corporations	100,168	99,916	252	2,326	1,394	164	135	237	188	71	137	2,093
7 Of which SMEs	24,811	24,759	52	896	426	49	75	113	136	41	56	837
8 Households	191,135	190,641	494	4,835	2,008	608	624	601	627	171	196	4,383
9 Debt securities	59,305	59,305	—	3	3	—	—	—	—	—	—	—
10 Central banks	133	133	—	—	—	—	—	—	—	—	—	—
11 General governments	46,992	46,992	—	—	—	—	—	—	—	—	—	—
12 Credit institutions	5,565	5,565	—	—	—	—	—	—	—	—	—	—
13 Other financial corporations	6,505	6,505	—	3	3	—	—	—	—	—	—	—
14 Non-financial corporations	110	110	—	—	—	—	—	—	—	—	—	—
15 Off-balance-sheet exposures	129,937	—	—	587	—	—	—	—	—	—	—	562
16 Central banks	—	—	—	—	—	—	—	—	—	—	—	—
17 General governments	1,702	—	—	—	—	—	—	—	—	—	—	—
18 Credit institutions	2,237	—	—	—	—	—	—	—	—	—	—	—
19 Other financial corporations	14,813	—	—	1	—	—	—	—	—	—	—	—
20 Non-financial corporations	66,842	—	—	265	—	—	—	—	—	—	—	258
21 Households	44,343	—	—	321	—	—	—	—	—	—	—	304
22 Total	611,861	481,171	753	7,766	3,411	772	762	842	816	242	334	7,053

Note:

(1) The gross NPL ratio for RBS is 2.11% (Loans and advances classified as held for sale, cash balances at central banks and other demand deposits are excluded from this calculation).

Credit risk

Template 4: Performing and non-performing exposures and related provisions.

The table below provides a breakdown of gross carrying amount of performing and non-performing exposures and the related accumulated impairment, provisions, accumulated change in fair value due to credit risk, accumulated partial write-off and collateral and financial guarantees received by portfolio and exposure class.

		a	b	c	d	e	f	g						n		o
		Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions								
		Performing exposures			Non-performing exposures			Performing exposures – accumulated impairment and provisions			Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions			Collateral and financial guarantees received		
		Total	Of which stage 1	Of which stage 2	Total	Of which stage 2	Of which stage 3	Total	Of which stage 1	Of which stage 2	Total	Of which stage 2	Of which stage 3	On performing exposures	On non-performing exposures	
1	Loans and advances	422,619	395,424	27,195	7,176	663	6,503	(983)	(298)	(685)	(2,702)	(33)	(2,669)	248,338	3,859	
2	Central banks	80,446	80,446	—	—	—	—	(1)	(1)	—	—	—	—	—	—	
3	General governments	3,428	3,427	1	3	—	3	—	—	—	—	—	—	2,244	2	
4	Credit institutions	15,552	15,487	65	—	—	—	(2)	(2)	—	—	—	—	252	—	
5	Other financial corporations	31,890	31,411	479	12	—	12	(12)	(9)	(3)	(7)	—	(7)	13,604	5	
6	Non-financial corporations	100,168	88,837	11,331	2,326	127	2,198	(351)	(147)	(204)	(1,105)	(2)	(1,103)	60,104	927	
7	Of which SMEs	24,810	21,193	3,617	896	59	837	(133)	(48)	(85)	(379)	(1)	(378)	14,249	343	
8	Households	191,135	175,816	15,319	4,835	536	4,290	(617)	(139)	(478)	(1,590)	(31)	(1,559)	172,134	2,925	
9	Debt securities	59,305	59,295	10	3	—	3	(8)	(7)	(1)	(3)	—	(3)	—	—	
10	Central banks	133	133	—	—	—	—	—	—	—	—	—	—	—	—	
11	General governments	46,992	46,992	—	—	—	—	(3)	(3)	—	—	—	—	—	—	
12	Credit institutions	5,565	5,565	—	—	—	—	(1)	(1)	—	—	—	—	—	—	
13	Other financial corporations	6,505	6,495	10	3	—	3	(4)	(3)	(1)	(3)	—	(3)	—	—	
14	Non-financial corporations	110	110	—	—	—	—	—	—	—	—	—	—	—	—	
15	Off-balance-sheet exposures	129,937	124,346	5,591	587	21	554	(46)	(15)	(31)	(49)	—	(48)	17,522	62	
16	Central banks	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
17	General governments	1,702	1,702	—	—	—	—	—	—	—	—	—	—	369	—	
18	Credit institutions	2,237	2,231	6	—	—	—	—	—	—	—	—	—	848	—	
19	Other financial corporations	14,813	14,654	159	1	—	1	(1)	(1)	—	—	—	—	278	—	
20	Non-financial corporations	66,842	64,059	2,783	266	7	259	(16)	(8)	(8)	(26)	—	(25)	11,503	46	
21	Households	44,343	41,700	2,643	320	14	294	(29)	(6)	(23)	(23)	—	(23)	4,524	16	
22	Total	611,861	579,065	32,796	7,766	684	7,060	(1,037)	(320)	(717)	(2,754)	(33)	(2,720)	265,860	3,921	

Credit risk

Template 5: Quality of non-performing exposures by geography

The table below provides a breakdown of gross carrying amount of performing and non-performing exposures and the related accumulated impairment, provisions and accumulated change in fair value due to credit risk by geography. Geographical analysis is based on the country of operation of the customer.

	a	b	c	d	e	f	g
	Gross carrying/nominal amount	Of which: non-performing	Of which: defaulted	Of which: subject to impairment	Accumulated impairment	Provisions on off-balance-sheet commitments and financial guarantees given	Accumulated negative changes in fair value due to credit risk on non-performing exposures
1 On-balance-sheet exposures	489,103	7,179	6,491	488,738	(3,696)	—	—
2 UK	411,736	4,724	4,123	411,371	(2,606)	—	—
3 RoI	23,336	2,125	2,039	23,336	(791)	—	—
4 Other Western Europe	22,111	202	202	22,111	(161)	—	—
5 US	23,588	16	16	23,588	(10)	—	—
6 Rest of the World	8,332	112	111	8,332	(128)	—	—
7 Off-balance-sheet exposures	130,524	587	562	—	—	(95)	—
8 UK	94,399	429	405	—	—	(83)	—
9 RoI	3,059	32	31	—	—	(4)	—
10 Other Western Europe	21,033	114	114	—	—	(7)	—
11 US	9,300	—	—	—	—	(1)	—
12 Rest of the World	2,733	12	12	—	—	—	—
13 Total	619,627	7,766	7,053	488,738	(3,696)	(95)	—

Template 6: Credit quality of loans and advances by industry

Table below provides a breakdown of gross carrying amount of performing and non-performing exposures to non-financial corporations and the related accumulated impairment, provisions and accumulated change in fair value due to credit risk by industry.

	a	b	c	d	e	f
	Gross carrying amount	Of which: non-performing	Of which: defaulted	Of which: loans and advances subject to impairment	Accumulated impairment	Accumulated negative changes in fair value due to credit risk on non-performing exposures
1 Agriculture, forestry and fishing	3,691	73	54	3,691	(43)	—
2 Mining and quarrying	1,282	69	69	1,282	(59)	—
3 Manufacturing	8,480	112	104	8,480	(98)	—
4 Electricity, gas, steam and air conditioning supply	3,258	17	17	3,258	(18)	—
5 Water supply	2,491	5	5	2,491	(7)	—
6 Construction	5,852	350	345	5,851	(191)	—
7 Wholesale and retail trade	14,786	342	221	14,786	(304)	—
8 Transport and storage	6,011	142	141	6,011	(119)	—
9 Accommodation and food service activities	5,157	176	146	5,157	(83)	—
10 Information and communication	3,417	26	26	3,417	(28)	—
11 Financial and insurance activities	2	—	—	2	—	—
12 Real estate activities	29,537	451	438	29,441	(231)	—
13 Professional, scientific and technical activities	5,145	85	85	5,145	(59)	—
14 Administrative and support service activities	5,755	237	236	5,755	(115)	—
15 Public administration and defense, compulsory social security	25	4	4	25	—	—
16 Education	618	9	7	618	(5)	—
17 Human health services and social work activities	4,890	201	169	4,890	(70)	—
18 Arts, entertainment and recreation	1,393	16	15	1,393	(12)	—
19 Other services	704	11	11	704	(14)	—
20 Total	102,494	2,326	2,093	102,397	(1,456)	—

Credit risk

EU CR2_A: Changes in the stock of general and specific credit risk adjustments

The table below shows the drivers of movements in SCRA held against defaulted or impaired loans, debt securities and contingent liabilities. There is no general credit risk adjustment under RBS's IFRS 9 framework. The table has been prepared on an accounting basis adjusted for regulatory consolidation.

	Accumulated SCRA £m
1 At 1 January 2019	2,954
2 Increases due to amounts set aside for estimated loan losses during the period	1,207
3 Decreases due to amounts reversed for estimated loan losses during the period	(349)
4 Decreases due to amounts taken against accumulated credit risk adjustments	(792)
5 Transfers between credit risk adjustments	—
6 Impact of exchange rate differences	(40)
7 Business combinations, including acquisitions and disposals of subsidiaries	(173)
8 Other adjustments	(89)
9 At 31 December 2019	2,718
10 Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	n/a
11 Specific credit risk adjustments directly recorded to the statement of profit or loss	n/a

EU CR2_B: Changes in the stock of defaulted and impaired loans and debt securities

The table below shows the drivers in movements in gross carrying value defaulted exposure held against loans and debt securities. It has been prepared on an accounting basis adjusted for regulatory consolidation.

	Gross carrying value defaulted exposure £m
At 1 January 2019	8,390
Loans and debt securities that have defaulted or impaired since the last reporting period	3,609
Returned to non-defaulted status	(1,717)
Amounts written-off	(792)
Other changes	(2,892)
At 31 December 2019	6,598

Credit risk

Risk profile by credit risk mitigation techniques

Recognition of credit risk mitigation in the calculation of RWAs

Credit risk mitigation (CRM) is defined as the use of collateral or guarantees to reduce potential loss if a customer fails to settle all or part of its obligations to RBS. The application of CRM depends on which approach (standardised or IRB) is used to calculate RWAs related to a credit exposure.

Recognition of CRM under the standardised approach is carried out in accordance with regulatory requirements and entails the reduction of EAD (netting and financial collateral) or the adjustment of risk-weights (in the case of real estate), third-party guarantees and/or credit derivatives. Under the IRB approach, a wider scope of collateral can be recognised.

Table EU CR3_a indicates how different risk mitigants are incorporated into IRB risk parameters.

EU CRC: IRB and STD: Qualitative disclosures relating to credit risk mitigation

Credit risk mitigation

RBS uses a number of credit risk mitigation approaches. These differ for Wholesale and Personal customers.

Risk mitigation techniques, as set out in the appropriate credit policies, are used in the management of credit portfolios across RBS. These techniques mitigate credit concentrations in relation to an individual customer, a borrower group or a collection of related borrowers. Where possible, customer credit balances are netted against obligations. Mitigation tools can include structuring a security interest in a physical or financial asset, the use of credit derivatives including credit default swaps, credit-linked debt instruments and securitisation structures, and the use of guarantees and similar instruments (for example, credit insurance) from related and third parties. When seeking to mitigate risk, at a minimum RBS considers the following:

- Suitability of the proposed risk mitigation, particularly if restrictions apply.
- The means by which legal certainty is to be established, including required documentation, supportive legal opinions and the steps needed to establish legal rights.
- Acceptability of the methodologies to be used for initial and subsequent valuation of collateral, the frequency of valuations.
- Actions which can be taken if the value of collateral or other mitigants is less than needed.
- The risk that the value of mitigants and counterparty credit quality will deteriorate simultaneously.
- The need to manage concentration risks arising from collateral types.
- The need to ensure that any risk mitigation remains legally effective and enforceable.

The business and credit teams are supported by specialist in-house documentation teams. RBS uses industry-standard loan and security documentation wherever possible. However, when non-standard documentation is used, external lawyers are employed to review the documentation on a case-by-case basis. Mitigants (including any associated insurance) are monitored throughout the life of the transaction to ensure they perform as anticipated. Similarly, documentation is also monitored to ensure it remains enforceable.

Wholesale

RBS mitigates credit risk relating to Wholesale customers through the use of netting, collateral and market standard documentation, depending on the nature of the counterparty and its assets. The most common types of mitigation are:

- Commercial real estate.
- Other physical assets – Including stock, plant, equipment, machinery, vehicles, ships and aircraft. Such assets are suitable collateral only if RBS can identify, locate, and segregate them from other assets on which it does not have a claim. RBS values physical assets in a variety of ways, depending on the type of asset and may rely on balance sheet valuations in certain cases.

- Receivables – These are amounts owed to RBS's counterparties by their own customers. Valuation takes into account the quality of the counterparty's receivable management processes and excludes any that are past due.
- Financial collateral – Refer to the Counterparty credit risk section on page 105.

All collateral is assessed, case by case, independently of the provider to ensure that it is suitable security for the proposed loan. RBS monitors the value of the collateral and, if there is a shortfall, will review the position, which may lead to seeking additional collateral.

The key sector where RBS provides asset-backed lending is commercial real estate and residential mortgages. The valuation approach is detailed below.

Commercial real estate valuations – RBS has a panel of chartered surveying firms that cover the spectrum of geography and property sectors in which RBS takes collateral. Suitable values for particular assets are contracted through a single service agreement to ensure consistency of quality and advice. Valuations are commissioned when an asset is taken as security; a material increase in a facility is requested; or a default event is anticipated or has occurred. In the UK, an independent third party market indexation is applied to update external valuations once they are more than one year old and every three years a formal independent valuation is commissioned. In the Republic of Ireland, assets are revalued in line with the Central Bank of Ireland threshold requirements which permits indexation for lower-value assets, but demands annual Red Book valuations for distressed higher-value assets.

Personal

RBS takes collateral in the form of residential property to mitigate the credit risk arising from mortgages. RBS values residential property during the loan underwriting process by either appraising properties individually or valuing them collectively using statistically valid models. RBS updates residential property values quarterly using the relevant residential property index, namely:

Region	Index used
UK	Halifax quarterly regional house price index
Northern Ireland	UK House Price Index (published by the Land Registry)
Republic of Ireland	Central Statistics Office residential property price index

Counterparty credit risk

RBS mitigates counterparty credit risk arising from both derivative transactions and repurchase agreements through collateralisation and through the use of market standard documentation, enabling netting.

Amounts owed by RBS to a counterparty are netted against amounts the counterparty owes RBS, in accordance with relevant regulatory and internal policies. However, generally, this is only done if a netting agreement is in place. A legal opinion to the effect that the agreement is enforceable in the relevant jurisdiction is also required.

Collateral may consist of either cash or securities. Additional collateral may be called should the net value of the obligations to RBS rise or should the value of the collateral itself fall. The majority of agreements are subject to daily collateral calls with collateral valued using internal valuation methodologies.

RBS restricts counterparty credit exposures by setting limits that take into account the potential adverse movement of an exposure after adjusting for the impact of netting and collateral (where applicable). For further information on credit risk mitigation, refer to Table EU CR3_a.

Credit risk

EU CR3: IRB: Credit risk mitigation techniques by exposure class

The table below shows net carrying values of credit risk exposures analysed by use of different credit risk mitigation techniques, split by regulatory approach, balance sheet caption and exposure class, as required by the CRR. It excludes counterparty credit risk and securitisations.

The EBA guidelines require net carrying values to be analysed by exposure values of the secured assets, irrespective of the level of collateralisation. Unsecured exposure represents loans that have no security or collateral attached

	a	c	d	e		
	Unsecured	Net carrying values secured by			Total secured	Total
	net carrying value	Collateral	Guarantees	Credit derivatives		
	£m	£m	£m	£m	£m	£m
2019						
IRB						
Central governments and central banks	52,756	184	3	—	187	52,943
Institutions	9,455	2,009	889	68	2,966	12,421
Corporates	101,517	74,946	1,806	1,057	77,809	179,326
<i>Specialised lending</i>	<i>(425)</i>	<i>17,164</i>	<i>449</i>	<i>—</i>	<i>17,613</i>	<i>17,188</i>
<i>SME</i>	<i>5,184</i>	<i>17,730</i>	<i>144</i>	<i>—</i>	<i>17,874</i>	<i>23,058</i>
<i>Other corporate</i>	<i>96,758</i>	<i>40,052</i>	<i>1,213</i>	<i>1,057</i>	<i>42,322</i>	<i>139,080</i>
Retail	46,035	175,332	—	—	175,332	221,367
<i>Secured by real estate property - SME</i>	<i>—</i>	<i>1,315</i>	<i>—</i>	<i>—</i>	<i>1,315</i>	<i>1,315</i>
<i>- non-SME</i>	<i>—</i>	<i>174,017</i>	<i>—</i>	<i>—</i>	<i>174,017</i>	<i>174,017</i>
<i>Qualifying revolving</i>	<i>31,369</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>31,369</i>
<i>Other retail - SME</i>	<i>8,178</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>8,178</i>
<i>- non-SME</i>	<i>6,488</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>6,488</i>
Equities	1,366	—	—	—	—	1,366
Non-credit obligation assets	5,329	—	—	—	—	5,329
Total IRB	216,458	252,471	2,698	1,125	256,294	472,752
<i>Of which: Loans</i>	<i>70,805</i>	<i>221,631</i>	<i>990</i>	<i>100</i>	<i>222,721</i>	<i>293,526</i>
<i>Debt securities</i>	<i>27,762</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>27,762</i>
<i>Other assets</i>	<i>30,126</i>	<i>758</i>	<i>3</i>	<i>—</i>	<i>761</i>	<i>30,887</i>
<i>Off-balance sheet exposures</i>	<i>87,765</i>	<i>30,082</i>	<i>1,705</i>	<i>1,025</i>	<i>32,812</i>	<i>120,577</i>
<i>Defaulted</i>	<i>922</i>	<i>2,593</i>	<i>37</i>	<i>—</i>	<i>2,630</i>	<i>3,552</i>
STD						
Central governments and central banks	81,960	—	—	—	—	81,960
Regional governments and local authorities	222	—	—	—	—	222
Institutions	385	—	—	—	—	385
Corporates	9,434	731	62	—	793	10,227
Retail	6,070	286	—	—	286	6,356
Secured by mortgages on immovable property - residential	—	14,496	—	—	14,496	14,496
<i>- commercial</i>	<i>—</i>	<i>887</i>	<i>3</i>	<i>—</i>	<i>890</i>	<i>890</i>
Exposures in default	385	139	—	—	139	524
Equity exposures	671	—	—	—	—	671
Other exposures	1,232	—	—	—	—	1,232
Total STD	100,359	16,539	65	—	16,604	116,963
<i>Of which: Loans</i>	<i>11,611</i>	<i>14,558</i>	<i>45</i>	<i>—</i>	<i>14,603</i>	<i>26,214</i>
<i>Debt securities</i>	<i>26,724</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>26,724</i>
<i>Other assets</i>	<i>55,226</i>	<i>82</i>	<i>3</i>	<i>—</i>	<i>85</i>	<i>55,311</i>
<i>Off-balance sheet exposures</i>	<i>6,798</i>	<i>1,899</i>	<i>17</i>	<i>—</i>	<i>1,916</i>	<i>8,714</i>
<i>Defaulted</i>	<i>386</i>	<i>138</i>	<i>—</i>	<i>—</i>	<i>138</i>	<i>524</i>
Total IRB and STD	316,817	269,010	2,763	1,125	272,898	589,715
Total: Loans	82,416	236,189	1,035	100	237,324	319,740
Debt securities	54,486	—	—	—	—	54,486
Other assets	85,352	840	6	—	846	86,198
Off-balance sheet exposures	94,563	31,981	1,722	1,025	34,728	129,291
Defaulted	1,308	2,731	37	—	2,768	4,076

Credit risk

EU CR3: IRB: Credit risk mitigation techniques by exposure class continued

	a	c	d	e		
	Unsecured net carrying value £m	Net carrying values secured by			Total secured £m	Total £m
		Collateral £m	Guarantees £m	Credit derivatives £m		
2018						
IRB						
Central governments and central banks	75,230	123	2	—	125	75,355
Institutions	15,976	2,079	1,270	55	3,404	19,380
Corporates	105,323	76,647	1,804	—	78,451	183,774
<i>Specialised lending</i>	7	18,030	421	—	18,451	18,458
<i>SME</i>	4,602	19,097	227	—	19,324	23,926
<i>Other corporate</i>	100,714	39,520	1,156	—	40,676	141,390
Retail	45,235	166,086	—	—	166,086	211,321
<i>Secured by real estate property - SME</i>	—	1,383	—	—	1,383	1,383
<i>- non-SME</i>	—	164,703	—	—	164,703	164,703
<i>Qualifying revolving</i>	30,981	—	—	—	—	30,981
<i>Other retail - SME</i>	8,352	—	—	—	—	8,352
<i>- non-SME</i>	5,902	—	—	—	—	5,902
Equities	740	—	—	—	—	740
Non-credit obligation assets	4,863	—	—	—	—	4,863
Total IRB	247,367	244,935	3,076	55	248,066	495,433
<i>Of which: Loans</i>	<i>66,502</i>	<i>215,137</i>	<i>1,114</i>	<i>55</i>	<i>216,306</i>	<i>282,808</i>
<i>Debt securities</i>	<i>27,878</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>27,878</i>
<i>Other assets</i>	<i>25,425</i>	<i>829</i>	<i>4</i>	<i>—</i>	<i>833</i>	<i>26,258</i>
<i>Off-balance sheet exposures</i>	<i>127,562</i>	<i>28,969</i>	<i>1,958</i>	<i>—</i>	<i>30,927</i>	<i>158,489</i>
<i>Defaulted</i>	<i>1,344</i>	<i>3,816</i>	<i>64</i>	<i>—</i>	<i>3,880</i>	<i>5,224</i>
STD						
Central governments and central banks	99,071	—	—	—	—	99,071
Regional governments and local authorities	377	—	—	—	—	377
Multilateral development banks	31	—	—	—	—	31
Institutions	973	—	—	—	—	973
Corporates	13,287	955	54	—	1,009	14,296
Retail	6,135	183	—	—	183	6,318
<i>Secured by mortgages on immovable property - residential</i>	<i>—</i>	<i>13,706</i>	<i>—</i>	<i>—</i>	<i>13,706</i>	<i>13,706</i>
<i>- commercial</i>	<i>—</i>	<i>3,235</i>	<i>—</i>	<i>—</i>	<i>3,235</i>	<i>3,235</i>
Exposures in default	580	4	—	—	4	584
Items associated with particularly high risk	28	—	—	—	—	28
Covered bonds	136	—	—	—	—	136
Equity exposures	705	—	—	—	—	705
Other exposures	1,927	—	—	—	—	1,927
Total STD	123,250	18,083	54	—	18,137	141,387
<i>Of which: Loans</i>	<i>13,681</i>	<i>15,981</i>	<i>53</i>	<i>—</i>	<i>16,034</i>	<i>29,715</i>
<i>Debt securities</i>	<i>24,903</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>24,903</i>
<i>Other assets</i>	<i>72,420</i>	<i>103</i>	<i>—</i>	<i>—</i>	<i>103</i>	<i>72,523</i>
<i>Off-balance sheet exposures</i>	<i>12,246</i>	<i>1,999</i>	<i>1</i>	<i>—</i>	<i>2,000</i>	<i>14,246</i>
<i>Defaulted</i>	<i>580</i>	<i>4</i>	<i>—</i>	<i>—</i>	<i>4</i>	<i>584</i>
Total IRB and STD	370,617	263,018	3,130	55	266,203	636,820
Total: Loans	80,183	231,118	1,167	55	232,340	312,523
Debt securities	52,781	—	—	—	—	52,781
Other assets	97,845	932	4	—	936	98,781
Off-balance sheet exposures	139,808	30,968	1,959	—	32,927	172,735
Defaulted	1,924	3,820	64	—	3,884	5,808

Credit risk

EU CR3_a: IRB: Credit risk mitigation - incorporation within IRB parameters

	LGD	PD	EAD
Real estate (commercial and residential)	✓		
Other physical collateral	✓		
Third party guarantees	✓		
Credit derivatives	✓		
Parental guarantees (connected parties)		✓	
Financial collateral			
- trading book			✓
- non-trading book	✓		
Netting (on and off-balance sheet)			✓
Receivables	✓		
Life policies	✓		
Credit insurance	✓		

EU CR7: IRB: Effect on the RWAs of credit derivatives used as CRM techniques

The table below illustrates the effect of credit derivatives on the calculation of IRB approach capital requirements by IRB exposure class. The table excludes counterparty credit risk and securitisations.

	2019		2018	
	a	b	a	b
	Pre-credit derivatives RWAs £m	Actual RWAs £m	Pre-credit derivatives RWAs £m	Actual RWAs £m
Exposures under IRB				
Central governments and central banks	2,987	2,987	3,203	3,203
Institutions	2,410	2,410	3,422	3,374
Corporates - SMEs	8,762	8,762	10,616	10,616
Corporates - Specialised lending	11,178	11,178	11,808	11,808
Corporates - Other	41,300	41,268	41,419	41,419
Retail - Secured by real estate SMEs	523	523	508	508
Retail - Secured by real estate non-SMEs	18,939	18,939	18,902	18,902
Retail - Qualifying revolving	5,991	5,991	5,912	5,912
Retail - Other SMEs	3,856	3,856	3,923	3,923
Retail - Other non-SMEs	7,841	7,841	6,743	6,743
Equity IRB	2,613	2,613	1,590	1,590
Other non-credit obligation assets	4,365	4,365	4,080	4,080
Total	110,765	110,733	112,126	112,078

Credit risk

RBS profile by RWA calculation approach

RBS uses the PD/LGD slotting and standardised approaches to calculate RWAs for credit risk exposures.

IRB approach: PD/LGD

EU CR6_a: IRB: Exposures by exposure class and PD range – Retail

The table below shows the key parameters used to calculate MCR for credit risk exposures in Retail exposure classes under the IRB approach, split by PD range. It excludes exposures calculated under the supervisory slotting approach, equities under the simple risk-weight approach and non-credit assets. It also excludes counterparty credit risk and securitisations. A maturity adjustment is not a component of the IRB RWA formula for retail exposures and is therefore not reported in this table. Original on-balance sheet gross exposure includes SCRA.

In accordance with regulatory requirements, for defaulted exposures, RWAs are calculated as the difference between the LGD for an economic downturn and the best estimate LGD. This is the unexpected loss amount for which capital must be held. Retail EAD models estimate EAD directly, so CCFs are not reported in this table for retail exposure classes.

	a	b	d	e	f	g	i	l	j	k	l
	PD Range	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	EAD post CRM and post CCF	Average PD	Number of obligors	Average LGD	RWAs	RWA density	Expected loss	IFRS 9 ECL Provisions
2019	%	£m	£m	£m	%		%	£m	%	£m	£m
Retail - Secured by real estate SME	0.00 to <0.15	—	55	38	0.12	4,700	60	5	14	—	—
Retail - Secured by real estate SME	0.15 to <0.25	—	—	—	—	—	—	—	—	—	—
Retail - Secured by real estate SME	0.25 to <0.50	8	11	17	0.41	1,548	51	4	25	—	—
Retail - Secured by real estate SME	0.50 to <0.75	50	2	51	0.62	1,055	41	14	27	—	—
Retail - Secured by real estate SME	0.75 to <2.50	835	41	861	1.17	12,360	42	312	36	4	1
Retail - Secured by real estate SME	2.50 to <10.0	238	11	245	4.43	3,461	43	125	51	5	2
Retail - Secured by real estate SME	10.0 to <100.00	50	1	51	25.21	802	44	41	80	6	2
Retail - Secured by real estate SME	100.00 (default)	26	—	28	100.00	538	56	22	79	14	8
Total - Retail - Secured by real estate SME		1,207	121	1,291	4.79	24,464	43	523	41	29	13
Retail - Secured by real estate non-SME	0.00 to <0.15	37,762	3,622	41,488	0.13	334,287	10	1,271	3	6	2
Retail - Secured by real estate non-SME	0.15 to <0.25	7,103	138	7,217	0.16	71,084	18	457	6	2	4
Retail - Secured by real estate non-SME	0.25 to <0.50	66,239	10,045	75,486	0.32	569,376	11	4,937	7	28	18
Retail - Secured by real estate non-SME	0.50 to <0.75	35,455	102	35,687	0.59	251,623	14	4,934	14	34	22
Retail - Secured by real estate non-SME	0.75 to <2.50	7,770	106	7,936	1.15	58,866	14	1,615	20	13	14
Retail - Secured by real estate non-SME	2.50 to <10.0	1,599	18	1,622	6.03	13,579	12	752	46	13	17
Retail - Secured by real estate non-SME	10.0 to <100.00	2,449	5	2,472	26.86	20,641	15	2,201	89	102	70
Retail - Secured by real estate non-SME	100.00 (default)	2,522	9	2,621	100.00	21,898	24	2,772	106	418	780
Total - Retail - Secured by real estate non-SME		160,899	14,045	174,529	2.29	1,341,354	12	18,939	11	616	927
Retail - Qualifying revolving	0.00 to <0.15	48	7,349	10,839	0.04	8,298,308	53	179	2	3	3
Retail - Qualifying revolving	0.15 to <0.25	269	461	751	0.23	441,969	66	63	8	1	2
Retail - Qualifying revolving	0.25 to <0.50	901	7,089	2,851	0.37	2,613,442	65	347	12	7	12
Retail - Qualifying revolving	0.50 to <0.75	429	4,998	1,609	0.65	1,676,653	67	310	19	7	12
Retail - Qualifying revolving	0.75 to <2.50	1,698	4,883	3,418	1.41	2,735,188	70	1,245	36	34	48
Retail - Qualifying revolving	2.50 to <10.0	2,031	763	2,857	4.74	1,606,319	74	2,597	91	101	132
Retail - Qualifying revolving	10.0 to <100.00	346	51	469	22.36	296,434	74	915	195	76	81
Retail - Qualifying revolving	100.00 (default)	341	265	344	100.00	397,125	86	335	97	268	262
Total - Retail - Qualifying revolving		6,063	25,859	23,138	2.85	18,065,438	62	5,991	26	497	552

Credit risk

EU CR6_a: IRB: Exposures by exposure class and PD range – Retail continued

		a	b	d	e	f	g	i	j	k	l
		Original on-balance	Off-balance	EAD post CRM	Average		Average		RWA	Expected	IFRS 9 ECL
	PD Range	sheet gross exposure	sheet exposures	and post CCF	PD	Number of	LGD	RWAs	density	loss	Provisions
2019	%	£m	pre CCF	£m	%	obligors	%	£m	%	£m	£m
Retail - Other SME	0.00 to <0.15	—	639	740	0.12	293,487	62	105	14	1	1
Retail - Other SME	0.15 to <0.25	—	—	—	—	—	—	—	—	—	—
Retail - Other SME	0.25 to <0.50	166	186	498	0.35	234,540	55	125	25	1	1
Retail - Other SME	0.50 to <0.75	576	35	675	0.63	88,638	44	196	29	2	1
Retail - Other SME	0.75 to <2.50	4,223	401	4,716	1.29	336,525	46	1,972	42	30	14
Retail - Other SME	2.50 to <10.0	1,505	98	1,695	4.22	166,961	47	939	55	35	16
Retail - Other SME	10.0 to <100.00	298	17	337	23.47	50,839	56	334	99	44	26
Retail - Other SME	100.00 (default)	269	—	279	100.00	23,851	68	185	66	175	177
Total - Retail - Other SME		7,037	1,376	8,940	5.57	1,194,841	49	3,856	43	288	236
Retail - Other non-SME	0.00 to <0.15	—	—	—	—	—	—	—	—	—	—
Retail - Other non-SME	0.15 to <0.25	2	—	2	0.17	235	75	1	29	—	—
Retail - Other non-SME	0.25 to <0.50	68	—	68	0.35	10,009	70	29	43	—	—
Retail - Other non-SME	0.50 to <0.75	281	—	285	0.64	37,491	68	174	61	1	1
Retail - Other non-SME	0.75 to <2.50	3,970	—	4,049	1.40	538,438	74	3,823	94	50	58
Retail - Other non-SME	2.50 to <10.0	1,751	—	1,799	4.98	191,060	79	2,341	130	83	79
Retail - Other non-SME	10.0 to <100.00	560	—	577	26.04	74,412	81	1,140	197	142	59
Retail - Other non-SME	100.00 (default)	438	—	452	100.00	69,982	85	333	74	360	385
Total - Retail - Other non-SME		7,070	—	7,232	10.39	921,627	76	7,841	108	636	582
Total - Retail all portfolios		182,276	41,401	215,130	2.77	21,547,724	21	37,150	17	2,066	2,310

Credit risk

EU CR6_a: IRB: Exposures by exposure class and PD range – Retail continued

		b	d	e	f	g	i	l	j	k	l
		Original on-balance	Off-balance	EAD post CRM	Average		Average		RWA	Expected	IFRS 9 ECL
	PD Range	sheet gross exposure	sheet exposures	and post CCF	PD	Number of	LGD	RWAs	density	loss	Provisions
2018	%	£m	pre CCF	£m	%	obligors	%	£m	%	£m	£m
Retail - Secured by real estate SME	0.00 to <0.15	—	52	37	0.11	5,065	52	4	12	—	—
Retail - Secured by real estate SME	0.15 to <0.25	—	—	—	—	—	—	—	—	—	—
Retail - Secured by real estate SME	0.25 to <0.50	8	12	17	0.36	1,692	47	4	22	—	—
Retail - Secured by real estate SME	0.50 to <0.75	183	2	185	0.63	3,338	37	45	24	—	—
Retail - Secured by real estate SME	0.75 to <2.50	779	45	808	1.12	11,607	41	283	35	4	2
Retail - Secured by real estate SME	2.50 to <10.0	232	8	237	4.17	3,377	41	114	48	4	2
Retail - Secured by real estate SME	10.0 to <100.00	47	1	48	22.80	779	42	36	75	5	2
Retail - Secured by real estate SME	100.00 (default)	25	—	27	100.00	541	57	22	81	14	5
Total - Retail - Secured by real estate SME		1,274	120	1,359	4.28	26,399	42	508	37	27	11
Retail - Secured by real estate non-SME	0.00 to <0.15	49,568	3,961	53,643	0.13	437,112	10	1,654	3	8	4
Retail - Secured by real estate non-SME	0.15 to <0.25	555	148	674	0.17	6,620	32	83	12	—	1
Retail - Secured by real estate non-SME	0.25 to <0.50	70,809	8,345	78,597	0.32	595,674	11	5,416	7	31	17
Retail - Secured by real estate non-SME	0.50 to <0.75	16,782	182	17,087	0.60	142,658	19	3,077	18	21	17
Retail - Secured by real estate non-SME	0.75 to <2.50	7,635	120	7,834	1.05	66,411	15	1,635	21	13	12
Retail - Secured by real estate non-SME	2.50 to <10.0	1,579	15	1,601	5.55	13,863	12	695	43	11	14
Retail - Secured by real estate non-SME	10.0 to <100.00	2,756	4	2,780	26.85	22,692	17	2,660	96	128	102
Retail - Secured by real estate non-SME	100.00 (default)	3,044	10	3,165	100.00	25,271	28	3,682	116	587	643
Total - Retail - Secured by real estate non-SME		152,728	12,785	165,381	2.73	1,310,301	12	18,902	11	799	810
Retail - Qualifying revolving	0.00 to <0.15	34	7,239	10,275	0.04	7,840,508	54	177	2	3	4
Retail - Qualifying revolving	0.15 to <0.25	11	24	62	0.17	98,976	59	4	6	—	—
Retail - Qualifying revolving	0.25 to <0.50	927	7,045	2,984	0.34	2,446,246	64	336	11	7	10
Retail - Qualifying revolving	0.50 to <0.75	543	5,504	2,025	0.57	2,190,317	66	351	17	8	15
Retail - Qualifying revolving	0.75 to <2.50	1,709	4,859	3,666	1.38	3,033,279	69	1,293	35	35	56
Retail - Qualifying revolving	2.50 to <10.0	1,940	675	2,806	4.62	1,669,788	74	2,504	89	97	136
Retail - Qualifying revolving	10.0 to <100.00	329	61	476	22.68	363,697	73	929	195	78	78
Retail - Qualifying revolving	100.00 (default)	329	272	340	100.00	390,132	84	318	93	260	221
Total - Retail - Qualifying revolving		5,822	25,679	22,634	2.89	18,032,943	62	5,912	26	488	520

Credit risk

EU CR6_a: IRB: Exposures by exposure class and PD range – Retail continued

		a	b	d	e	f	g	i	j	k	l
		Original on-balance	Off-balance	EAD post CRM	Average		Average			Expected	IFRS 9 ECL
	PD Range	sheet gross exposure	sheet exposures	and post CCF	PD	Number of	LGD	RWAs	RWA	loss	Provisions
2018	%	£m	pre CCF	£m	%	obligors	%	£m	density	£m	£m
Retail - Other SME	0.00 to <0.15	—	672	786	0.11	303,209	56	97	12	1	1
Retail - Other SME	0.15 to <0.25	—	—	—	—	—	—	—	—	—	—
Retail - Other SME	0.25 to <0.50	111	183	452	0.34	247,269	53	109	24	1	—
Retail - Other SME	0.50 to <0.75	987	37	1,099	0.60	106,365	42	292	27	3	1
Retail - Other SME	0.75 to <2.50	4,115	436	4,656	1.23	359,112	49	2,010	43	29	15
Retail - Other SME	2.50 to <10.0	1,377	78	1,537	4.08	162,288	51	905	59	33	16
Retail - Other SME	10.0 to <100.00	280	16	317	22.68	50,528	56	313	99	40	23
Retail - Other SME	100.00 (default)	259	—	271	100.00	25,833	71	197	73	176	144
Total - Retail - Other SME		7,129	1,422	9,118	5.17	1,254,604	50	3,923	43	283	200
Retail - Other non-SME	0.00 to <0.15	1	—	1	0.11	3	76	—	—	—	—
Retail - Other non-SME	0.15 to <0.25	3	—	3	0.18	599	75	1	30	—	—
Retail - Other non-SME	0.25 to <0.50	211	—	214	0.41	22,617	66	97	45	1	1
Retail - Other non-SME	0.50 to <0.75	669	—	678	0.64	111,367	70	436	64	4	4
Retail - Other non-SME	0.75 to <2.50	3,350	—	3,418	1.29	421,464	76	3,211	94	41	44
Retail - Other non-SME	2.50 to <10.0	1,316	—	1,349	5.01	159,209	79	1,797	133	66	52
Retail - Other non-SME	10.0 to <100.00	422	—	434	28.51	56,348	81	882	203	121	53
Retail - Other non-SME	100.00 (default)	365	—	390	100.00	59,311	70	319	82	324	281
Total - Retail - Other non-SME		6,337	—	6,487	9.72	830,918	76	6,743	104	557	435
Total - Retail all portfolios		173,290	40,006	204,979	3.09	21,455,165	22	35,988	18	2,154	1,976

Credit risk

EU CR6_b: IRB: Exposures by exposure class and PD range – Wholesale

The table below shows the key parameters used to calculate MCR for credit risk exposures in Wholesale exposure classes under the IRB approach, split by PD range. It excludes exposures calculated under the supervisory slotting approach, equities under the simple risk-weight approach and non-credit assets. It also excludes counterparty risk and securitisations. The average maturity used in the RWA calculation is capped at five years in accordance with regulatory requirements. The corporates – specialised lending exposure class includes only exposures modelled under the PD/LGD method (relating to shipping). For specialised lending exposures under the supervisory slotting approach, refer to EU CR10_A. Original on-balance sheet gross exposure includes SCRA.

		a	b	c	d	e	f	g	h	i	j	k	l
	PD Range	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	IFRS 9 ECL provisions £m
2019	%												
Central governments and central banks	0.00 to <0.15	52,337	206	32	52,435	0.01	57	45	1.63	2,865	5	3	3
Central governments and central banks	0.15 to <0.25	275	—	100	275	0.23	5	56	1.14	122	44	—	—
Central governments and central banks	0.25 to <0.50	—	—	—	—	—	—	—	—	—	—	—	—
Central governments and central banks	0.50 to <0.75	—	—	—	—	—	—	—	—	—	—	—	—
Central governments and central banks	0.75 to <2.50	—	—	—	—	—	—	—	—	—	—	—	—
Central governments and central banks	2.50 to <10.0	—	—	—	—	2.50	—	50	4.99	—	—	—	—
Central governments and central banks	10.0 to <100.00	—	—	—	—	—	—	—	—	—	—	—	—
Central governments and central banks	100.00 (default)	2	—	—	2	100.00	1	7	1.00	—	—	—	—
Total - Central governments and central banks		52,614	206	32	52,712	0.02	63	45	1.63	2,987	6	3	3
Institutions	0.00 to <0.15	4,681	1,186	85	5,588	0.10	263	38	1.59	1,108	20	2	21
Institutions	0.15 to <0.25	3,345	1,170	42	3,893	0.17	121	40	0.95	1,139	29	3	1
Institutions	0.25 to <0.50	180	28	36	191	0.40	37	27	2.76	69	36	—	—
Institutions	0.50 to <0.75	4	15	37	(9)	0.64	19	81	1.19	(15)	161	—	—
Institutions	0.75 to <2.50	58	26	29	65	1.50	24	51	1.35	79	122	1	—
Institutions	2.50 to <10.0	24	3	42	25	2.65	37	45	1.09	30	117	—	—
Institutions	10.0 to <100.00	—	—	65	—	40.96	78	52	4.99	—	—	—	—
Institutions	100.00 (default)	—	—	—	—	—	—	—	—	—	—	—	—
Total - Institutions		8,292	2,428	63	9,753	0.15	579	38	1.35	2,410	25	6	22
Corporates - Specialised lending	0.00 to <0.15	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	0.15 to <0.25	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	0.25 to <0.50	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	0.50 to <0.75	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	0.75 to <2.50	1	—	100	—	1.81	14	1	5.00	—	—	—	—
Corporates - Specialised lending	2.50 to <10.0	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	10.0 to <100.00	8	—	—	9	14.48	3	36	1.00	16	185	—	1
Corporates - Specialised lending	100.00 (default)	2	1	102	3	100.00	1	30	4.99	—	—	1	—
Total - Corporates - Specialised lending		11	1	102	12	34.95	18	34	2.00	16	138	1	1

Credit risk

EU CR6_b: IRB: Exposures by exposure class and PD range – Wholesale continued

		a	b	c	d	e	f	g	h	i	j	k	l
	PD Range	Original on-balance sheet exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post CCF	Average PD	Number of obligors	Average LGD	Average maturity years	RWAs	RWA density	Expected loss	IFRS 9 ECL provisions
2019	%	£m	£m	%	£m	%		%		£m	%	£m	£m
Corporates - SME	0.00 to <0.15	27	10	75	35	0.10	43	32	2.48	7	20	—	—
Corporates - SME	0.15 to <0.25	434	196	55	544	0.22	1,208	36	3.12	181	33	—	2
Corporates - SME	0.25 to <0.50	2,154	742	56	2,578	0.41	6,452	25	3.09	740	29	3	5
Corporates - SME	0.50 to <0.75	2,564	834	49	2,979	0.64	5,204	23	2.79	987	33	4	6
Corporates - SME	0.75 to <2.50	8,038	2,618	47	9,301	1.31	14,857	24	2.67	4,063	44	29	34
Corporates - SME	2.50 to <10.0	3,301	885	44	3,728	3.52	6,645	23	2.32	1,872	50	30	31
Corporates - SME	10.0 to <100.00	517	69	50	558	15.76	1,038	26	2.38	738	132	22	17
Corporates - SME	100.00 (default)	627	45	28	645	100.00	1,482	40	2.65	174	27	263	272
Total - Corporates - SME		17,662	5,399	48	20,368	4.99	36,929	24	2.68	8,762	43	351	367
Corporates - Other	0.00 to <0.15	29,612	40,640	44	47,519	0.05	2,335	43	2.84	10,791	23	11	8
Corporates - Other	0.15 to <0.25	7,717	11,559	41	12,354	0.19	1,221	43	2.77	5,737	46	10	7
Corporates - Other	0.25 to <0.50	7,155	6,342	45	9,881	0.39	1,574	40	2.44	5,825	59	16	20
Corporates - Other	0.50 to <0.75	3,935	2,037	46	4,900	0.64	1,343	36	2.71	3,403	69	11	19
Corporates - Other	0.75 to <2.50	9,356	5,298	54	12,083	1.32	8,367	34	2.61	9,966	82	54	55
Corporates - Other	2.50 to <10.0	4,653	2,102	49	5,634	3.35	6,278	28	2.20	4,885	87	52	45
Corporates - Other	10.0 to <100.00	245	110	48	292	14.88	570	29	2.26	634	217	14	8
Corporates - Other	100.00 (default)	646	200	36	715	100.00	723	48	1.86	27	4	342	523
Total - Corporates - Other		63,319	68,288	45	93,378	1.31	22,411	40	2.70	41,268	44	510	685
Equities	0.00 to <0.15	—	—	—	—	—	—	—	—	—	—	—	—
Equities	0.15 to <0.25	596	—	—	595	0.23	1	90	5.00	894	150	1	—
Equities	0.25 to <0.50	—	—	—	—	—	—	—	—	—	—	—	—
Equities	0.50 to <0.75	—	—	—	—	—	—	—	—	—	—	—	—
Equities	0.75 to <2.50	183	—	—	182	1.27	10	90	5.00	511	280	2	—
Equities	2.50 to <10.0	55	3	100	59	2.50	15	90	5.00	194	328	1	—
Equities	10.0 to <100.00	—	—	—	—	—	—	—	—	—	—	—	—
Equities	100.00 (default)	—	—	—	—	—	—	—	—	—	—	—	—
Total - Equities		834	3	100	836	0.61	26	90	5.00	1,599	191	4	—
Total - Wholesale all portfolios		142,732	76,325	46	177,059	1.28	60,026	40	2.32	57,042	32	875	1,078

Credit risk

EU CR6_b: IRB: Exposures by exposure class and PD range – Wholesale continued

		a	b	c	d	e	f	g	h	i	j	k	l
	PD Range	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post CCF	Average PD	Number of obligors	Average LGD	Average maturity years	RWAs	RWA density	Expected loss	IFRS 9 ECL provisions
2018	%	£m	£m	%	£m	%		%		£m	%	£m	£m
Central governments and central banks	0.00 to <0.15	48,793	26,159	20	54,143	0.01	60	45	1.89	3,078	6	3	2
Central governments and central banks	0.15 to <0.25	295	50	20	305	0.23	4	51	1.15	125	41	—	—
Central governments and central banks	0.25 to <0.50	—	—	—	—	—	—	—	—	—	—	—	—
Central governments and central banks	0.50 to <0.75	—	—	—	—	—	—	—	—	—	—	—	—
Central governments and central banks	0.75 to <2.50	—	—	—	—	—	—	—	—	—	—	—	—
Central governments and central banks	2.50 to <10.0	—	—	—	—	2.50	1	50	1.00	—	—	—	—
Central governments and central banks	10.0 to <100.00	—	—	—	—	—	—	—	—	—	—	—	—
Central governments and central banks	100.00 (default)	2	—	—	2	100.00	1	7	1.00	—	—	—	—
Total - Central governments and central banks		49,090	26,209	20	54,450	0.02	66	45	1.89	3,203	6	3	2
Institutions	0.00 to <0.15	5,047	6,848	38	7,560	0.09	286	38	2.34	1,945	26	4	18
Institutions	0.15 to <0.25	1,684	3,613	31	2,833	0.17	147	42	1.26	1,045	37	2	—
Institutions	0.25 to <0.50	117	188	23	160	0.39	59	52	1.16	99	62	—	—
Institutions	0.50 to <0.75	95	30	30	104	0.64	28	50	0.99	92	89	—	—
Institutions	0.75 to <2.50	110	34	27	119	1.64	33	50	1.38	156	131	1	1
Institutions	2.50 to <10.0	4	26	21	10	3.63	55	60	1.01	19	191	—	—
Institutions	10.0 to <100.00	3	—	20	4	40.76	90	98	1.15	18	521	1	—
Institutions	100.00 (default)	—	—	—	—	—	—	—	—	—	—	—	—
Total - Institutions		7,060	10,739	36	10,790	0.16	698	40	2.01	3,374	31	8	19
Corporates - Specialised lending	0.00 to <0.15	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	0.15 to <0.25	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	0.25 to <0.50	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	0.50 to <0.75	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	0.75 to <2.50	14	—	100	12	1.81	19	35	1.37	10	85	—	1
Corporates - Specialised lending	2.50 to <10.0	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	10.0 to <100.00	—	—	—	—	—	—	—	—	—	—	—	—
Corporates - Specialised lending	100.00 (default)	26	—	—	26	100.00	1	30	1.00	26	100	4	3
Total - Corporates - Specialised lending		40	—	100	38	68.63	20	31	1.12	36	95	4	4

Credit risk

EU CR6_b: IRB: Exposures by exposure class and PD range – Wholesale continued

		a	b	c	d	e	f	g	h	i	j	k	l
	PD Range	Original on-balance sheet exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density	Expected loss	IFRS 9 ECL provisions
2018	%	£m	£m	%	£m	%		%	years	£m	%	£m	£m
Corporates - SME	0.00 to <0.15	9	5	71	12	0.11	59	37	3.40	3	23	—	—
Corporates - SME	0.15 to <0.25	276	98	69	344	0.22	1,221	31	3.19	83	24	—	—
Corporates - SME	0.25 to <0.50	2,178	828	58	2,666	0.41	6,777	28	3.15	841	32	3	2
Corporates - SME	0.50 to <0.75	2,335	812	52	2,762	0.64	5,416	29	2.95	1,107	40	5	3
Corporates - SME	0.75 to <2.50	8,102	2,731	49	9,464	1.31	16,010	27	2.70	4,571	48	33	22
Corporates - SME	2.50 to <10.0	3,830	1,151	47	4,416	3.57	7,497	25	2.46	3,103	70	40	20
Corporates - SME	10.0 to <100.00	559	97	59	623	16.25	1,099	25	2.33	582	93	25	5
Corporates - SME	100.00 (default)	713	46	28	725	100.00	1,808	45	2.86	326	45	320	309
Total - Corporates - SME		18,002	5,768	50	21,012	5.41	39,887	28	2.74	10,616	51	426	361
Corporates - Other	0.00 to <0.15	29,596	44,867	44	49,180	0.05	2,388	43	2.79	10,904	22	11	8
Corporates - Other	0.15 to <0.25	6,973	11,689	43	11,993	0.19	1,329	46	2.67	6,051	50	11	10
Corporates - Other	0.25 to <0.50	7,249	7,248	45	10,382	0.38	1,605	42	2.74	6,554	63	16	23
Corporates - Other	0.50 to <0.75	3,805	1,949	48	4,713	0.64	1,451	38	2.61	3,396	72	11	21
Corporates - Other	0.75 to <2.50	8,202	4,773	49	10,489	1.31	8,832	35	2.67	9,065	86	48	48
Corporates - Other	2.50 to <10.0	4,238	2,017	53	5,250	3.37	6,582	30	2.31	4,887	93	53	50
Corporates - Other	10.0 to <100.00	256	175	40	329	17.49	627	32	2.31	529	161	18	9
Corporates - Other	100.00 (default)	897	198	28	928	100.00	860	47	2.15	33	4	448	488
Total - Corporates - Other		61,216	72,916	45	93,264	1.52	23,674	41	2.71	41,419	44	616	657
Equities	0.00 to <0.15	—	—	—	—	—	—	—	—	—	—	—	—
Equities	0.15 to <0.25	—	—	—	—	—	—	—	—	—	—	—	—
Equities	0.25 to <0.50	—	—	—	—	—	—	—	—	—	—	—	—
Equities	0.50 to <0.75	—	—	—	—	—	—	—	—	—	—	—	—
Equities	0.75 to <2.50	139	—	—	139	1.26	11	90	5.00	391	280	2	—
Equities	2.50 to <10.0	72	—	—	55	2.50	17	90	5.00	178	325	1	—
Equities	10.0 to <100.00	—	—	—	—	—	—	—	—	—	—	—	—
Equities	100.00 (default)	—	—	—	—	100.00	1	90	5.00	—	—	—	—
Total - Equities		211	—	—	194	1.62	29	90	5.00	569	293	3	—
Total - Wholesale all portfolios		135,619	115,632	39	179,748	1.45	64,374	41	2.43	59,217	33	1,060	1,043

Credit risk

EU CR6_c: IRB: Geographical split of PD and LGD

The table below shows weighted-average PD and LGD for credit risk, analysed by geography, split by exposure class. It excludes exposures calculated under the supervisory slotting approach, equities under the simple risk-weight approach and non-credit assets. It also excludes counterparty credit risk and securitisations.

	Total		UK		RoI		Other Western Europe		US		Rest of World	
	PD	LGD	PD	LGD	PD	LGD	PD	LGD	PD	LGD	PD	LGD
2019	%	%	%	%	%	%	%	%	%	%	%	%
Central governments and central banks	0.02	45	0.01	47	0.06	45	0.01	45	0.01	45	0.10	46
Institutions	0.15	38	0.18	27	0.15	45	0.13	30	0.13	45	0.24	49
Corporates	1.97	37	2.10	35	3.52	36	1.48	44	0.31	47	2.46	46
<i>Specialised lending</i>	34.95	34	—	—	—	—	1.28	50	—	—	34.95	34
<i>SME</i>	4.99	24	4.90	24	5.60	26	44.58	19	2.35	8	10.79	35
<i>Other corporate</i>	1.31	40	1.29	38	2.55	40	1.43	44	0.31	47	2.21	46
Retail	2.77	21	2.19	21	10.50	31	3.53	60	2.65	58	3.22	59
<i>Secured by real estate property - SME</i>	4.79	43	4.77	43	11.79	43	11.91	39	28.52	42	9.53	40
<i>- non SME</i>	2.29	12	1.54	11	10.88	28	—	—	—	—	—	—
<i>Qualifying revolving</i>	2.85	62	2.84	62	3.95	72	2.22	60	1.69	58	2.32	59
<i>Other retail - SME</i>	5.57	49	5.56	48	5.68	72	3.63	53	8.63	48	5.66	48
<i>- non-SME</i>	10.39	76	10.42	76	8.21	72	32.54	75	32.44	80	21.33	77
Equities	0.61	90	1.56	90	1.28	90	1.80	90	1.68	90	0.24	90
Total	2.10	30	2.15	25	7.63	34	0.49	44	0.12	46	0.82	49
2018												
Central governments and central banks	0.02	45	0.01	49	0.06	45	0.01	45	0.01	45	0.11	46
Institutions	0.16	40	0.10	37	4.38	52	0.12	31	0.13	45	0.39	51
Corporates	2.26	39	2.35	37	7.55	37	0.66	45	0.34	46	4.68	46
<i>Specialised lending</i>	68.63	31	—	—	—	—	—	—	—	—	68.63	31
<i>SME</i>	5.41	28	5.19	28	7.40	28	18.35	23	2.83	16	46.63	54
<i>Other corporate</i>	1.52	41	1.50	40	7.62	41	0.60	45	0.33	46	3.21	46
Retail	3.09	22	2.16	21	13.87	31	2.64	60	3.20	58	3.37	59
<i>Secured by real estate property - SME</i>	4.28	42	4.27	42	4.78	42	2.80	38	15.82	38	8.81	40
<i>- non SME</i>	2.73	12	1.56	11	14.40	28	—	—	—	—	—	—
<i>Qualifying revolving</i>	2.89	62	2.85	62	5.88	72	2.15	60	1.84	59	2.40	59
<i>Other retail - SME</i>	5.17	50	5.17	49	5.19	71	3.61	49	11.45	47	8.63	45
<i>- non-SME</i>	9.72	76	9.57	76	14.16	72	11.15	74	37.76	77	17.51	75
Equities	1.62	90	1.61	90	—	—	1.48	90	2.22	90	1.63	90
Total	2.32	31	2.20	26	11.16	34	0.20	44	0.14	45	1.62	47

Credit risk

EU CR10_A: IRB Specialised lending

The table below shows EAD post CRM (exposure amount) for IRB specialised lending exposures subject to the supervisory slotting approach (income-producing real estate and project finance portfolios), analysed by type of lending and regulatory category. It excludes counterparty credit risk and securitisations. For specialised lending exposures under the PD/LGD method (relating to shipping), refer to EU CR6_b.

2019 Regulatory categories	Remaining maturity	On-balance sheet amount £m	Off-balance sheet amount £m	Risk-weight %	Exposure amount £m	RWAs £m	Expected loss £m
1 - Strong	Less than 2.5 years	3,688	853	50	4,181	2,090	—
	Equal to or more than 2.5 years	5,073	1,407	70	6,188	4,332	25
2 - Good	Less than 2.5 years	2,984	374	70	3,308	2,316	13
	Equal to or more than 2.5 years	1,823	160	90	1,954	1,759	16
3 - Satisfactory	Less than 2.5 years	218	10	115	227	261	6
	Equal to or more than 2.5 years	136	11	115	147	169	4
4 - Weak	Less than 2.5 years	63	32	250	74	186	6
	Equal to or more than 2.5 years	19	—	250	20	49	2
5 - Default	Less than 2.5 years	334	11	—	344	—	174
	Equal to or more than 2.5 years	242	8	—	247	—	123
Total	Less than 2.5 years	7,287	1,280		8,134	4,853	199
	Equal to or more than 2.5 years	7,293	1,586		8,556	6,309	170

2018							
1 - Strong	Less than 2.5 years	3,835	788	50	4,276	2,138	—
	Equal to or more than 2.5 years	5,383	1,125	70	6,251	4,375	25
2 - Good	Less than 2.5 years	3,128	524	70	3,609	2,526	14
	Equal to or more than 2.5 years	2,004	243	90	2,223	2,001	18
3 - Satisfactory	Less than 2.5 years	106	13	115	113	130	3
	Equal to or more than 2.5 years	208	4	115	212	244	6
4 - Weak	Less than 2.5 years	43	1	250	45	112	4
	Equal to or more than 2.5 years	78	46	250	98	246	8
5 - Default	Less than 2.5 years	903	21	—	922	—	463
	Equal to or more than 2.5 years	256	20	—	272	—	136
Total	Less than 2.5 years	8,015	1,347	—	8,965	4,906	484
	Equal to or more than 2.5 years	7,929	1,438	—	9,056	6,866	193

The table below shows EAD post CRM (exposure amount) for IRB equity exposures subject to the simple risk-weight approach. It excludes counterparty credit risk and securitisations.

2019	On-balance sheet amount £m	Off-balance sheet amount £m	Risk-weight %	Exposure amount £m	RWAs £m	Capital requirements £m
Exchange-traded equity exposures	—	—	290	—	—	—
Private equity exposures	412	114	190	526	999	80
Other equity exposures	3	1	370	4	15	1
Total	415	115	—	530	1,014	81

2018	On-balance sheet amount £m	Off-balance sheet amount £m	Risk-weight %	Exposure amount £m	RWAs £m	Capital requirements £m
Exchange-traded equity exposures	3	—	290	3	8	1
Private equity exposures	365	152	190	516	981	78
Other equity exposures	7	1	370	9	32	3
Total	375	153	—	528	1,021	82

Standardised approach

Calculation of RWAs under the standardised approach

Under the standardised approach, risk-weights are assigned to exposures in accordance with the CRR. For corporates, sovereigns and financial institutions, RBS uses risk-weights based on credit quality steps that are mapped from credit ratings issued by external rating agencies, namely Standard & Poor's (S&P), Moody's, Fitch and ARC.

Recognition of credit risk mitigation in the calculation of RWAs

Credit risk mitigation (CRM) is defined as the use of collateral or guarantees to reduce potential loss if a customer fails to settle all or part of its obligations to RBS. The application of CRM depends on which approach (standardised or IRB) is used to calculate RWAs related to a credit exposure.

Recognition of CRM under the standardised approach is carried out in accordance with regulatory requirements and entails the reduction of EAD (netting and financial collateral) or the adjustment of risk-weights (in the case of real estate), third-party guarantees and/or credit derivatives. Under the IRB approach, a wider scope of collateral can be recognised and Table EU CR3_a indicates how different risk mitigants are incorporated into IRB risk parameters.

Credit risk

EU CR4: STD: Exposures and CRM effects

The table below shows the effect of CRM techniques on credit risk exposures under the standardised approach. It shows exposures both pre and post-CRM and CCFs as well as associated RWAs and RWA density, split by exposure class. It excludes counterparty credit risk and securitisations.

Securitisation.

	a	b	c	d	e	f
	Exposures pre CCF and CRM		Exposures post CCF and CRM			
	On-balance sheet £m	Off-balance sheet £m	On-balance sheet £m	Off-balance sheet £m	RWA £m	RWA density %
2019						
1 Central governments and central banks	81,041	919	81,104	235	323	—
2 Regional governments and local authorities	20	202	19	1	6	27
4 Multilateral development banks	—	—	—	—	—	—
6 Institutions	307	77	353	—	85	24
7 Corporates	8,011	1,979	7,619	593	7,691	94
8 Retail	2,420	3,937	2,331	49	1,433	60
9 Secured by mortgages on immovable property - residential	13,250	1,245	13,254	253	4,849	36
- commercial	616	256	547	131	692	102
10 Exposures in default	420	103	405	1	489	121
11 Items associated with particularly high risk	—	—	—	—	—	—
12 Covered bonds	—	—	—	—	—	—
14 Equity exposures	671	—	671	—	1,619	241
16 Other exposures	1,231	—	1,345	—	713	53
17 Total	107,987	8,718	107,648	1,263	17,900	16

2018								
1 Central governments and central banks	95,308	3,701	95,314	281			866	1
2 Regional governments and local authorities	152	226	152	3			138	89
4 Multilateral development banks	31	—	31	—			—	—
6 Institutions	327	646	366	144			221	43
7 Corporates	9,434	4,600	8,852	1,581			9,588	92
8 Retail	2,859	3,459	2,807	29			1,830	65
9 Secured by mortgages on immovable property - residential	12,481	1,224	12,679	161			4,606	36
10 - commercial	2,844	367	2,798	87			2,884	100
11 Exposures in default	557	27	552	2			680	123
12 Items associated with particularly high risk	28	—	28	—			42	150
13 Covered bonds	136	—	137	—			27	20
15 Equity exposures	705	—	705	—			1,533	217
16 Other exposures	1,927	—	2,057	—			788	38
17 Total	126,789	14,250	126,478	2,288			23,203	18

EU CR5a: STD: CQS mapping to external credit ratings

Under the STD approach, RBS uses credit quality steps (CQS) to calculate the RWAs associated with non-counterparty credit risk exposures. Each rated exposure in the STD portfolio is assigned to one of six CQS. The CQS map to the rating of the four external rating agencies, as shown in the table below. Each CQS is associated with a particular risk-weighting. Each exposure is multiplied by the appropriate risk-weighting to calculate the relevant RWA amount. If no external rating is available, RBS assigns the exposure a risk-weighting in line with the CRR.

Credit quality step	Standard & Poor's	Moody's	Fitch	ARC
Step 1	AAA to AA-	Aaa to Aa3	AAA to AA-	AAA to AA-
Step 2	A+ to A-	A1 to A3	A+ to A-	A+ to A-
Step 3	BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-	BBB+ to BBB-
Step 4	BB+ to BB-	Ba1 to Ba3	BB+ to BB-	BB+ to BB-
Step 5	B+ to B-	B1 to B3	B+ to B-	B+ to B-
Step 6	CCC+ and below	Caa1 and below	CCC and below	CCC+ and below

Credit risk

EU CR5: STD: Credit risk exposure class and risk-weights

The table below shows credit risk EAD post CRM under the standardised approach by risk-weight, split by exposure class. It excludes counterparty credit risk and securitisations. Exposure classes with no exposure are excluded.

EAD post CRM	Risk-weight																Total	Of which: Unrated
	0% £m	2% £m	4% £m	10% £m	20% £m	35% £m	50% £m	70% £m	75% £m	100% £m	150% (1) £m	250% £m	370% £m	1250% £m	Others £m	Deducted £m	£m	£m
2019																		
1 Central governments and central banks	81,183	—	—	—	29	—	—	—	—	—	—	127	—	—	—	—	81,339	280
2 Regional governments and local authorities	—	—	—	—	18	—	—	—	—	2	—	—	—	—	—	—	20	20
3 Multilateral development banks	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4 Institutions	—	—	—	—	307	—	—	—	—	—	—	—	—	—	46	—	353	56
5 Corporates	94	—	—	—	424	—	140	—	—	7,502	52	—	—	—	—	—	8,212	2,645
6 Retail	—	—	—	—	279	—	—	—	2,014	—	—	—	—	—	87	—	2,380	—
7 Secured by mortgages on immovable property	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
- residential	—	—	—	—	—	13,310	—	—	—	196	1	—	—	—	—	—	13,507	13,507
- commercial	—	—	—	—	—	—	—	—	—	647	31	—	—	—	—	—	678	678
10 Exposures in default	—	—	—	—	—	—	—	—	—	239	167	—	—	—	—	—	406	403
11 Items associated with particularly high risk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12 Covered bonds	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14 Equity exposures	—	—	—	—	—	—	—	—	—	38	—	633	—	—	—	—	671	632
15 Other exposures	527	—	—	—	56	—	26	—	—	677	—	—	—	—	59	—	1,345	1,345
16 Total EAD post CRM	81,804	—	—	—	1,113	13,310	166	—	2,014	9,301	251	760	—	—	192	—	108,911	19,566
17 EAD pre CRM	81,802	—	—	—	1,113	13,310	166	—	2,079	9,854	312	759	—	—	147	—	109,542	19,897
2018																		
1 Central governments and central banks	95,222	—	—	—	29	—	—	—	—	—	—	344	—	—	—	—	95,595	2,019
2 Regional governments and local authorities	2	—	—	—	19	—	—	—	—	134	—	—	—	—	—	—	155	153
4 Multilateral development banks	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	31
6 Institutions	—	—	—	—	247	—	184	—	—	79	—	—	—	—	—	—	510	372
7 Corporates	39	—	—	—	329	—	1,011	—	—	9,002	48	—	—	—	4	—	10,433	7,644
8 Retail	—	—	—	—	220	—	—	—	2,614	1	—	—	—	—	1	—	2,836	—
9 Secured by mortgages on immovable property	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
- residential	—	—	—	—	—	12,653	—	—	—	187	—	—	—	—	—	—	12,840	12,840
- commercial	—	—	—	—	—	—	—	—	—	2,851	34	—	—	—	—	—	2,885	2,885
10 Exposures in default	—	—	—	—	—	—	—	—	—	300	254	—	—	—	—	—	554	554
11 Items associated with particularly high risk	—	—	—	—	—	—	—	—	—	—	28	—	—	—	—	—	28	28
12 Covered bonds	—	—	—	—	137	—	—	—	—	—	—	—	—	—	—	—	137	—
14 Equity exposures	—	—	—	—	—	—	—	—	—	153	—	552	—	—	—	—	705	566
15 Other exposures	778	—	—	—	516	—	24	—	—	481	—	—	—	—	258	—	2,057	2,057
16 Total EAD post CRM	96,072	—	—	—	1,497	12,653	1,219	—	2,614	13,188	364	896	—	—	263	—	128,766	29,149
17 EAD pre CRM	96,133	—	—	—	1,497	12,653	1,170	—	2,637	13,786	366	896	—	—	313	—	129,451	29,512

Note:

(1) Relates to legacy assets.

Counterparty credit risk

Counterparty credit risk

EU CCRA: CCR: General qualitative information

Definition and framework

Counterparty credit risk relates to derivative contracts (including over-the-counter (OTC) derivatives and exchange-traded derivatives), SFTs and long settlement transactions in either the trading or the non-trading book. It is the risk of loss arising from a default of a counterparty before the final settlement of the transaction's cash flows, which vary in value by reference to a market factor, such as an interest rate, exchange rate or asset price.

Counterparty credit risk is covered by RBS's credit risk framework. Refer to the Credit risk section in the 2019 RBS Group ARA for more information.

A number of specific policies apply to derivatives including those transacted with CCPs and SFTs. These include policies that address documentation and collateral requirements, product-specific requirements (for example, securities financing) and counterparty specific requirements (for example, hedge funds).

Counterparty credit limit setting

Counterparty credit limits are established through the credit risk management framework. Limits are based on the credit quality of the counterparty and the appetite for the maximum potential future exposure of transactions, based on 95th percentile confidence levels. The utilisations recorded against the limits also reflect the nature of the relevant documentation and the anticipated close-out periods in the event of default.

For CCPs, utilisations are calculated in the same way as for other collateralised counterparties, and a credit limit is set. Additional limits are set to cover initial margin posted to the CCP, default fund contributions and other contingent liabilities. Stress testing is used to assess contingent liabilities such as additional default fund contributions.

Counterparty credit risk management

The credit policy framework governs counterparty credit risk management requirements. Industry standard documentation (for example, International Swaps and Derivatives Association master agreements for derivatives and Global Master Repurchase Agreements for SFTs) is executed with clients prior to trading. Exceptions to this require specific approval from a senior credit risk officer. The policy framework establishes approval authorities for documentation requirements under collateral agreements including: collateral threshold amounts; minimum transfer amounts; minimum haircuts; collateral eligibility criteria; and collateral call frequency.

Where there is no legal certainty regarding the enforceability of netting, exposures are shown gross. Where netting and collateral enforceability criteria are not fulfilled, exposure is assumed to be uncollateralised. The framework also includes a formal escalation policy for counterparty collateral disputes and unpaid collateral calls.

Collateral required in the event of a credit rating downgrade

RBS calculates the additional collateral and other liquidity impacts that would contractually arise in the event of its credit ratings being downgraded. This is undertaken on a daily basis for Treasury and liquidity management purposes. As at 31 December 2019, a simultaneous one-notch long-term and associated short-term downgrade in the credit ratings of all rated entities within RBS Group by all major ratings agencies would have required RBS Group to post estimated additional collateral of £1.3 billion, without taking mitigating management actions into account. A two-notch downgrade would have required £2.3 billion.

Credit valuation adjustments (CVAs)

The counterparty exposure management team charges the relevant trading desk a credit premium at the inception of a trade, in exchange for taking on the credit risk over the life of the transaction. The team may then hedge the default risk using credit derivatives sourced from third party providers. CVA sensitivities may be hedged using a combination of credit derivatives, interest rate derivatives, foreign exchange derivatives and other instruments.

RBS calculates a regulatory CVA capital charge. The purpose of this charge is to improve the resilience of banks to potential mark-to-market losses associated with deterioration in the creditworthiness of counterparties with which RBS has transacted non-cleared derivative trades. Under CRR rules, the charge is calculated using either the advanced approach or the standardised approach. As RBS has regulatory approval to use an internal model to calculate counterparty credit risk capital and permission to use an internal value-at-risk model for the specific risk of debt instruments, the advanced approach is used where possible. For products that fall outside the model permissions, the standardised approach, which is based on the external credit rating of the counterparty, is used.

Wrong-way risk

Wrong-way risk represents the risk of loss that arises when the risk factors driving the exposure to a counterparty are materially positively correlated with the probability of default of that counterparty, i.e. the size of the exposure tends to increase at the same time as the risk of the counterparty being unable to meet that obligation increases.

In addition to its usual credit approval and credit authority policies, RBS also manages its exposure to wrong-way risk through a dedicated policy that establishes a framework incorporating approvals, controls, limits and regular monitoring, where appropriate.

Under the framework, enhanced transaction approval is required and limits are set to constrain wrong-way risk arising through currency exposure to countries classified as high-risk under the internal Watchlist process. The reporting process includes a monthly review of wrong-way risks arising either from such currency exposure or through reverse repos, credit derivatives and equity trades.

The framework distinguishes between specific wrong-way risk (where the risk factor driving the exposure is specific to the counterparty) and general wrong-way risk (where the risk factor driving the exposure is not specific to the counterparty but still positively correlated with its probability of default, for instance country or currency related factors).

Counterparty credit risk

EU CCR1: CCR: Analysis of exposure by EAD calculation approach

The table below shows the methods used to calculate counterparty credit risk exposure and RWAs. It excludes CVA charges, securitisations and exposures cleared through a CCP.

	a	b	c	d	e	f	g
	Notional	Replacement cost/current market value	Potential future exposure	EEPE	Multiplier	EAD post-CRM	RWA
	£m	£m	£m	£m		£m	£m
2019							
1 Mark-to-market	n/a	5,135	2,736	n/a	n/a	3,999	2,106
2 Original exposure	—	n/a	n/a	n/a	n/a	—	—
3 Standardised approach	n/a	—	n/a	n/a	n/a	—	—
4 Internal model method (for derivatives and SFTs)	n/a	n/a	n/a	11,048	1.4	15,467	6,869
5 Securities financing transactions	n/a	n/a	—	—	n/a	—	—
6 Derivatives and long settlement transactions	n/a	n/a	n/a	11,048	1.4	15,467	6,869
7 From contractual cross product netting	n/a	n/a	—	—	n/a	—	—
8 Financial collateral simple method (for SFTs)	n/a	n/a	n/a	n/a	n/a	—	—
9 Financial collateral comprehensive method (for SFTs)	n/a	n/a	n/a	n/a	n/a	5,701	1,090
10 VaR for SFTs	n/a	n/a	n/a	n/a	n/a	—	—
11 Total	n/a	n/a	n/a	n/a	n/a	25,167	10,065
2018							
1 Mark-to-market	n/a	5,058	2,848	n/a	n/a	3,824	2,208
2 Original exposure	—	n/a	n/a	n/a	n/a	—	—
3 Standardised approach	n/a	—	n/a	n/a	n/a	—	—
4 Internal model method (for derivatives and SFTs)	n/a	n/a	n/a	10,978	1.4	15,369	6,951
5 Securities financing transactions	n/a	n/a	—	—	n/a	—	—
6 Derivatives and long settlement transactions	n/a	n/a	n/a	10,978	1.4	15,369	6,951
7 From contractual cross product netting	n/a	n/a	—	—	n/a	—	—
8 Financial collateral simple method (for SFTs)	n/a	n/a	n/a	n/a	n/a	—	—
9 Financial collateral comprehensive method (for SFTs)	n/a	n/a	n/a	n/a	n/a	6,115	1,211
10 VaR for SFTs	n/a	n/a	n/a	n/a	n/a	—	—
11 Total	n/a	n/a	n/a	n/a	n/a	25,308	10,370

Key points

- The overall decrease in RWAs over the year mainly reflected sterling strengthening against the US dollar and the euro.
- The RWA reduction was mostly driven by a decrease in exposure to institutions, offset by an increase in exposures to corporates. (For more details, refer to EU CCR4).

Counterparty credit risk

IRB Approach PD & LGD approach

EU CCR4: CCR IRB: Exposures by portfolio and PD scale

The table below shows a detailed view of counterparty credit risk positions subject to the IRB approach by exposure class and PD scale. It excludes CVA charges, securitisations and exposures cleared through a CCP. Counterparty credit risk exposures are managed on a portfolio basis, hence, it is not meaningful to report valuation adjustments and provisions at the regulatory exposure class level.

		a	b	c	d	e	f	g
	PD scale	EAD post CRM and post-CCF £m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs £m	RWA density %
2019								
Central governments and central banks	0.00 to <0.15	1,167	0.01	29	46	2.68	129	11
Central governments and central banks	0.15 to <0.25	—	0.23	1	45	5.00	—	—
Central governments and central banks	0.25 to <0.50	—	0.45	1	45	1.00	—	52
Central governments and central banks	0.50 to <0.75	—	—	—	—	—	—	—
Central governments and central banks	0.75 to <2.50	155	1.81	1	72	3.53	327	211
Central governments and central banks	2.50 to <10.00	—	—	—	—	—	—	—
Central governments and central banks	10.00 to <100.00	—	—	—	—	—	—	—
Central governments and central banks	100.00 (Default)	—	—	—	—	—	—	—
Total - Central governments and central banks		1,322	0.22	32	49	2.78	456	35
Institutions	0.00 to <0.15	2,769	0.10	143	45	2.39	1,044	38
Institutions	0.15 to <0.25	3,446	0.18	177	46	2.45	1,990	58
Institutions	0.25 to <0.50	213	0.38	87	51	2.36	183	86
Institutions	0.50 to <0.75	172	0.64	28	54	1.32	158	92
Institutions	0.75 to <2.50	274	1.62	48	49	0.77	278	102
Institutions	2.50 to <10.00	41	2.63	16	47	4.14	69	168
Institutions	10.00 to <100.00	—	—	1	—	—	—	—
Institutions	100.00 (Default)	—	—	—	—	—	—	—
Total - Institutions		6,915	0.24	500	46	2.34	3,722	54
Corporates - SME	0.00 to <0.15	—	—	1	45	5.00	—	30
Corporates - SME	0.15 to <0.25	1	0.22	19	52	1.02	—	31
Corporates - SME	0.25 to <0.50	13	0.42	164	44	1.73	6	46
Corporates - SME	0.50 to <0.75	8	0.64	172	34	1.60	3	36
Corporates - SME	0.75 to <2.50	38	1.41	413	33	2.18	22	57
Corporates - SME	2.50 to <10.00	14	3.04	163	32	1.84	10	69
Corporates - SME	10.00 to <100.00	—	11.47	12	43	2.60	1	156
Corporates - SME	100.00 (Default)	6	100.00	14	41	2.76	—	—
Total - Corporates - SME		80	8.76	958	35	2.02	42	51

Counterparty credit risk

EU CCR4: CCR IRB: Exposures by portfolio and PD scale continued

		a	b	c	d	e	f	g
	PD scale	EAD post CRM and post-CCF £m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs £m	RWA density %
2019								
Corporates - Specialised lending	Strong	591	—	239	—	4.00	392	66
Corporates - Specialised lending	Good	256	—	101	—	4.56	228	89
Corporates - Specialised lending	Satisfactory	16	—	16	—	4.98	18	115
Corporates - Specialised lending	Weak	—	—	—	—	—	—	—
Corporates - Specialised lending	Default	5	—	9	—	2.56	—	—
Total - Corporates - Specialised lending (1)		868	—	365	—	4.18	638	74
Corporates - Other	0.00 to <0.15	9,864	0.04	3,517	44	2.29	1,818	18
Corporates - Other	0.15 to <0.25	3,324	0.19	402	46	2.72	1,790	54
Corporates - Other	0.25 to <0.50	543	0.38	312	57	1.77	382	70
Corporates - Other	0.50 to <0.75	171	0.64	135	48	1.56	135	79
Corporates - Other	0.75 to <2.50	683	1.10	261	44	1.90	586	86
Corporates - Other	2.50 to <10.00	58	2.90	206	44	1.33	68	116
Corporates - Other	10.00 to <100.00	6	22.93	15	44	3.47	14	242
Corporates - Other	100.00 (Default)	1	100.00	1	50	—	—	—
Total - Corporates - Other		14,650	0.17	4,849	45	2.34	4,793	33
Total - Wholesale all portfolios		23,836	0.25	6,704	46	2.50	9,651	40

Note:

(1) For these specialised lending exposures, the supervisory slotting method is used to calculate RWAs, rather than the PD/LGD method.

Counterparty credit risk

EU CCR4: CCR IRB: Exposures by portfolio and PD scale continued

	PD scale	a	b	c	d	e	f	g
		EAD post CRM and post-CCF £m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs £m	RWA density %
2018								
Central governments and central banks	0.00 to <0.15	1,421	0.02	29	46	3.30	203	14
Central governments and central banks	0.15 to <0.25	—	0.23	1	45	5.00	—	174
Central governments and central banks	0.25 to <0.50	5	0.32	2	45	1.00	2	43
Central governments and central banks	0.50 to <0.75	—	—	—	—	—	—	—
Central governments and central banks	0.75 to <2.50	—	—	—	—	—	—	—
Central governments and central banks	2.50 to <10.00	28	5.12	1	79	5.00	93	337
Central governments and central banks	10.00 to <100.00	—	—	—	—	—	—	—
Central governments and central banks	100.00 (Default)	—	—	—	—	—	—	—
Total - Central governments and central banks		1,454	0.12	33	47	3.32	298	20
Institutions	0.00 to <0.15	3,009	0.10	135	45	2.55	1,226	41
Institutions	0.15 to <0.25	4,257	0.18	160	47	2.52	2,539	60
Institutions	0.25 to <0.50	450	0.40	106	47	1.98	349	78
Institutions	0.50 to <0.75	92	0.64	31	52	2.28	92	100
Institutions	0.75 to <2.50	117	1.36	45	53	1.39	141	121
Institutions	2.50 to <10.00	177	5.05	11	45	0.14	273	154
Institutions	10.00 to <100.00	—	—	—	—	—	—	—
Institutions	100.00 (Default)	36	100.00	1	45	2.78	—	—
Total - Institutions		8,138	0.73	489	46	2.43	4,620	57
Corporates - SME	0.00 to <0.15	—	—	—	—	—	—	—
Corporates - SME	0.15 to <0.25	2	0.22	21	42	1.00	—	24
Corporates - SME	0.25 to <0.50	16	0.42	156	37	1.55	6	37
Corporates - SME	0.50 to <0.75	34	0.64	152	47	1.14	18	52
Corporates - SME	0.75 to <2.50	32	1.39	414	34	2.60	21	66
Corporates - SME	2.50 to <10.00	14	3.55	168	31	2.37	11	73
Corporates - SME	10.00 to <100.00	—	15.64	13	41	1.18	—	125
Corporates - SME	100.00 (Default)	4	100.00	16	36	4.17	—	—
Total - Corporates - SME		102	4.79	940	39	1.94	56	55

Counterparty credit risk

EU CCR4: CCR IRB: Exposures by portfolio and PD scale continued

	PD scale	a	b	c	d	e	f	g
		EAD post CRM and post-CCF £m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs £m	RWA density %
2018								
Corporates - Specialised lending	Strong	633	—	240	—	4.53	431	68
Corporates - Specialised lending	Good	298	—	111	—	4.70	266	89
Corporates - Specialised lending	Satisfactory	19	—	10	—	4.30	22	115
Corporates - Specialised lending	Weak	4	—	5	—	3.49	9	250
Corporates - Specialised lending	Default	12	—	7	—	3.33	—	—
Total - Corporates - Specialised lending (1)		965	—	373	—	4.56	728	75
Corporates - Other	0.00 to <0.15	9,522	0.05	3,039	43	2.51	1,827	19
Corporates - Other	0.15 to <0.25	2,581	0.20	375	49	2.77	1,581	61
Corporates - Other	0.25 to <0.50	576	0.37	311	60	1.87	437	76
Corporates - Other	0.50 to <0.75	183	0.64	99	46	1.99	154	84
Corporates - Other	0.75 to <2.50	345	1.29	242	35	3.67	303	88
Corporates - Other	2.50 to <10.00	78	3.16	143	48	1.38	102	131
Corporates - Other	10.00 to <100.00	8	16.37	13	50	2.23	18	235
Corporates - Other	100.00 (Default)	—	100.00	1	50	1.00	—	—
Total - Corporates - Other		13,294	0.16	4,223	45	2.55	4,423	33
Total - Wholesale all portfolios		23,953	0.38	6,058	45	2.63	10,125	42

Note:

(1) For these specialised lending exposures, the supervisory slotting method is used to calculate RWAs, rather than the PD/LGD method.

Key points

- The RWA reduction was mostly driven by a decrease in exposure to institutions.
- This was offset by an increase in exposure to corporates, which in part reflected an increase in exposure to transactions with special purpose vehicles (SPVs) during Q3 2019. This followed regulatory guidance to the industry on the eligibility of financial collateral, which notably affected trades with such counterparties.

Counterparty credit risk

EU CCR3: CCR STD: Exposures by regulatory portfolio and risk-weight

The table below shows risk-weight by exposure class.

Exposure class	Risk-weight						Total	Of which: Unrated
	0% £m	2% £m	20% £m	50% £m	75% £m	100% £m	£m	£m
2019								
1 Central governments and central banks	724	—	—	—	—	—	724	—
2 Regional government and local authorities	12	—	8	—	—	—	20	—
6 Institutions	—	2,895	375	3	—	—	3,273	—
7 Corporates	—	—	106	26	—	355	488	19
8 Retail	—	—	—	—	—	—	—	—
11 Total	736	2,895	489	29	—	355	4,505	19
2018								
1 Central governments and central banks	1,019	—	—	—	—	—	1,019	—
2 Regional government and local authorities	—	—	15	—	—	—	15	—
6 Institutions	—	3,756	1,278	30	—	—	5,065	—
7 Corporates	—	—	60	12	—	202	275	30
8 Retail	—	—	—	—	7	—	7	—
11 Total	1,019	3,756	1,354	43	7	202	6,381	30

Key point

- The decrease in EAD reflected reductions in exposure to qualifying CCPs and to central banks.

EU CCR2: CCR: Credit valuation adjustment capital charge

The table below shows the CVA charge split by approach.

	2019		2018	
	a	b	a	b
	Exposure amount £m	RWAs £m	Exposure amount £m	RWAs £m
Total portfolios subject to the advanced CVA capital charge	8,184	1,443	7,817	1,912
1 (i) VaR component (including the multiplier)	—	253	—	245
2 (ii) Stressed VaR component (including the multiplier)	—	1,190	—	1,668
3 All portfolios subject to the standardised CVA capital charge	1,434	359	1,782	543
EU4 Based on original exposure method	—	—	—	—
5 Total	9,618	1,802	9,599	2,456

Key points

- The decrease relating to the advanced charge mainly reflected a decrease in the CVA multiplier. This was in line with the decrease in the market risk capital multiplier for NatWest Markets Plc over the year (refer to tables EU MR2_B and EU MR4).
- The reduction relating to the standardised charge was due to reduced non-IMM derivative exposure as a result of the Alawwal bank and SABB merger.

Counterparty credit risk

EU CCR5_A: Impact of netting and collateral held on exposure values

The table below shows the effect of netting and collateral by exposure type.

		a	b	c	d	e
		Gross positive fair value £m	Netting benefits £m	Netted current credit exposure £m	Collateral held £m	Net credit exposure £m
2019						
1	Derivatives	167,554	136,605	30,949	23,903	7,046
2	SFTs	179,444	—	179,444	175,135	4,309
4	Total	346,998	136,605	210,393	199,038	11,355
2018 (1)						
1	Derivatives	146,811	113,931	32,879	30,727	6,962
2	SFTs	166,337	—	166,337	163,448	7,171
4	Total	313,147	113,931	199,216	194,175	14,133

Note:

(1) 2018 data has been restated as a result of refinements to methodology.

Key point

- Net credit exposure was broadly unchanged for derivatives and decreased for SFTs – both in line with the EAD movements seen in EU CCR1.

EU CCR6: CCR: Credit derivatives

As part of its strategy to manage credit risk concentrations, RBS buys credit derivative products. The counterparties from which this protection is bought are subject to standard credit risk analysis. Eligibility criteria apply: credit protection bought from the same counterparty group as the reference entity is not eligible in cases where double default applies under the relevant regulation. The table below presents credit derivatives bought and sold by notional and fair values.

	2019		2018	
	a	b	a	b
	Protection bought £m	Protection sold £m	Protection bought £m	Protection sold £m
Notionals				
Single-name credit default swaps	5,055	3,523	6,719	4,772
Index credit default swaps	3,925	867	2,402	1,246
Total return swaps	465	204	472	90
Other credit derivatives	—	—	—	—
Total notionals	9,445	4,594	9,593	6,108
Of which: Own credit portfolio - notionals (1)	85	—	151	12
Fair values				
Positive fair value (asset)	74	74	263	39
Negative fair value (liability)	(176)	(77)	(66)	(156)

Note:

(1) Comprises trades held in the regulatory banking book used for hedging and credit management. Fair values are not material. Intermediation activities cover all other credit derivatives.

Key point

- The notionals on credit default swaps decreased overall. This reflected a decrease in bought and sold protection on single-name credit default swaps, offset by an increase in bought protection on index credit default swaps.

Counterparty credit risk

EU CCR8: CCR: Exposures (EAD post CRM) to central counterparties

The table below shows counterparty credit risk exposures to CCPs including default fund contributions. A qualifying CCP (QCCP) is a CCP that has been either authorised or recognised in accordance with the relevant regulation.

		2019		2018	
		a	b	a	b
		EAD	RWA	EAD	RWA
		post-CRM		post-CRM	
		£m	£m	£m	£m
1	Exposures to QCCPs (total)	n/a	260	n/a	385
2	Exposures for trades at QCCPs (excluding OTC initial margin and default fund contributions)	3,117	112	4,362	316
Of which:					
3	(i) OTC derivatives	1,012	69	1,250	250
4	(ii) Exchange-traded derivatives including initial margin	543	12	688	17
5	(iii) Securities financing transactions	1,562	31	2,424	48
8	Non-segregated initial margin	57	1	664	13
9	Pre-funded default fund contributions	301	146	256	56

Key points

- The reduction in RWAs was driven by lower exposure to OTC derivatives over the year.
- The increase in pre-funded default fund contributions reflected a refinement to the RWA calculation in relation to the default fund contribution to central counterparty exposure. This was offset by a reduction in RWAs for trade exposures, notably in OTC derivatives.

Market risk

Market risk

EU MRA: MR: Qualitative information related to market risk Definition and framework

Within trading books, traded market risk is the risk arising from changes in fair value on positions, assets, liabilities or commitments as a result of fluctuations in market prices.

The majority of traded market risk exposure arises from trading activities in NatWest Markets. The primary objective of these activities is to provide a range of financing, risk management and investment services to clients – including major corporations and financial institutions around the world. From a market risk perspective, activities are focused on: currencies; rates; securitised products; and traded credit.

Market risk governance and management

Responsibility for identifying, measuring, monitoring and controlling market risk arising from trading activities lies with the relevant trading business. Oversight is provided by the Traded Market Risk function.

For more information on the governance and management, mitigation, monitoring and reporting of traded market risk as well as disclosures relating to non-traded market risk, refer to the Market risk section of the 2019 RBS Group ARA.

EU MRB_A: MR: Qualitative information – position risk Inclusion of exposures in trading book

The Trading Book Policy sets out the principles and criteria for identifying and classifying trading book positions for the purpose of regulatory capital and market risk and credit risk measurement. The policy also stipulates the control requirements for the management and regular monitoring of the trading book status of positions and the procedures for escalation where necessary. Key criteria for determining trading book status set within the policy include considerations such as whether positions are transferable or comprise hedgeable financial instruments held with the intent to trade or in a hedging relationship with other trading book positions.

Trading book positions must be valued by marking them to market or to model on a daily basis. They are subject to market risk-based rules, with market risk capital requirements calculated either by using internal models where regulatory approval has been received or otherwise by using the non-modelled, or standardised, approach. Where the criteria set out in the policy are not met, positions are classified as non-trading book exposure and capitalised as outlined on page 116.

EU MRB_B: MR: Qualitative disclosure on use of internal model approach

Calculation of market risk capital requirements

As noted above, RBS uses two broad methodologies to calculate its market risk capital charge: (i) the standardised or non-modelled approach, whereby regulator-prescribed rules are applied, and (ii) the internal model approach (IMA), where, subject to regulatory approval, a model such as Value-at-risk (VaR) is used to calculate the capital charge.

RBS has IMA permission from the PRA for the following material legal entities: NWM Plc and NWB Plc. Since H1 2019, the IMA has not been used for NWB Plc and an application has been made to the PRA for the IMA permission for this legal entity to be formally removed.

Under the IMA, the following measures are used to calculate the capital charge: VaR, stressed VaR (SVaR), the incremental risk charge (IRC) and Risks not in VaR (RNIVs). RBS does not use the comprehensive risk measure.

Apart from NWM Plc, NWM N.V. and NWM Securities Inc. are the major contributors to market risk capital requirements in RBS. They are not considered significant subsidiaries of RBS for CRR purposes and therefore values for these entities are not shown separately.

Regulatory VaR

VaR is a statistical estimate of the potential change in the market value of a portfolio (and, thus, the impact on the income statement) over a specified time horizon at a given confidence level.

The regulatory VaR model is based on a historical simulation, utilising market data from the previous 500 days on an equally weighted basis. It assumes a time horizon of ten trading days and a confidence level of 99%.

It differs from the internal VaR model in that it takes into account only products, locations and legal entities covered by the regulator's IMA permission. In addition, regulatory VaR is based on a directly modelled ten-day holding period, rather than the one-day holding period on which internal VaR is based. The PRA approval covers general market risk in interest rate, foreign exchange, equity and commodity products and specific market risk in interest rate and equity products.

The performance and adequacy of the VaR model are tested on a regular basis through the following processes:

- Back-testing – Regulatory and internal back-testing is conducted on a daily basis. (For information on regulatory back-testing, refer to page 119. For information on internal back-testing, refer to page 180 of the 2019 RBS Group ARA.)
- Ongoing model validation – VaR model performance is assessed both regularly and on an ad-hoc basis if market conditions or the portfolio profile change significantly.
- Model Risk Management review – As part of the model lifecycle, all risk models (including the VaR model) are independently reviewed to ensure that the model is still fit for purpose given current market conditions and the portfolio profile (refer to page 180 of the 2019 RBS Group ARA).

Market risk

Regulatory stressed VaR (SVaR)

As with VaR, the SVaR technique produces estimates of the potential change in the market value of a portfolio, over a specified time horizon, at a given confidence level. SVaR is a VaR-based measure using historical data from a one-year period of stressed market conditions.

A simulation of 99% VaR is run on the current portfolio for each 250-day period from 2005 to the current VaR date, moving forward one day at a time. The SVaR is the worst VaR outcome of the simulated results.

This is in contrast with VaR, which is based on a rolling 500-day historical data set. A time horizon of ten trading days is assumed with a confidence level of 99%.

RBS's SVaR model has also been approved by the PRA for use in the capital requirement calculation. The distinction between regulatory SVaR and internal SVaR is the same as that between regulatory VaR and internal VaR.

Risk factors

The VaR model captures the potential impact of the following key risk factors:

- Interest rate risk – the risk that a position's fair value will alter due to a change in the absolute level of interest rates, in the spread between two rates, in the shape of the yield curve or in any other interest rate relationship.
- Credit spread risk – the risk that the value of a position will alter due to changes in the real or market-perceived ability of a borrower to pay related cash flows or obligations.
- Foreign currency price risk – the risk that the fair value of a position will alter due to a change in foreign currency or gold rates.
- Equity price risk – the risk that the fair value of a position will alter due to a change in equity prices.
- Commodity price risk – the risk that the fair value of a position will alter due to a change in commodity prices.

When simulating potential movements in risk factors, a combination of absolute and relative returns is used, depending on the risk factor.

General and specific risks

The market risks subject to capital requirements under Pillar 1 are primarily interest rate and credit spread risks in the trading book and foreign exchange risk in both the trading and non-trading books. Interest rate risk is split between general and specific risks. General risks represent market risks due to a move in a market as a whole, such as a main index or yield curve, while specific risks represent market risks arising from events particular to an underlying issuer.

The aggregation approach taken for general and specific risks is as follows:

- General risks are aggregated at the simulation level, adding P&L forecasts generated by the VaR model before statistics such as VaR and SVaR are extracted.
- Specific interest rate risks have both a systematic component and an idiosyncratic component. The systematic component captures the risk in market movements of credit spreads (across sectors, geographic locations and ratings) while the idiosyncratic component captures the credit spread variability of the underlying entity. The systematic components of specific interest rate risks are aggregated at the simulation level, while the idiosyncratic components are calculated as a standalone charge.

VaR and SVaR capture general and specific risks using a single model but not risks arising from the impact of defaults and rating changes associated with traded credit products and their derivatives. For these risks, two product-dependent approaches are used:

- The incremental risk charge model (see below) captures risks arising from rating migration and default events for the more liquid traded credit instruments and their derivatives.
- Securitisation and re-securitisation risks in the trading book are treated with the non-trading book non-modelled capitalisation approach.

Market risk

VaR limitations

Historical VaR and RBS's implementation of this risk measurement methodology have a number of known limitations, as summarised below, and VaR should be interpreted in light of these. RBS's approach is to supplement VaR with other risk metrics that address these limitations to ensure appropriate coverage of all material market risks.

Historical simulation VaR may not provide the best estimate of future market movements. It can only provide a forecast of portfolio losses based on events that occurred in the past. The RBS model uses the previous 500 days of data; this period represents a balance between model responsiveness to recent shocks and risk factor data coverage.

Market data time series are updated on a daily basis, with a ten-working-day time lag. The use of a 99% confidence level VaR statistic does not provide information about losses beyond this level, usually referred to as 'tail' risks. These risks are more appropriately assessed using measures such as SVaR and stress testing.

Finally, where market data time series are not appropriate (due to poor quality or a lack of liquidity in the market), RBS uses proxy time series or excludes the risk factor from its VaR model and capitalises the risk through its RNIV framework.

Risks not in VaR (RNIV)

The RNIV framework is used to identify and quantify market risks that are inadequately captured by the internal VaR and SVaR models.

The need for an RNIV calculation is typically identified in one of the following three circumstances: (i) as part of the New Product Risk Assessment process, when a risk manager determines that the associated risk is not adequately captured by the VaR model or system; (ii) when risks are mapped to time series that are deemed to be inadequate (for example, due to data quality problems or proxy series usage); or (iii) as a result of a recommendation made during the ongoing model validation or by Model Risk Management during its annual review of the VaR model.

RNIVs that are related specifically to instruments that have level 3 valuation hierarchy assumptions (refer to the 2019 RBS Group ARA, page 239) are mainly included in the following categories: proxied sensitivities or risk factors, higher-order sensitivity terms, and static pricing parameters.

RBS adopts two approaches for the quantification of RNIVs:

- Under the VaR/SVaR approach, two values are calculated: (i) the VaR RNIV; and (ii) the SVaR RNIV.
- Under the stress-scenario approach, an assessment of ten-day extreme, but plausible, market moves is used in combination with position sensitivities to give a stress-type loss number – the stress-based RNIV value.

Incremental risk charge (IRC)

The IRC model quantifies the impact of rating migration and default events on the market value of instruments with embedded credit risk (in particular, bonds and credit default swaps) that are held in the trading book. It further captures basis risk between different instruments, maturities and reference entities. Following the internal ratings-based approach for credit risk, the IRC is calculated over a one-year capital horizon with a 99.9% confidence level. The dependency of positions is modelled using a single-factor Gaussian copula.

The IRC is mainly driven by three-month credit rating transition, default and correlation parameters. The portfolio impact of correlated defaults and rating changes is assessed by observing changes in the market value of positions using stressed recovery rates and modelled credit spread changes. Revaluation matrices are used to capture any non-linear behaviour.

The transition matrix is estimated using Moody's history of issuer ratings.

The average liquidity horizon by position (weighted by materiality) at 31 December 2019 was 3.3 months (2018 – 3.2 months). The horizon is determined based on issuer liquidity, position concentration, product type and maturity.

Model validation

RBS uses a variety of models to manage and measure market risk. These include pricing models (used for valuation of positions) and risk models (for risk measurement and capital calculation purposes). They are developed and approved in NatWest Markets, with material models subject to independent review by Model Risk Management. For further detail on the independent model validation carried out by Model Risk Management refer to 2019 RBS Group ARA – Model risk. Information relating to pricing and market risk models is presented below.

Pricing models

Pricing models are developed by a dedicated first line team, in conjunction with the trading desk. The models are used to value positions for which prices are not directly observable as well as for the risk management of the portfolio. Any pricing models that are used as the basis for valuing portfolios and records are subject to approval and oversight by asset-level modelled product review committees. These committees comprise representatives of the trading, finance, market risk, model development and model review functions. Approval requires review and approval by these stakeholders as well as Model Risk Management.

The review process includes the following steps:

- The committees prioritise models for review by Model Risk Management, considering the materiality of the risk booked against the model and an assessment of the degree of model risk, which is the valuation uncertainty arising from the choice of modelling assumptions.
- Model Risk Management quantifies the model risk, which may include comparing the model outputs with those of alternative models developed by Model Risk Management.
- The sensitivities derived from the pricing models are validated.
- The conclusions of the review are used to inform risk limits and by the Finance function to inform model reserves.

Risk models

All model changes are approved through model governance committees at franchise level. Changes to existing models are subject to Model Risk Management review. RBS follows regulatory guidance for assessing the materiality of extensions and changes to the internal model approach for market risk. In addition to Model Risk Management's independent oversight – which provides additional assurance that RBS holds appropriate capital for the market risk to which it is exposed – the model testing team monitors the model performance for market risk through back-testing and other processes.

Calculation of regulatory capital for non-trading book exposures

Market risk exposures in the non-trading book that are not captured under Pillar 1 are capitalised through the Internal Capital Adequacy Assessment Process (ICAAP). This covers gap risk, basis risk, credit spread risk, pipeline risk, structural foreign exchange risk, prepayment risk and accounting volatility risk. A combination of value-based and earnings-based measures are used in the ICAAP.

The total non-traded market risk capital requirement is determined by adding the different charges for each sub risk type. The ICAAP methodology captures at least ten years of historical volatility and is produced to a 99% confidence level. Methodologies are reviewed by Model Risk Management and results are approved by the NWH Board.

Market risk

EU MR1: MR IMA and STD: RWAs and MCR - RBS and significant subsidiaries

The table below shows market risk RWAs and MCR by calculation method and type of risk for RBS and significant subsidiaries.

	RBS		NWH Group		NWM Plc	
	a	b	a	b	a	b
	RWAs	MCR	RWAs	MCR	RWAs	MCR
	£m	£m	£m	£m	£m	£m
2019						
STD	2,036	163	125	10	1,102	88
1 Interest rate position risk (outright products)	1,171	94	—	—	617	49
2 Equity position risk (outright products)	—	—	—	—	—	—
3 Foreign exchange position risk (outright products)	392	31	125	10	19	2
4 Commodity position risk (outright products)	7	1	—	—	—	—
6 Option position risk (delta-plus approach)	—	—	—	—	—	—
8 Securitisation positions	466	37	—	—	466	37
Internal model approach	10,894	871	—	—	10,127	810
VaR	1,445	115	—	—	1,358	109
SVaR	3,963	317	—	—	3,551	284
Incremental risk charge	2,265	181	—	—	2,093	167
Other (RNIV)	3,221	258	—	—	3,125	250
<i>Of which: VaR-based RNIV</i>	<i>399</i>	<i>32</i>	<i>—</i>	<i>—</i>	<i>399</i>	<i>32</i>
<i>Of which: SVaR-based RNIV</i>	<i>1,124</i>	<i>90</i>	<i>—</i>	<i>—</i>	<i>1,114</i>	<i>89</i>
<i>Of which: Stress RNIV</i>	<i>1,698</i>	<i>136</i>	<i>—</i>	<i>—</i>	<i>1,612</i>	<i>129</i>
Total	12,930	1,034	125	10	11,229	898

	RBS		NWM Plc	
	a	b	a	b
	RWAs	MCR	RWAs	MCR
	£m	£m	£m	£m
2018				
STD	1,848	148	1,211	97
1 Interest rate position risk (outright products)	959	77	531	42
2 Equity position risk (outright products)	—	—	—	—
3 Foreign exchange position risk (outright products)	250	20	40	3
4 Commodity position risk (outright products)	—	—	—	—
6 Option position risk (delta-plus approach)	—	—	—	—
8 Securitisation positions	639	51	640	52
Internal model approach	12,989	1,039	12,895	1,032
VaR	2,028	162	1,996	160
SVaR	5,272	421	5,210	417
Incremental risk charge	2,732	219	2,732	219
Other (RNIV)	2,957	237	2,957	236
<i>Of which: VaR-based RNIV</i>	<i>417</i>	<i>33</i>	<i>417</i>	<i>33</i>
<i>Of which: SVaR-based RNIV</i>	<i>1,171</i>	<i>94</i>	<i>1,171</i>	<i>94</i>
<i>Of which: Stress RNIV</i>	<i>1,369</i>	<i>110</i>	<i>1,369</i>	<i>109</i>
Total	14,837	1,187	14,106	1,129

Key points

RBS

- Total RWAs decreased over the period. The majority of the exposure related to NatWest Markets Plc.

NWH Group

- RWAs related solely to the banking book foreign exchange charge at 31 December 2019.

NWM Plc

- The decrease in RWAs primarily related to the internal model approach. Refer to EU MR2_B for additional commentary.

Market risk

EU MR2_A: MR IMA: RWAs and MCR

The table below shows market risk RWAs and MCR by component under the internal model approach.

	2019		2018	
	a	b	a	b
	RWAs	MCR	RWAs	MCR
	£m	£m	£m	£m
1 VaR (higher of a and b)	1,445	115	2,028	162
a Period end VaR	515	41	675	54
b Average of the daily VaR for preceding 60 business days x multiplication factor	1,445	115	2,028	162
2 SVaR (higher of a and b)	3,963	317	5,272	421
a Period end SVaR	1,006	80	2,010	161
b Average of the SVaR for preceding 60 business days x multiplication factor	3,963	317	5,272	421
3 Incremental risk charge (higher of a and b)	2,265	181	2,732	219
a Period end IRC value	1,887	151	2,640	211
b Average IRC over preceding 60 business days	2,265	181	2,732	219
5 Other (RNIV at period end)	3,221	258	2,957	237
6 Total	10,894	871	12,989	1,039

Key point

- Refer to the commentary below Table EU MR2_B.

EU MR3: MR IMA: IMA values for trading portfolios - RBS and significant subsidiaries

The table below shows the minimum, maximum, average and period end values, over the reporting period, derived from the models approved under the IMA for use in calculating market risk capital requirements and RWAs. The reported values do not include any capital multipliers or other additional capital charges that may be applied at the supervisor's discretion.

	2019		2018	
	RBS	NWM Plc	RBS	NWM Plc
	£m	£m	£m	£m
VaR (10 day 99%)				
1 Maximum value	61	59	112	110
2 Average value	46	44	62	61
3 Minimum value	33	31	44	42
4 Period end	41	40	54	53
SVaR (10 day 99%)				
5 Maximum value	291	286	359	356
6 Average value	124	118	174	172
7 Minimum value	80	73	103	101
8 Period end	80	73	161	159
IRC (99.9%)				
9 Maximum value	208	208	281	281
10 Average value	176	166	212	212
11 Minimum value	133	133	157	157
12 Period end	151	140	211	211

Key point

- The movements in VaR, SVaR and IRC values for RBS and NWM Plc were broadly in line with the trends in market risk capital requirements under the internal model approach, as presented in EU MR2_B.

Market risk

VaR back-testing

The main approach employed to assess the VaR model's ongoing performance is back-testing, which counts the number of days when a loss exceeds the corresponding daily VaR estimate, measured at a 99% confidence level.

Two types of profit and loss (P&L) are used in back-testing comparisons: Actual P&L and Hypothetical (Hypo) P&L.

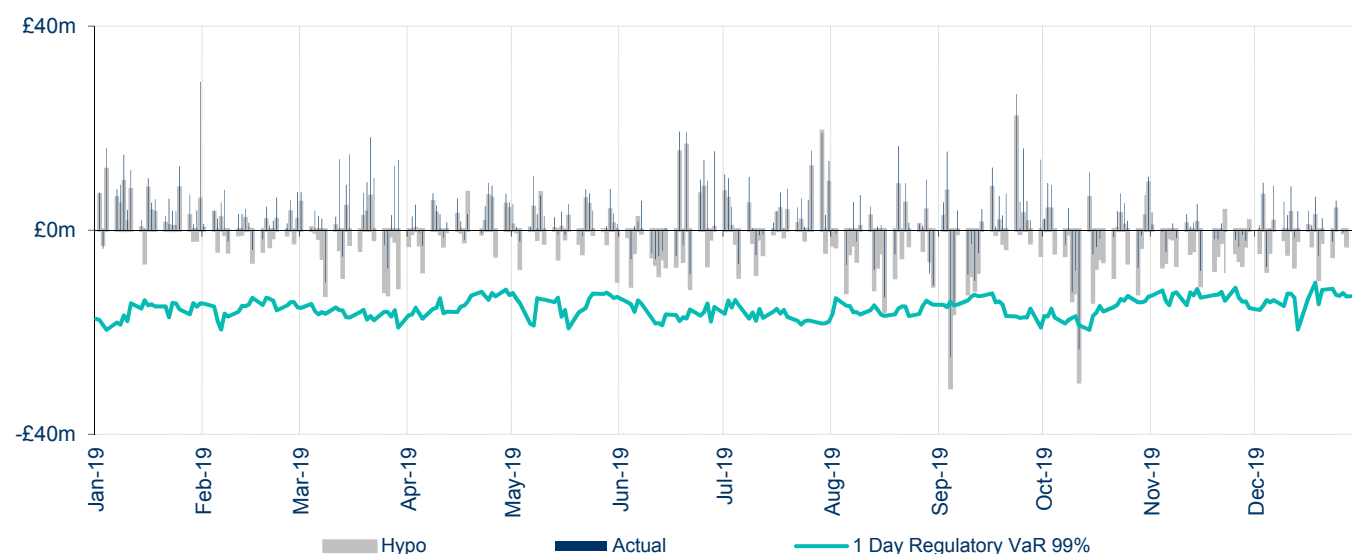
The Actual P&L for a particular business day is the firm's actual P&L in respect of the trading activities including intraday activities, adjusted by stripping out fees and commissions, brokerage, and additions to and releases from reserves that are not directly related to market risk.

The Hypo P&L is the firm's Actual P&L excluding any intra-day activities.

A portfolio is said to produce a back-testing exception when the Actual or Hypo P&L exceeds the VaR level on a given day. Such an event may be caused by a large market movement or may highlight issues such as missing risk factors or inappropriate time series. Any such issues identified are analysed and addressed through appropriate remediation or development action. Both Actual and Hypo back-testing exceptions are monitored.

EU MR4: 1-day 99% regulatory VaR vs. Actual and Hypo P&L

The graph below shows one-day 99% regulatory VaR compared with Actual and Hypo P&L for NatWest Markets Plc, RBS's largest legal entity by market risk RWAs and positions.



Key points

- Statistically RBS would expect to see back-testing exceptions 1% of the time over a period of 250 business days. A VaR model recording four or fewer exceptions in a continuous 250-day period is regarded as satisfactory. A model recording five or more exceptions is regarded as having potential issues regarding its quality or accuracy.
- NWM Plc reached a maximum of six Actual and seven Hypo back-testing exceptions in the 250-day rolling window in early October 2019. By 31 December 2019, this had decreased to three Actual and three Hypo exceptions, after earlier exceptions dropped out of the window during November and December. Of the three exceptions NWM Plc experienced during 2019, two occurred in early September and one in October. These were mainly driven by an increase in long-end sterling real rates.

Securitisation

Securitisation

SECA: SEC qualitative disclosures

Framework, roles and definitions

This section presents descriptive information on RBS's securitisation activities and related risk management processes and accounting policies, followed by quantitative disclosures on its exposures to securitisations.

Definitions

Securitisation and special purpose entities

The CRR defines a securitisation as a transaction or scheme where the credit risk of an exposure or pool of exposures is tranching, where the payments arising from the transaction or scheme are dependent upon the performance of the underlying exposure(s) and where the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme.

Securitisations can broadly take two forms: traditional and synthetic. In traditional securitisations, the originator transfers ownership of the underlying exposure(s) to an SSPE, putting the asset(s) beyond the reach of the originator and its creditors. The purchase of the underlying exposure(s) by the SSPE is funded by the issuance of securities. In synthetic securitisations, the originator retains ownership of the underlying exposure(s) but transfers the associated credit risk to another entity through the use of guarantees or credit derivatives.

SSPEs are set up for a specific limited purpose to facilitate a securitisation transaction. They do not provide a commercial service or employ staff. They may take a variety of legal forms, such as trusts, partnerships and companies. Their activities are limited to those appropriate to carrying out a securitisation and their structure is intended to isolate the obligations of the SSPE from those of the originator institution and to ensure that the holders of the beneficial interests have the right to pledge or exchange those interests without restriction. Typically, their share capital is held ultimately by charitable trusts.

Although SSPEs are frequently used, they are not necessarily required for all securitisation structures.

The following definitions are used in these Pillar 3 disclosures:

Trading book – The trading book consists of positions in financial instruments and commodities held either with the intent to trade or in order to hedge other elements of the trading book. To be eligible for trading book capital treatment, financial instruments must either be free of any covenants restricting their tradability or be able to be hedged.

Non-trading book – The non-trading book consists of positions, exposures, assets and liabilities that are not in the trading book. It is also referred to as the 'banking book'. In this section, the counterparty credit risk arising from derivative trades associated with SSPEs is captured in the non-trading book disclosures, including in situations where the derivative attracts market risk in the trading book.

Securitisation position – Any exposure to a securitisation that falls within the scope of regulatory treatment (further details on page 124124). This includes not only exposures arising from the purchase or retention of the securities issued by an SSPE but also loans and liquidity facilities to securitisations, and the counterparty credit risk exposure of derivative positions transacted with an SSPE.

Re-securitisation – A securitisation in which the underlying asset or pool of assets comprises at least one securitisation position.

Securitized exposure – An asset or pool of assets that is securitised by way of a traditional or synthetic securitisation.

Significant risk transfer assessment – An assessment prescribed by the CRR and designed to determine whether or not a securitisation structure transfers significant risk on the underlying assets to a party or parties other than the originator.

Term securitisation – A securitisation vehicle funding a pool of assets through the issuance of long-term securities. A term securitisation may hold the assets of one or more originators.

Asset-backed commercial paper (ABCP) conduit – A securitisation vehicle funding a pool of assets through the issuance of predominantly short-term securities (namely commercial paper). A conduit may hold the assets of one or more originators (referred to as a single-seller or multi-seller conduit, respectively).

Objectives and roles

By participating in securitisation activity, RBS aims to achieve one or both of the following objectives, either for its own purposes or for customers:

- To diversify sources of funding; and
- To facilitate prudential balance sheet and risk management.

In doing so, RBS may incur a range of risks, including credit, market, liquidity and funding, legal, regulatory and reputational risks; for which it must hold regulatory capital. For details of CRR rules governing the calculation of regulatory capital required in respect of securitisations, refer to page 124.

RBS may play one or more of the following roles in a securitisation transaction:

Originator – To diversify its sources of funding and manage its balance sheet, RBS securitises assets it has purchased or originated. As an originator RBS may be exposed to credit risk and market risk on the underlying assets, particularly if the structure of the transaction does not transfer these risks to third parties. Even if these risks have been transferred, it may nevertheless be exposed to credit and market risks to the extent it retains exposure to the securitisation, for example, by providing the SSPE with a liquidity facility or entering into derivative transactions.

Investor – To generate financial returns, RBS may:

- Purchase securities issued by an SSPE;
- Enter into derivative transactions with an SSPE; or
- Lend to an SSPE, often by providing a liquidity facility that the SSPE can use if it is unable to issue securities, particularly commercial paper.

Securitisation

To generate additional fee income, RBS may play other roles as well:

Sponsor – RBS may establish and manage a term securitisation that purchases bonds or other financial assets from third parties. It may do so on its own account or on behalf of its customers. Additionally, it historically established and managed ABCP conduits. In its role as sponsor, it is particularly exposed to credit and liquidity risk.

Arranger – RBS may structure a securitisation transaction, drafting the documentation that governs the behaviour of the SSPE, and then sell the securities issued by the SSPE to investors. It may act as arranger for securitisation transactions it originates or, alternatively, for securitisation transactions originated by its customers, principally financial institutions and large corporates.

Manager – RBS may manage and service the asset pool of the securitisation as required by the terms of the transaction.

Underwriter – RBS may underwrite the securities issued by an SSPE. The associated securitisation transaction may be originated by RBS or its customers.

Other administrative roles – As a 'contractual party', RBS may do any of the following, alone or in combination:

- Hold the bank account of an SSPE on its own books;
- Monitor the credit quality of the underlying assets on behalf of investors;
- Report on the performance of the SSPE to investors; and
- Make payments to investors on behalf of the SSPE.

Information relating to the significant roles performed by RBS (investor, originator, sponsor) is contained in the tables within this section.

Risk management

As noted above, acting as an originator, sponsor or investor in a securitisation transaction may give rise to both credit and market risk. RBS may also incur other types of risk in the course of its exposure to securitisation activity.

All such risks are described in the table below, along with details of how they are monitored and managed.

Securitisation

Types of risk	Definition and how the risk may arise	How RBS monitors and manages the risk
Credit risk	The risk of loss arising from the failure of a customer or counterparty (or, in the case of a securitisation, an SSPE) to meet its obligations to settle outstanding amounts. Securitisation may expose RBS to credit risk for any of several reasons. If RBS invests in an SSPE by purchasing or (in the case of a securitisation it has originated) retaining the bonds it issues, conducting derivative transactions with it or lending to it, RBS is exposed to the risk that the SSPE will fail to meet its obligations to settle outstanding amounts to RBS. This may happen because cash flows generated by the underlying assets are insufficient to repay creditors, including bondholders, derivative counterparties or lenders, or in the event of a third party, such as a bank account provider or derivative counterparty, defaulting on its obligation to the SSPE. The SSPE pays principal and interest to creditors in order of seniority, with the most senior paid first. When RBS originates a securitisation transaction, if the securitisation structure does not substantially transfer the economic risks of the underlying assets, including credit risk, to a third party, it is exposed to credit risk on those assets just as it would be if the securitisation had never taken place. Credit risk is heightened if the assets in the SSPE are not diversified by sector, geography or borrower.	RBS's overall exposure to third party securitisation is governed by its sector concentration framework. If it retains or purchases bonds issued by an SSPE, conducts derivative transactions with it or lends to it, RBS monitors the performance of the vehicle in part by reviewing information provided by the trustee as well as by rating agencies or other third parties. As an originator, if the securitisation structure does not transfer substantial credit risk to a third party, RBS manages it as if the securitisation had never taken place. RBS has credit limits in place and monitors SSPE positions with third party bank account providers for own asset securitisations which generate a credit risk exposure for RBS. RBS may seek to mitigate credit risk arising from the purchase (or retention) of bonds issued by an SSPE through the use of unfunded protection, usually credit default swaps, but also guarantees. It hedges the risk associated with purchased bonds, which are generally held in the trading book, as appropriate. It does not usually hedge the credit risk associated with retained bonds, which are generally held in the non-trading book.
Traded market risk	Traded market risk is the risk arising from changes in fair value on positions, assets, liabilities or commitments in trading portfolios as a result of fluctuations in market prices.	RBS manages this risk in accordance with its policy on market risk. Re-securitisation exposures are subject to individual scrutiny. For further information, refer to the Traded market risk section of the 2019 RBS Group ARA.
Non-traded market risk	Non-traded market risk is the risk to the value of assets or liabilities outside the trading book, or the risk to income, that arises from changes in market prices such as interest rates, foreign exchange rates and equity prices, or from changes in managed rates.	RBS manages this risk in accordance with its policy on non-traded market risk, including structural interest rate risk. For further information, refer to the Non-traded market risk section of the 2019 RBS Group ARA.
Liquidity and funding risk	Liquidity risk is the risk of being unable to meet financial obligations as and when they fall due. Funding risk is the risk of not maintaining a diversified, stable and cost-effective funding base. RBS may sponsor securitisations and, as sponsor, may provide liquidity facilities to the SSPE. If the SSPE utilises these facilities, RBS will need to fund them, giving rise to the risk that it will not be able to do so.	RBS manages these risks in accordance with its policy on liquidity and funding risk. For further information, refer to Liquidity management and Funding risk management in the Capital, liquidity and funding risk section of the 2019 RBS Group ARA.

Securitisation

Types of risk	Definition and how the risk may arise	How RBS monitors and manages the risk
Legal risk	The risk that RBS will incur losses as a result of the failure of the documentation relating to a securitisation to perform as expected or as a result of investors asserting that RBS made inadequate disclosures or conducted inadequate due diligence in relation to the relevant credit exposures. Legal risk is elevated if the parties to the transaction are located in different jurisdictions, as documentation effective in one jurisdiction may not be effective in another. Additional losses may arise as a result of costs incurred by the parties in an effort to address documentary shortcomings. This risk is heightened in the case of re-securitisations, as RBS needs to gather information surrounding each of the original transactions, together with an understanding of their interaction within the re-securitisation.	RBS has specific processes and controls in place designed to ensure adequate due diligence is undertaken and appropriate disclosures are made in relation to the relevant offerings. In relation to documentation, distribution of securities and compliance with relevant laws and regulations, RBS works with experienced internal and external counsel to ensure all reasonable steps are taken to ensure documentation standards are satisfactory and applicable laws and regulations in all relevant jurisdictions are complied with.
Compliance & conduct risk	Compliance risk is the risk that the behaviour of RBS towards customers fails to comply with laws, regulations, rules standards and codes of conduct. Conduct risk is the risk that the conduct of RBS and its subsidiaries and its staff towards customers – or in the markets in which it operates – leads to unfair or inappropriate customer outcomes and results in reputational damage, financial loss or both. Compliance and conduct risks exist across all stages of RBS's relationships with its customers and arise from a variety of activities including product design, marketing and sales, complaint handling, staff training, and handling of confidential insider information.	Well established policies and supporting processes are in place to ensure timely identification of, and effective responses to, changes in official sector requirements, laws, regulations and major industry standards affecting RBS. This risk falls under the governance of the Mandatory Change Advisory Committee, which meets monthly with representatives from all franchises and functions. For further information, refer to the Compliance & conduct risk section of the 2019 RBS Group ARA.
Reputational risk	The risk to RBS's public image from a failure to meet stakeholders' expectations in relation to performance, conduct or business profile. Stakeholders include customers, investors, employees, suppliers, government, regulators, special interest and consumer groups, media and the general public. Reputational risk can arise from the conduct of employees; activities of customers and the sectors and countries in which they operate; provision of products and transactions; as well as operations and infrastructure.	RBS manages reputational risk in accordance with its reputational risk management framework. For further information, refer to the Reputational risk section of the 2019 RBS Group ARA.
Operational risk	The risk of loss resulting from inadequate or failed internal processes, people and systems, or external events. This risk arises from day-to-day operations and is relevant to every aspect of the business.	RBS manages operational risk in accordance with its operational risk management framework. For further information, refer to the Operational risk section of the 2019 RBS Group ARA.

Securitisation

Regulatory treatment

RBS determines the regulatory capital required for exposures related to its securitisation activities in accordance with the CRR. In so doing, with respect to each securitisation transaction, it considers on an ongoing basis:

- The effectiveness of the originated securitisation structure in achieving risk transfer; and
- Whether the securitisation positions it holds relate to the trading or non-trading book.

In instances where it is an originator, RBS carries out a significant risk transfer assessment to evaluate whether the securitisation structure transfers significant credit risk associated with the underlying assets to the holders of the securitisation positions and that the reduction in capital requirements is commensurate with the reduction in risk.

If significant risk transfer is achieved, RBS does not hold any capital against the underlying assets. However, if it is not achieved, capital must be held against the underlying assets as if the securitisation had never taken place.

As noted earlier, RBS may play several roles in respect of securitisations. Of these, three may result in RBS holding securitisation positions in connection with which a capital charge is required: originator; sponsor; or investor.

In the case of securitisation positions related to the trading book, RBS calculates regulatory capital needed for specific and general market risks (refer to page 174 of the 2019 RBS Group ARA). In the case of securitisation positions in the non-trading book, RBS calculates regulatory capital for credit risk. Depending on the nature of the instrument there may also be capital requirements for counterparty credit risk.

Calculation of risk-weighted exposures

The regulatory framework for securitisation allows RWA calculation using either the standardised or the IRB approach (see also the section on the New Securitisation Framework). The choice of approach depends on the credit framework adopted by the firm under Pillar 1 for the underlying portfolio of securitised exposures.

RBS categorises securitised exposures according to risk-weight bands when calculating RWAs. Under the CRR, unrated positions are classified under the highest risk-weight band: 1,250%. Risk-weight bands are shown in Tables SEC 2 and SEC 3.

The IRB method used by RBS is the ratings based approach (RBA).

When assessing debt issued by SSPEs under the RBA, RBS recognises ratings issued by Standard & Poor's, Moody's, Fitch, DBRS or ARC Ratings. Most transactions are rated by two or more of these rating agencies, which are formally classified as external credit assessment institutions (ECAIs).

When assessing unrated exposures funded through an ABCP conduit, (whether a legacy RBS-sponsored conduit or an ABCP conduit sponsored by other institutions), RBS is permitted to use the Internal Assessment Approach (IAA) under its IRB waiver. The IAA is explained in more detail below.

Under the RBA (including the IAA), ECAI ratings are mapped to the corresponding credit quality step (CQS) in order to determine the risk weights for the facilities relating to each transaction. The mapping used is shown in Table EU CR5a in the Credit risk section.

More details on RBS's use of the IAA are provided below.

Summary of Internal Assessment Approach

Where an ABCP conduit is rated by an approved ECAI, the IAA permits RBS to calculate and assign internal credit grades and implied ratings based on published rating agency methodologies for the relevant asset class.

The assessment methodology used must be that of one of the ECAIs that provides a rating to the ABCP conduit. The methodology selected need not be publicly available if RBS can demonstrate that, due to specific features of the securitisation, there is not yet an appropriate publicly available ECAI methodology.

The sponsoring business for the underlying transaction is required to model the transaction using an assessment methodology in line with the above. The modelling analysis is completed, refreshed or reviewed, as appropriate, as part of the credit application process/ongoing transaction surveillance. The credit risk assessment of the transaction which takes place both at inception and as part of ongoing review considers the appropriateness of the IAA, the assumptions used and the proposed implied rating.

New securitisation framework

A new securitisation framework has been introduced through amendments to the CRR and the introduction of a new Securitisation Regulation. The new framework has been used for the calculation of risk-weighted exposures for positions which were originated during 2019. All positions will move onto the new framework on 1 January 2020 when the transitional provisions end. RBS applies the hierarchy as set out in the CRR and applies one of the new methodologies, SEC-IRBA, SEC-SA or SEC-ERBA as required.

SEC-IRBA is the internal ratings based approach and has only been used on own-originated transactions. SEC-SA is the standardised approach, which uses the standardised credit risk treatment of the underlying exposures as the main input into the formula. SEC-ERBA is similar to the RBA detailed above, using external ratings from the listed credit rating agencies, plus additional data requirements. Lower risk weights apply to positions which qualify as Simple, Transparent and Standardised securitisations.

Securitisation

Summary of accounting policies including derecognition

Accounting assessment takes place at the time of closing a transaction and under accounting rules, depends on a securitisation's residual risk. By contrast, significant risk transfer assessments take place at regular intervals. The resulting capital calculations can differ depending on the change in residual risk over time.

Recognition of sales

Securitisation vehicles are assessed for consolidation in accordance with RBS's published accounting policy Basis of Consolidation (refer to page 208 of the 2019 RBS Group ARA). The transfer of assets to a securitisation vehicle is treated as a sale if the securitised assets are derecognised from the consolidated balance sheet in accordance with RBS's published accounting policy Derecognition (refer to page 211 of the 2019 RBS Group ARA).

RBS applies its accounting policies Provisions; Loan commitments; and Financial guarantee contracts (set out on pages 209 and 211 of the 2019 RBS Group ARA) to contractual commitments, such as liquidity lines, that could require it to provide financial support for securitised assets.

Key assumptions for valuing securitisation positions

Securitisation positions are valued using external information, such as market data for recent transactions, price information from third-party managers and advisors, and asset performance data provided to all bond holders at interest payment dates.

Synthetic securitisations

Synthetic securitisations are assessed using the same approach as non-synthetic securitisations. Any derivatives are treated in accordance with RBS's published accounting policy Derivatives and hedging (refer to pages 211 of the 2019 RBS Group ARA).

Assets awaiting securitisation

Financial assets are valued using RBS's accounting policy for financial instruments (refer to page 210 of the 2019 RBS Group ARA). At both 31 December 2019 and 31 December 2018, no assets were categorised as awaiting securitisation.

Implicit support

RBS has not provided support to any securitisation transactions beyond its contractual obligations.

Securitisation and re-securitisation exposures

Additional information detailing accounting policies and treatment of securitisations and re-securitisations can be found on page 211 of the 2019 RBS Group ARA.

Types of transactions

In the role of originator, RBS securitises a variety of assets which typically include the following:

Residential mortgages and commercial real estate loans – RBS securitises residential mortgages and commercial real estate loans that it originates itself. Mortgages and real estate loans are assigned to SSPEs, which fund themselves principally through the issue of floating rate notes.

Other loan types – RBS selectively securitises other loans that it originates, principally those to corporates and small and medium-sized enterprises.

SSPEs used by RBS

SSPEs used by RBS hold either the securitised assets themselves (traditional securitisations) or a package of other assets economically equivalent to those assets (synthetic securitisations).

At 31 December 2019, RBS sponsored one remaining multi-seller commercial paper conduit programme, Thames Asset Global Securitization (TAGS). RBS provides programme-wide credit enhancement and liquidity facilities to TAGS. During 2019, TAGS issued no commercial paper to external parties.

The transactions in which RBS acts as a swap counterparty, has originated all the assets and continues to administer the associated SSPEs comprise the following:

- Ardmore & Dunmore (Irish residential mortgages SSPEs);
- Epic (commercial real estate SSPEs); and
- Talisman (commercial real estate SSPEs).

Following synthetic securitisations in previous years primarily of loans to corporates, SMEs and commercial mortgages, in 2019, RBS completed a synthetic securitisation of project finance loans of £1.1 billion. No gain or loss was recognised on the transfer of these assets.

Notes on the following tables

Tables SEC 1 to SEC 4 show total securitisation positions, as discussed under Regulatory treatment of securitisation on page 124. The exposures included those retained from RBS's own securitised assets, investments in SSPE notes, credit lines to SSPEs and derivative transactions with SSPEs.

The term 'exposure amount' used in the following tables refers to EAD, which is calculated according to CRR rules.

Securitisation

Securitisation exposures: retained and purchased

SEC 1: Exposure, RWAs and MCR by regulatory approach

The table below shows exposures, RWAs, MCR and capital deductions.

	Aggregate amounts of securitisation positions retained or purchased				Of which, re-securitisation positions retained or purchased			
	Exposure amount £m	RWAs £m	MCR £m	Of which: deduction from capital £m	Exposure amount £m	RWAs £m	MCR £m	Of which: deduction from capital £m
2019 - non-trading book								
Total	14,578	2,866	230	—	—	—	—	—
2018 - non-trading book								
Total	14,918	2,970	238	—	—	—	—	—
2019 - trading book								
Total	608	466	37	—	56	136	11	—
2018 - trading book								
Total	549	639	51	—	11	74	6	—

Key points

Non-trading book

- Exposure and RWAs remained broadly unchanged over the year.
- The total exposure amount included EAD of £0.7 billion (2018 – £0.8 billion) and RWAs of £0.5 billion (2018 – £0.4 billion) related to counterparty credit risk associated with derivative trades. Within this, residential mortgages accounted for EAD of £0.4 billion (2018 – £0.4 billion) and RWAs of £0.4 billion (2018 – £0.3 billion). The relevant market risk is captured in the trading book.

Trading book

- The increase in exposure and decrease in RWAs were driven by business focus to create capacity by exiting capital-intensive assets.

Securitisation

SEC 2: Exposure and MCR by regulatory approach and risk-weightings

The table below shows exposures and MCR according to risk-weight bands. Unrated positions are included within the 1,250% band.

	Aggregate amounts of securitisation positions retained or purchased		Of which, re-securitisation positions retained or purchased	
	Minimum capital requirements		Minimum capital requirements	
	Exposure amount		Exposure amount	
	Total	Total	Total	Total
	£m	£m	£m	£m
Risk-weight bands				
2019 - non-trading book				
≤ 10%	7,907	47	—	—
> 10% ≤ 20%	5,471	70	—	—
> 20% ≤ 50%	881	31	—	—
> 50% ≤ 100%	101	7	—	—
> 100% ≤ 350%	172	34	—	—
> 350% ≤ 650%	7	2	—	—
1250%	39	39	—	—
	14,578	230	—	—
2018 - non-trading book				
≤ 10%	10,519	63	—	—
> 10% ≤ 20%	2,722	32	—	—
> 20% ≤ 50%	1,140	38	—	—
> 50% ≤ 100%	282	12	—	—
> 100% ≤ 350%	143	30	—	—
> 350% ≤ 650%	64	23	—	—
1250%	48	40	—	—
	14,918	238	—	—
2019 - trading book				
≤ 10%	398	4	—	—
> 10% ≤ 20%	82	2	6	—
> 20% ≤ 50%	59	1	41	1
> 50% ≤ 100%	26	1	—	—
> 100% ≤ 350%	10	1	—	—
> 350% ≤ 650%	8	4	—	—
1250%	25	24	9	10
	608	37	56	11
2018 - trading book				
≤ 10%	316	2	—	—
> 10% ≤ 20%	120	2	—	—
> 20% ≤ 50%	17	—	5	—
> 50% ≤ 100%	40	3	—	—
> 100% ≤ 350%	1	—	—	—
> 350% ≤ 650%	21	9	—	—
1250%	34	35	6	6
	549	51	11	6

Securitisation

SEC 3: Exposure by risk-weightings by underlying exposure type

The table below shows exposures by underlying exposure type and risk-weight bands. Unrated positions are included within the 1,250% band.

	Residential mortgages	Commercial mortgages	Credit card receivables	Leasing	Loans to corporates or SMEs	Consumer loans	Trade receivables	Auto receivables	Re-securitisation	Other assets (1)	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Risk-weight bands											
2019 - non-trading book											
≤ 10%	2,190	1,287	—	290	2,682	181	—	1,277	—	—	7,907
> 10% ≤ 20%	1,626	755	—	12	1,714	795	—	94	—	475	5,471
> 20% ≤ 50%	228	192	—	—	293	—	—	—	—	168	881
> 50% ≤ 100%	3	—	—	—	79	19	—	—	—	—	101
> 100% ≤ 350%	1	—	—	—	141	30	—	—	—	—	172
> 350% ≤ 650%	—	7	—	—	—	—	—	—	—	—	7
1250%	26	—	—	—	11	2	—	—	—	—	39
	4,074	2,241	—	302	4,920	1,027	—	1,371	—	643	14,578
2018 - non-trading book											
≤ 10%	2,830	1,495	391	299	3,482	288	—	1,734	—	—	10,519
> 10% ≤ 20%	1,148	438	—	12	478	36	—	90	—	520	2,722
> 20% ≤ 50%	354	192	—	—	293	—	—	—	—	301	1,140
> 50% ≤ 100%	4	127	—	—	80	71	—	—	—	—	282
> 100% ≤ 350%	1	—	—	—	142	—	—	—	—	—	143
> 350% ≤ 650%	—	8	—	—	56	—	—	—	—	—	64
1250%	23	2	—	—	13	4	—	—	—	6	48
	4,360	2,262	391	311	4,544	399	—	1,824	—	827	14,918
2019 - trading book											
≤ 10%	291	—	6	—	6	—	—	1	—	94	398
> 10% ≤ 20%	25	2	—	—	24	—	—	10	6	15	82
> 20% ≤ 50%	5	4	—	—	—	—	—	2	41	7	59
> 50% ≤ 100%	5	—	—	—	3	—	—	—	—	18	26
> 100% ≤ 350%	3	1	—	—	—	—	—	6	—	—	10
> 350% ≤ 650%	3	—	—	—	3	—	—	—	—	2	8
1250%	5	1	—	—	8	—	—	—	9	2	25
	337	8	6	—	44	—	—	19	56	138	608
2018 - trading book											
≤ 10%	141	—	7	—	29	2	—	8	1	128	316
> 10% ≤ 20%	79	—	1	—	17	—	—	1	—	22	120
> 20% ≤ 50%	3	5	—	—	—	2	—	—	5	2	17
> 50% ≤ 100%	5	8	1	—	6	—	—	—	—	20	40
> 100% ≤ 350%	—	1	—	—	—	—	—	—	—	—	1
> 350% ≤ 650%	6	2	—	—	10	—	—	—	—	3	21
1250%	9	2	—	—	6	—	—	—	5	12	34
	243	18	9	—	68	4	—	9	11	187	549

Note:

(1) Includes assets which cannot be classified in the specific asset classifications and may straddle asset type classifications.

Securitisation

Securitisation exposures: retained and purchased SEC 4: Exposures by role, by on and off-balance sheet

The table below shows underlying exposures by:

- The role of RBS;
- On and off-balance sheet categories; and
- Underlying exposure type.

The off-balance sheet category represents the part of a liquidity facility that has not been utilised (undrawn) and derivative exposures.

Underlying exposure type	As originator		As sponsor		As investor		Total	
	On-balance sheet (1)	Off-balance sheet	On-balance sheet	Off-balance sheet	On-balance sheet	Off-balance sheet	On-balance sheet	Off-balance sheet
	£m	£m	£m	£m	£m	£m	£m	£m
2019 - non-trading book								
Residential mortgages	—	—	—	—	3,256	818	3,256	818
Commercial mortgages	1,533	—	—	—	500	208	2,033	208
Credit card receivables	—	—	—	—	—	—	—	—
Leasing	—	—	—	—	280	22	280	22
Loans to corporates or SMEs	4,343	—	—	—	361	216	4,704	216
Consumer loans	—	—	16	12	745	254	761	266
Auto receivables	—	—	—	—	1,099	272	1,099	272
Other assets (2)	—	—	—	—	461	182	461	182
	5,876	—	16	12	6,702	1,972	12,594	1,984
2018 - non-trading book								
Residential mortgages	—	—	—	—	3,271	1,089	3,271	1,089
Commercial mortgages	1,685	—	—	—	301	276	1,986	276
Credit card receivables	—	—	—	—	—	391	—	391
Leasing	—	—	—	—	280	31	280	31
Loans to corporates or SMEs	4,140	—	—	—	390	14	4,530	14
Consumer loans	—	—	18	12	329	40	347	52
Auto receivables	—	—	—	—	1,454	370	1,454	370
Other assets (2)	—	—	—	—	658	169	658	169
	5,825	—	18	12	6,683	2,380	12,526	2,392
2019 - trading book								
Residential mortgages	—	—	—	—	327	10	327	10
Commercial mortgages	—	—	—	—	8	—	8	—
Credit card receivables	—	—	—	—	6	—	6	—
Loans to corporates or SMEs	—	—	—	—	44	—	44	—
Consumer loans	—	—	—	—	—	—	—	—
Auto receivables	—	—	—	—	19	—	19	—
Re-securitisations	—	—	—	—	56	—	56	—
Other assets (2)	—	—	—	—	137	1	137	1
	—	—	—	—	597	11	597	11
2018 - trading book								
Residential mortgages	—	—	—	—	238	5	238	5
Commercial mortgages	—	—	—	—	18	—	18	—
Credit card receivables	—	—	—	—	9	—	9	—
Loans to corporates or SMEs	—	—	—	—	68	—	68	—
Consumer loans	—	—	—	—	4	—	4	—
Auto receivables	—	—	—	—	9	—	9	—
Re-securitisations	—	—	—	—	11	—	11	—
Other assets (2)	—	—	—	—	184	3	184	3
	—	—	—	—	541	8	541	8

Notes:

- (1) The synthetic securitisations which RBS has originated have been presented as on-balance sheet in SEC 4 to reflect that for accounting purposes RBS retains the balances on-balance sheet.
- (2) Includes assets which cannot be classified in the specific asset classifications and may straddle asset type classifications.

Securitisation

Securitisation exposures: retained and purchased

SEC 5: Exposures subject to market risk capital requirements

The table below shows trading book exposures subject to securitisation specific market risk capital regulations.

	Exposure amount	Minimum capital requirement
	Traditional	Traditional
	£m	£m
Underlying portfolio		
2019 - trading book		
Residential mortgages	337	7
Commercial mortgages	8	2
Credit card receivables	6	—
Loans to corporates or SMEs	44	11
Auto receivables	19	1
Re-securitisations	56	11
Other assets (1)	138	5
	608	37
2018 - trading book		
Residential mortgages	243	14
Commercial mortgages	18	3
Credit card receivables	9	—
Loans to corporates or SMEs	68	12
Consumer loans	4	—
Auto receivables	9	—
Re-securitisations	11	6
Other assets (1)	187	16
	549	51

Note:

(1) Includes assets which cannot be classified in the specific asset classifications and may straddle asset type classifications.

Securitisation

Securitisation outstanding amounts

SEC 6: Securitisation positions retained from origination and sponsorship - outstanding and past due

The following table shows outstanding and related past due exposures pertaining to RBS's retained positions where RBS was the originator or sponsor. Where the originated securitisation was through a joint venture or through similar arrangements, the entire asset pool information is also disclosed separately below.

	Memorandum:												
	Total		Non-trading exposures				Trading exposures				Entire asset pool		
	Of which		Originator		Sponsor		Of which		Originator		Of which		
	Exposures	past due	Traditional	Synthetic	Traditional	Total	past due	Traditional	Synthetic	Total	past due	Exposures	past due
2019	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Residential mortgages	—	—	—	—	—	—	—	—	—	—	—	—	—
Commercial mortgages	1,533	—	—	1,533	—	1,533	—	—	—	—	—	1,533	—
Loans to corporates or SMEs	4,373	—	—	4,373	—	4,373	—	—	—	—	—	4,373	—
Other assets	—	—	—	—	—	—	—	—	—	—	—	—	—
	5,906	—	—	5,906	—	5,906	—	—	—	—	—	5,906	—
2018													
Residential mortgages	—	—	—	—	—	—	—	—	—	—	—	—	—
Commercial mortgages	1,685	—	—	1,685	—	1,685	—	—	—	—	—	1,685	—
Loans to corporates or SMEs	4,170	—	—	4,170	—	4,170	—	—	—	—	—	4,170	—
Other assets	—	—	—	—	—	—	—	—	—	—	—	—	—
	5,855	—	—	5,855	—	5,855	—	—	—	—	—	5,855	—

Notes:

- (1) For securitisations where RBS acted as investor, as disclosed in Table SEC 4, information on underlying assets is not readily available and therefore excluded in the table above.
- (2) Outstanding and related past due exposures are based on pool amounts – which are sourced from investor reports. RBS does not hold this information in its internal systems.
- (3) None of the retained positions in 2019 relating to originated securitisations were part of a joint venture. Therefore, the outstanding amount for the entire asset pool is the same as the RBS share.

Key point

- Refer to the comments under SEC 1. Overall exposure increased marginally during the year due to new securitisation activity undertaken. This was partially offset by a decrease in current securitisations due to amortisations and expiry of facilities.

Securitisation minimum capital requirement

SEC 7: Securitisation positions in the trading book

The following table shows the minimum capital requirement for trading book securitisation positions by rating.

	Ratings						Total (1)	Non-modelled PRR (2)
	AAA	AA	A	BBB	Non-investment grade	Unrated		
2019	£m	£m	£m	£m	£m	£m	£m	%
Trading book securitisation MCR	4	2	1	2	21	7	37	0.2
2018								
Trading book securitisation MCR	2	1	1	3	27	17	51	0.3

Notes:

- (1) Includes both long and short positions.
- (2) Percentage of total non-modelled position risk requirement (PRR).

NatWest Markets Plc Remuneration Disclosure

Remuneration of Material Risk Takers (MRTs)

Information on the remuneration policy and remuneration paid to MRTs of RBS Group can be found in the Directors' Remuneration Report and Other Remuneration Disclosures section of the RBS Group's 2019 Annual Report.

The quantitative disclosures below are made in accordance with Article 450 of the EU Capital Requirements Regulation, the Basel Committee on Banking Supervision Pillar 3 disclosure requirements and the EBA guidelines on sound remuneration policies in relation to 307 employees who have been identified as MRTs for NatWest Markets Plc ('NWM Plc'). NWM Plc is a wholly-owned subsidiary of The Royal Bank of Scotland Group plc. NatWest Markets Group ('NWM Group') comprises NWM Plc and its subsidiary and associated undertakings including NatWest Markets N.V..

Information on the:

- decision making process used to determine remuneration policy;
- external remuneration consultants;
- the link between pay and performance; and
- the most important design characteristics of the remuneration system (including information on the performance measurement and risk adjustment criteria, deferral policy and vesting criteria);

is aligned with that disclosed for RBS Group.

NWM Plc has a Performance and Remuneration Committee (the NWM Plc RemCo). The NWM Plc RemCo is expected to ensure that the remuneration policies, procedures and practices being applied are appropriate at the NWM Plc level.

The key areas of focus for the NWM Plc RemCo includes: reviewing and recommending, or where appropriate ratifying, remuneration arrangements for NWM Plc's key employees; providing input on the proposed bonus pool for NWM Plc, ensuring such proposals are adjusted for performance and risk and meet capital adequacy requirements of NWM Plc; and inputting to and subsequently adopting the RBS Group Remuneration Policy Principles.

The NWM Plc RemCo must be able to act independently and the non-executive directors serving on this committee is supported by the necessary entity-specific management information in order to carry out their duties. The NWM Plc RemCo met eight times during the financial year.

Definitions for tables

NWM Plc EDs	Executive directors of NWM Plc
Other NWM Group EDs	Executive directors of other subsidiaries within the NWM Group
NWM Plc NEDs	Non-executive directors of NWM Plc
Other NWM Group NEDs	Non-executive directors of other subsidiaries within the NWM Group

1. Number of MRTs by business area

Number of beneficiaries	Senior mgmt	Other MRTs	Total
NWM Plc EDs	3	—	3
Other NWM Group EDs	4	—	4
NWM Plc NEDs	—	5	5
Other NWM Group NEDs	—	4	4
Corporate Functions	9	37	46
Control Functions	2	77	79
Financing & Risk Solutions	1	55	56
Trading & Flow Sales	2	108	110
Total	21	286	307

A total of 16 of the individuals above hold MRT criteria for NWM Plc but have their primary roles at RBS Group or within the NatWest Holdings Group. These individuals hold MRT criteria for NWM Plc because they have functional oversight for management of NWM Plc.

Note that remuneration for these individuals has been excluded from the remaining tables in this disclosure because any remuneration they receive (both fixed and variable) is paid in relation to their core role and is not substantially linked to their MRT status for NWM Plc. Information on their remuneration is included in the other MRT disclosures provided as part of the RBS Group 2019 Annual Report and/or the NatWest Holdings Group Pillar 3 report on rbs.com.

There are further two NWM Plc MRTs who are contractors and who are paid through third party agency via invoices. They are listed in the table above, but as these two individuals do not receive salary or bonus from NWM Plc they have been excluded from the pay tables.

2. Aggregate remuneration expenditure

Aggregate remuneration expenditure in respect of 2019 performance was as follows:

Aggregate remuneration	Senior mgmt	Other MRTs	Total
Number of beneficiaries	21	268	289
	£m	£m	£m
NWM Plc EDs	5.04	—	5.04
Other NWM Group EDs	1.96	—	1.96
NWM Plc NEDs	—	0.56	0.56
Other NWM Group NEDs	—	0.10	0.10
Corporate Functions	10.03	12.00	22.03
Control Functions	1.84	19.72	21.56
Financing & Risk Solutions	3.02	32.73	35.74
Trading & Flow Sales	4.85	69.88	74.72
Total	26.73	134.98	161.71

3. Amounts and form of fixed and variable remuneration

Fixed remuneration consisted of salaries, allowances, pension and benefit funding.

Fixed remuneration	Senior mgmt	Other MRTs	Total
Number of beneficiaries	21	268	289
	£m	£m	£m
NWM Plc EDs	3.55	—	3.55
Other NWM Group EDs	1.66	—	1.66
NWM Plc NEDs	—	0.56	0.56
Other NWM Group NEDs	—	0.10	0.10
Corporate Functions	6.39	8.66	15.05
Control Functions	1.14	14.64	15.78
Financing & Risk Solutions	1.92	23.00	24.92
Trading & Flow Sales	3.45	50.14	53.59
Total	18.11	97.10	115.21

Variable remuneration awarded for 2019 performance

Variable remuneration consisted of a combination of annual bonus and long-term incentive awards, deferred over a three to seven year period in accordance with regulatory requirements. Under the RBS Group bonus deferral structure, immediate cash awards are limited to £2,000 per employee.

Long-term incentive awards vest subject to the extent to which performance conditions are met and can result in zero payment.

Annual bonus	Senior mgmt	Other MRTs	Total
Number of beneficiaries	20	216	236
	£m	£m	£m
NWM Plc EDs	—	—	—
Cash remuneration	0.00	—	0.00
Deferred bonds	0.12	—	0.12
Deferred shares	0.73	—	0.73
	0.85	—	0.85

Other NWM Group EDs

Cash remuneration	0.01	—	0.01
Deferred bonds	0.08	—	0.08
Deferred shares	0.21	—	0.21
	0.31	—	0.31

NWM Plc NEDs

Other NWM Group NEDs	—	—	—
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Corporate Functions

Cash remuneration	0.02	0.05	0.07
Deferred bonds	0.50	1.12	1.62
Deferred shares	3.11	2.17	5.28
	3.63	3.34	6.97

Control Functions

Cash remuneration	0.01	0.11	0.12
Deferred bonds	0.10	2.03	2.13
Deferred shares	0.59	2.93	3.52
	0.70	5.07	5.77

NatWest Markets Plc Remuneration Disclosure

Financing & Risk Solutions

Cash remuneration	0.00	0.09	0.10
Deferred bonds	0.06	2.22	2.28
Deferred shares	1.04	7.41	8.45
	1.10	9.72	10.82

Trading & Flow Sales

Cash remuneration	0.00	0.17	0.18
Deferred bonds	0.12	4.14	4.26
Deferred shares	1.28	15.42	16.70
	1.40	19.73	21.13

Total	7.99	37.86	45.85
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Long-term incentives	Senior mgmt	Other MRTs	Total
Number of beneficiaries	1	—	1
	£m	£m	£m
NWM Plc EDs	0.64	—	0.64
Other NWM Group EDs	—	—	—
NWM Plc NEDs	—	—	—
Other NWM Group NEDs	—	—	—
Corporate Functions	—	—	—
Control Functions	—	—	—
Financing & Risk Solutions	—	—	—
Trading & Flow Sales	—	—	—
Total	0.64	—	0.64

4. Outstanding deferred remuneration through 2019

The table below includes deferred remuneration awarded or paid out in 2019 in respect of prior performance years. Deferred remuneration reduced during the year relates to long-term incentives lapsed when performance conditions are not met, long-term incentives and deferred awards forfeited on leaving and malus adjustments of prior year deferred awards and long-term incentives.

Category of deferred remuneration	Senior mgmt	Other MRTs	Total
	£m	£m	£m
Unvested from prior year	21.45	80.28	101.73
Awarded during year	12.21	63.56	75.77
Paid out (retained)	0.46	7.58	8.04
Paid out (released)	7.18	45.23	52.41
Reduced from prior years	1.85	6.56	8.40
Unvested at year end	24.17	84.47	108.65

5. Guaranteed Awards (including 'Sign-on' awards) and Severance Payments

NWM Plc does not offer 'Sign-on awards'. Guaranteed awards may only be granted to new hires in exceptional circumstances in compensation for awards foregone in their previous company and are limited to the first year of service. One new hire guarantee was made to an MRT of NWM Plc for £100,000 in respect of the 2019 performance year.

Severance payments and / or arrangements can be made to employees who leave NWM Plc in certain situations, including redundancy. Such payments are calculated by a pre-determined formula set out within the relevant social plans, policies, agreements or local laws. Where local laws permit, there is a cap on the maximum amount that can be awarded.

No severance payments were made to MRTs of NWM Plc during the year in excess of contractual payments, local policies, standards or statutory amounts. Severance payments made do not reward failure or misconduct in line with regulatory requirements.

Where required, remuneration is constrained within the limit of variable to fixed remuneration in accordance with EBA guidelines.

6. Ratio between fixed and variable remuneration

The variable component of total remuneration for MRTs of NWM Plc shall not exceed 100% of the fixed component. The average ratio between fixed and variable remuneration for 2019 is approximately 1 to 0.46. The majority of MRTs are based in the UK.

Ratio of fixed to variable	Senior mgmt	Other MRTs	Total
Number of beneficiaries	21	216	237
	ratio	ratio	ratio
NWM Plc EDs	1:0.42	—	1:0.42
Other NWM Group EDs	1:0.18	—	1:0.18
NWM Plc NEDs	—	—	—
Other NWM Group NEDs	—	—	—
Corporate Functions	1:0.57	1:0.44	1:0.50
Control Functions	1:0.61	1:0.38	1:0.40
Financing & Risk Solutions	1:0.57	1:0.47	1:0.48
Trading & Flow Sales	1:0.41	1:0.47	1:0.47
Consolidated	1:0.48	1:0.45	1:0.46

7. Discount Rate

Under CRD IV regulations, a notional discount is available which allows variable pay to be awarded at a level that would otherwise exceed the 1:1 ratio, provided that at least 25% of variable pay is delivered 'in instruments' (shares) and deferred over five years or more. The discount rate was not used for remuneration awarded in respect of the 2019 performance year.

Total remuneration by band for all employees earning >€1 million

€ million	Number of employees
2019	
€1.0 - €1.5	29
€1.5 - €2.0	6
€2.0 - €2.5	4
€2.5 - €3.0	1
€3.0 - €3.5	1
€3.5 - €4.0	1
More than €4.0m	0
Total	42

Notes:

- (1) Total remuneration in the table above includes fixed pay, pension and benefit funding and variable pay.
- (2) Where applicable, the table is based on an average exchange rate of €1.14 to £1 for 2019.
- (3) As noted earlier in this report, 16 individuals have been excluded from the remuneration tables in this disclosure because any remuneration they receive is paid in relation to their core role and is not linked to their MRT status for NWM Plc. Information on their remuneration is included in the other MRT disclosures provided on rbs.com.

The Royal Bank of Scotland International (Holdings) Group Remuneration Disclosure

Remuneration of MRTs

Information on the remuneration policy and remuneration paid to MRTs of RBS Group can be found in the Directors' Remuneration Report and Other Remuneration Disclosures section of the RBS Group's 2019 Annual Report.

The quantitative disclosures below are made in accordance with Article 450 of the EU Capital Requirements Regulation, the Basel Committee on Banking Supervision Pillar 3 disclosure requirements and the EBA guidelines on sound remuneration policies in relation to 117 employees who have been identified as MRTs for Royal Bank of Scotland International (Holdings) Limited (RBSIH) and its subsidiaries.

Information on the:

- decision making process used to determine remuneration policy;
- external remuneration consultants;
- the link between pay and performance; and
- the most important design characteristics of the remuneration system (including information on the performance measurement and risk adjustment criteria, deferral policy and vesting criteria);

is aligned with that disclosed for RBS Group.

RBSIH has a Remuneration Committee (the RBSIH RemCo) which considers remuneration for RBSIH employees. The RBSIH RemCo is expected to ensure that the remuneration policies, procedures and practices being applied are appropriate at the RBSIH level.

The key areas of focus for the RBSIH RemCo include: reviewing and recommending, or where appropriate ratifying, remuneration arrangements for RBSIH's key employees; providing input on the proposed bonus pool for RBSIH, ensuring such proposals are adjusted for performance and risk and meet capital adequacy requirements of RBSIH; and inputting to and subsequently adopting the RBS Group Remuneration Policy Principles.

The RBSIH RemCo must be able to act independently and the non-executive directors serving on this committee are supported by the necessary entity-specific management information in order to carry out its duties. The RBSIH RemCo met five times during the financial year.

1. Number of MRTs by business area

Number of beneficiaries	Senior mgmt	Other MRTs	Total
Executive Directors	2	—	2
Non-Executive Directors	—	6	6
Corporate Functions	3	6	9
Control Functions	2	32	34
Institutional Banking	4	54	58
Other customer facing	2	6	8
Total	13	104	117

A total of 19 of the individuals above hold MRT criteria for RBSIH but have their primary roles at RBS Group or within the NatWest Holdings Group. These individuals hold MRT criteria for RBSIH because they have functional oversight for RBSIH management and/or hold SMF accountabilities for the RBSI London Branch.

Note that remuneration for these individuals has been excluded from the remaining tables in this disclosure because any remuneration they receive (both fixed and variable) is paid in relation to their core role and is not substantially linked to their MRT status for RBSIH. Information on their remuneration is included in the other MRT disclosures provided as part of the RBS Group 2019 Annual Report and/or the NatWest Holdings Group Pillar 3 report on rbs.com.

2. Aggregate remuneration expenditure

Aggregate remuneration expenditure in respect of 2019 performance was as follows:

Aggregate remuneration	Senior mgmt	Other MRTs	Total
Number of beneficiaries	13	85	98
	£m	£m	£m
Executive Directors	2.01	—	2.01
Non-Executive Directors	—	0.28	0.28
Corporate Functions	0.62	—	0.62
Control Functions	0.54	3.02	3.56
Institutional Banking	1.11	7.20	8.31
Other customer facing	0.69	0.74	1.43
Total	4.97	11.23	16.20

3. Amounts and form of fixed and variable remuneration

Fixed remuneration consisted of salaries, allowances, pension and benefit funding.

Fixed remuneration	Senior mgmt	Other MRTs	Total
Number of beneficiaries	13	85	98
	£m	£m	£m
Executive Directors	1.08	—	1.08
Non-Executive Directors	—	0.28	0.28
Corporate Functions	0.40	—	0.40
Control Functions	0.35	2.47	2.82
Institutional Banking	0.78	5.53	6.31
Other customer facing	0.40	0.58	0.98
Total	3.02	8.86	11.87

Variable remuneration awarded for 2019 performance

Variable remuneration consisted of a combination of annual bonus and long-term incentive awards, deferred over a three to seven year period in accordance with regulatory requirements. Under the RBS Group bonus deferral structure, immediate cash awards are limited to £2,000 per employee.

Long-term incentive awards vest subject to the extent to which performance conditions are met and can result in zero payment.

Annual bonus	Senior mgmt	Other MRTs	Total
Number of beneficiaries	9	73	82
	£m	£m	£m

Executive Directors

Cash remuneration	0.01	—	0.01
Deferred bonds	0.04	—	0.04
Deferred shares	0.12	—	0.12
	0.17	—	0.17

Non-Executive Directors

	—	—	—
--	---	---	---

Corporate Functions

Cash remuneration	0.01	—	0.01
Deferred bonds	0.06	—	0.06
Deferred shares	0.15	—	0.15
	0.22	—	0.22

Control Functions

Cash remuneration	0.01	0.04	0.05
Deferred bonds	0.07	0.48	0.55
Deferred shares	0.11	0.02	0.13
	0.19	0.54	0.73

Institutional Banking

Cash remuneration	0.00	0.10	0.10
Deferred bonds	0.11	1.18	1.29
Deferred shares	0.22	0.39	0.61
	0.33	1.67	2.00

Other customer facing

Cash remuneration	0.00	0.01	0.01
Deferred bonds	0.07	0.16	0.23
Deferred shares	0.21	—	0.21
	0.28	0.17	0.45

Total	1.19	2.38	3.57
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Long-term incentives	Senior mgmt	Other MRTs	Total
Number of beneficiaries	1	—	1
	£m	£m	£m

Executive Directors	0.76	—	0.76
Non-Executive Directors	—	—	—
Corporate Functions	—	—	—
Control Functions	—	—	—
Institutional Banking	—	—	—
Other customer facing	—	—	—
Total	0.76	—	0.76

The Royal Bank of Scotland International (Holdings) Group Remuneration Disclosure

4. Outstanding deferred remuneration through 2019

The table below includes deferred remuneration awarded or paid out in 2019 in respect of prior performance years. Deferred remuneration reduced during the year relates to long-term incentives lapsed when performance conditions are not met, long-term incentives and deferred awards forfeited on leaving and malus adjustments of prior year deferred awards and long-term incentives.

Category of deferred remuneration	Senior mgmt £m	Other MRTs £m	Total £m
Unvested from prior year	2.21	24.69	26.90
Awarded during year	1.69	9.89	11.57
Paid out (retained)	0.24	0.19	0.44
Paid out (released)	1.34	4.36	5.70
Reduced from prior years	0.17	6.04	6.21
Unvested at year end	2.14	23.98	26.12

5. Guaranteed Awards (including 'Sign-on' awards) and Severance Payments

RBSIH does not offer 'Sign-on awards'. Guaranteed awards may only be granted to new hires in exceptional circumstances in compensation for awards foregone in their previous company and are limited to the first year of service. No new hire guarantees were awarded to MRTs of RBSIH for the 2019 performance year.

Severance payments can be made to employees who leave RBSIH in certain situations, including redundancy. Such payments are calculated by a pre-determined formula set out within the relevant social plans, policies, agreements or local laws. Where local laws permit, there is a cap on the maximum amount that can be awarded.

No severance payments were made to MRTs of RBSIH during the year in excess of contractual payments, local policies, standards or statutory amounts. Severance payments made do not reward failure or misconduct in line with regulatory requirements.

Where required, remuneration is constrained within the limit of variable to fixed remuneration in accordance with EBA guidelines.

6. Ratio between fixed and variable remuneration

The variable component of total remuneration for MRTs of RBSI shall not exceed 100% of the fixed component. The average ratio between fixed and variable remuneration for 2019 is approximately 1 to 0.41. The majority of MRTs are based in the Channel Islands and the UK.

Ratio of fixed to variable	Senior mgmt	Other MRTs	Total
Number of beneficiaries	10	73	83
	ratio	ratio	ratio
Executive Directors	1:0.85	—	1:0.85
Non-Executive Directors	—	—	—
Corporate Functions	1:0.69	—	1:0.69
Control Functions	1:0.54	1:0.22	1:0.26
Institutional Banking	1:0.68	1:0.33	1:0.36
Other customer facing	1:0.71	1:0.36	1:0.53
Consolidated	1:0.74	1:0.30	1:0.41

7. Discount Rate

Under CRD IV regulations, a notional discount is available which allows variable pay to be awarded at a level that would otherwise exceed the 1:1 ratio, provided that at least 25% of variable pay is delivered 'in instruments' (shares) and deferred over five years or more. The discount rate was not used for remuneration awarded in respect of the 2019 performance year.

Total remuneration by band for all employees earning >€1 million

€ million	Number of employees 2019
€1.0 - €1.5	1
More than €1.5	0
Total	1

Notes:

- (1) Total remuneration in the table above includes fixed pay, pension and benefit funding and variable pay.
- (2) Where applicable, the table is based on an average exchange rate of €1.14 to £1 for 2019.
- (3) As noted earlier in this report, 19 individuals have been excluded from the remuneration tables in this disclosure because any remuneration they receive is paid in relation to their core role and is not linked to their MRT status for RBSIH. Information on their remuneration is included in the other MRT disclosures provided on rbs.com.

Appendix 1 – CRR Roadmap

The following table provides a reference signposting for part 8 of the Capital Requirements Regulation (CRR) covering Pillar 3 disclosures.

CRR ref	High-level summary	Compliance reference
Scope of disclosure requirements		
431 (1)	Requirement to publish Pillar 3 disclosures.	RBS publishes Pillar 3 disclosures as required.
431 (2)	Firms with permission to use specific operational risk methodologies must disclose operational risk information.	RBS Group ARA (ARA): Capital and risk management - Operational risk section.
431 (3)	Institution must have a policy covering frequency of disclosures. Their verification, comprehensiveness and appropriateness.	RBS has a Pillar 3 policy.
431 (4)	Explanation of ratings decision upon request.	If requested, RBS provides an explanation in writing on rating decisions to SMEs and other corporate applicants.
CRR 432: Non-material, proprietary or confidential information		
432 (1)	Institutions may omit information that is not material if certain conditions are respected.	RBS complies with all relevant disclosure requirements.
432 (2)	Institutions may omit information that is proprietary or confidential if certain conditions are respected.	RBS does not omit any information on the grounds that it may be proprietary or confidential.
432 (3)	Where 432 (1) and (2) apply this must be stated in the disclosures, and more general information must be disclosed.	N/A
432 (4)	Use of 432 (1) or (2) is without prejudice to scope of liability for failure to disclose material information.	N/A
CRR 433: Frequency of disclosure		
433	Disclosures must be published once a year at a minimum, and more frequently if necessary.	Required disclosures are published annually at a minimum, with quarterly disclosures for key elements and metrics including Own Funds, RWA, Capital Requirements and Leverage.
CRR 434: Means of disclosures		
434 (1)	To include all disclosures in one appropriate medium, or provide clear cross-references.	Majority of the disclosure requirements are covered by the Pillar 3 Report. Other disclosures including certain qualitative requirements are covered within the ARA. Signposting is used to direct users to relevant pages or sections.
434 (2)	Disclosures made under other requirements (e.g. accounting) can be used to satisfy Pillar 3 if appropriate.	This reference guide sets out the cross-references.
CRR 435: Risk management objectives and policies		
435 (1)	Disclose information on:	
435 (1) (a)	The strategies and processes to manage those risks.	ARA: Corporate governance – Report of the Board Risk Committee. Additional information on risk strategies and management processes found throughout this document and specifically ARA: Capital and risk management section.
435 (1) (b)	Structure and organisation of risk management function.	ARA: Capital and risk management – Risk management framework. Additional information on risk management structure processes found throughout this document, and specifically ARA: Capital and risk management section.
435 (1) (c)	Risk reporting and measurement systems.	ARA: Capital and risk management - Risk management framework. Additional information on the scope and nature of risk reporting and measurement systems found throughout this document, and specifically ARA: Capital and risk management section.
435 (1) (d)	Hedging and mitigating risk - policies and processes.	ARA: Capital and risk management - Risk management framework; Credit risk; Non-traded market risk; Pension risk, pages; Operational risk; and, Accounting policies, Derivatives and Hedging.
435 (1) (e)	Adequacy of risk management arrangements.	ARA: Corporate Governance – Report of the Group Audit Committee and Board Risk Committee.
435 (1) (f)	Concise risk statement approved by the Board	ARA: Strategic Report - Risk management framework.

Appendix 1 – CRR roadmap

CRR ref	High-level summary	Compliance reference
CRR 435: Risk management objectives and policies		
435 (2)	Information on governance arrangements, including information on Board composition and recruitment, and risk committees.	Refer to sub-articles below.
435 (2) (a)	Number of directorships held by directors.	ARA: Corporate governance – Our Board.
435 (2) (b)	Recruitment policy of the Board, their experience and expertise.	ARA: Corporate governance – Report of the Group Nominations and Governance Committee rbs.com/about/board-and-governance.html
435 (2) (c)	Policy on diversity of Board membership and results against targets.	ARA: Corporate governance – Report of the Group Nominations and Governance Committee.
435 (2) (d)	Disclosure of whether a dedicated risk committee is in place, and number of meeting in the year.	ARA: Corporate governance – Report of the Board Risk Committee.
435 (2) (e)	Description of information flow risk to Board.	ARA: Report on the Board Risk Committee & Capital and risk management.
CRR 436: Scope of application		
436	See sub paragraphs below.	
436 (a)	Name of institution.	The Royal Bank of Scotland Group plc and its consolidated subsidiaries.
436 (b)	Difference in basis of consolidation for accounting and prudential purposes, naming entities that are:	EU LI1, CAP 2 & Consolidation.
436 (b) (i)	Fully consolidated;	ARA: Note 6 Investments in Group undertakings and Note 10 Related undertakings.
436 (b) (ii)	Proportionally consolidated;	
436 (b) (iii)	Deducted from own funds;	
436 (b) (iv)	Neither consolidated nor deducted.	
436 (c)	Impediments to transfer of funds between parent and subsidiaries.	There are no such impediments. Refer to Pillar 3 – Presentation of information.
436 (d)	Capital shortfalls in any subsidiaries outside of scope of consolidation.	Entities outside the scope of consolidation are appropriately capitalised.
436 (e)	Making use of articles on derogations from a) prudential requirements or b) liquidity requirements for individual subsidiaries/entities.	N/A
CRR 437: Own funds		
437 (1)	Requirement to disclosure following information regarding own funds:	
437 (1) (a)	Reconciliation of regulatory values for Common Equity Tier 1 items, Additional Tier 1 items, Tier 2 items and filters and deductions to statutory balance sheet;	EU LI1 & CAP 2.
437 (1) (b)	Description of the main features of Capital Instruments issued by institution;	Pillar 3 Capital Instruments Common Disclosure template available on RBS Investor Relations website www.investors.rbs.com
437 (1) (c)	Full terms and conditions of Capital Instruments issued by institution;	Pillar 3 Capital Instruments Common Disclosure template available on RBS Investor Relations website www.investors.rbs.com
437 (1) (d)	Disclosure of the nature and amounts of the following:	CAP 2.
437 (1) (d) (i)	each prudential filter applied;	
437 (1) (d) (ii)	each capital deduction applied;	
437 (1) (d) (iii)	items not deducted from capital;	
437 (1) (e)	a description of all restrictions applied to the calculation of own funds in accordance with this Regulation and the instruments, prudential filters and deductions to which those restrictions apply;	CAP 2.
437 (1) (f)	where institutions disclose capital ratios calculated using elements of own funds determined on a different basis.	N/A
437 (2)	EBA shall develop draft implementing technical standards to specify uniform templates for disclosure.	EBA published technical standards introducing Common Disclosure Templates for Own Funds; available on CAP 2.

Appendix 1 – CRR roadmap

CRR ref	High-level summary	Compliance reference
CRR 438: Capital requirements		
438	See sub paragraphs below.	
438 (a)	Summary of institution's approach to assessing adequacy of capital levels.	Pillar 3 - Presentation of Information & ARA: Capital and risk management - Risk management framework.
438 (b)	Result of ICAAP on demand from authorities.	N/A
438 (c)	Capital requirement amounts for credit risk for each Standardised approach exposure class.	CR2.
438 (d)	Capital requirements amounts for credit risk for each Internal Ratings Based Approach exposure class.	CR2, EU OV1 & CR10-B & EU CR8.
438 (d) (i)		
438 (d) (ii)		
438 (d) (iii)		
438 (d) (iv)		
438 (e)	Capital requirements amounts for market risk or settlement risk, or large exposures where they exceed limits.	EU OV1 & EU MR1.
438 (f)	Capital requirement amounts for operational risk, separately for the basic indicator approach, the Standardised approach, and the advanced measurement approaches as applicable.	RBS uses Standardised approach; EU OV1 includes operational risk capital requirements.
438 (endnote)	Requirement to disclose specialised lending exposures and equity exposures in the banking book falling under the simple risk weight approach.	EU CR10.
CRR 439: Exposure to counterparty credit risk		
439	See sub paragraphs below.	
439 (a)	Description of process to assign internal capital and credit limits to CCR exposures.	CCR - EAD calculation methods for counterparty credit risk & counterparty credit limit setting.
439 (b)	Discussion of process to secure collateral and establishing reserves.	CCR – Counterparty credit risk management & Credit Valuation Adjustments & ARA: Notes to Consolidated Accounts 12 Financial Instruments – valuation.
439 (c)	Discussion of management of wrong-way exposures	CCR – Wrong-way risks.
439 (d)	Disclosure of collateral to be provided (outflows) in the event of a ratings downgrade.	EAD calculation methods for counterparty credit risk & Counterparty credit limit setting.
439 (e)	Derivation of net derivative credit exposure.	EU CCR5_A
439 (f)	Exposure values for mark-to-market, original exposure, standardised and internal model methods.	EU CCR1, EU CCR2 & EU CCR8.
439 (g)	Notional value of credit derivative hedges and current credit exposure by type of exposure.	EU_CCR6.
439 (h)	Notional amounts of credit derivative transactions for own credit, intermediation, bought and sold, by product type.	EU_CCR6.
439 (i)	Estimate of alpha, if applicable.	EAD calculation methods for counterparty credit risk.
CRR 440: Capital buffers		
440 (1)	See sub paragraphs below.	N/A
440 (1) (a)	Geographical distribution of relevant credit exposures.	CAP 5a.
440 (1) (b)	Amount of the institution specific countercyclical capital buffer.	CAP 5b.
440 (2)	EBA will issue technical implementation standards related to 440 (1).	RBS follows the current standards.
CRR 441: Indicators of global systemic importance		
441 (1)	Disclosure of the indicators of global systemic importance.	GSIB indicators as of and for the year ended 31 December 2019 will be published in April 2020 on www.investors.rbs.com .
441 (2)	EBA will issue technical implementation standards related to 441 (1).	RBS follows the current standards.

Appendix 1 – CRR roadmap

CRR ref	High- level summary	Compliance reference
CRR 442: Credit risk adjustments		
442	See sub paragraphs below.	
442 (a)	Disclosure of bank's definitions of past due and impaired.	ARA: Capital and Risk Management and Notes on the consolidated accounts - 14 Loan impairment provisions
442 (b)	Approaches for calculating credit risk adjustments.	ARA: Accounting policies: 13. Impairment: expected credit losses
442 (c)	Disclosure of EAD by exposure class.	EU CRB_B.
442 (d)	Disclosures of EAD by geography and exposure class.	EU CRB_C.
442 (e)	Disclosures of EAD by industry and exposure class.	EU CRB_D.
442 (f)	Disclosures of EAD by residual maturity and exposure class.	EU CRB_E.
442 (g)	Breakdown of impaired, past due, specific and general credit adjustments, and impairment charges for the period, by exposure class or counterparty type.	EU CR1_A, NPL templates: Template1, Template 3, Template 4
(i) 442 (g)		ARA: Capital and risk management - Segmental loans and impairment metrics.
(ii) 442 (g) (iii)		NPL template: Template 5
442 (h)	Impaired, past due exposures, by geographical area, and amounts of specific and general impairment for each geography.	ARA: Capital and risk management - Segmental loans and impairment metrics.
442 (i)	Reconciliation of changes in specific and general credit risk adjustments.	EU CR2-A.
442 Endnote	Specific credit risk adjustments recorded to income statement are disclosed separately.	EU CR2-A
CRR 443: Unencumbered assets		
443	Disclosures on unencumbered assets.	EBA Asset Encumbrance.
CRR 444: Use of ECAIs		
444	See sub paragraphs below.	
444 (a)	Names of the ECAIs used in the calculation of Standardised Credit risk: Standardised approach.	Credit risk: Standardised approach.
444 (b)	Exposure classes associated with each ECAI.	Credit risk: Standardised approach.
444 (c)	Process for translating external ratings into credit quality steps.	Credit risk: Standardised approach.
444 (d)	Mapping of external rating to credit quality steps.	EU_CR5a.
444 (e)	Exposure value pre and post-credit risk mitigation, by CQS.	Majority of exposure where ECAI ratings are used to calculate the risk-weight are within central governments and banks exposure class. Refer to EU CR5 and EU_CCR3 for risk-weights.
CRR 445: Exposure to market risk		
445	Disclosure of position risk, large exposures exceeding limits, FX, settlement and commodities risk.	EU_MR1 for Specific Interest Rate Risk of Securitisation Positions; and, Market Risk components including position risk, foreign exchange risk and IMM. Settlement Risk is included within EU_OV1.
CRR 446: Operational risk		
446	Scope of approaches used to calculate operational risk.	RBS uses the standardised approach, refer to EU OV1 and ARA: Capital and risk management - Operational risk
CRR 447: Exposures in equities not included in the trading book		
447		
447 (a)	Differentiation between exposures based on their objectives, and an overview of the accounting techniques and valuation methodologies used.	ARA: Capital and risk management - Credit risk and Non-traded market risk. For further detail on accounting refer to ARA: Accounting policies: 12 Financial Instruments.
447 (b)	Comparison between the balance sheet value, fair value and market price where materially different.	ARA: Capital and risk management - Credit risk - Non-traded market risk - Equity Risk table.
447 (c)	The types, nature and amounts of exchange-traded exposures, private equity exposures in sufficiently diversified portfolios, and other exposures.	ARA: Capital and risk management - Credit risk - Non-traded market risk - Equity Risk table.
447 (d)	The cumulative realised gains or losses arising from sales and liquidations in the period.	
447 (e)	The total unrealised gains or losses, the total latent revaluation gains or losses, and any of these amounts included in the original or additional own funds.	

Appendix 1 – CRR roadmap

CRR ref	High-level summary	Compliance reference
CRR 448: Exposure to interest rate risk on positions not included in the trading book		
448		
448 (a)	For Non-Traded Interest Rate Risk, the nature and frequency of measurement.	ARA: Capital and risk management - Non-Traded Market Risk - Interest rate risk.
448 (b)	The variation in earnings, economic value or other relevant measure used by the management for upward and downward rate shocks according to management's method for measuring the interest rate risk, broken down by currency.	ARA: Capital and risk management - Non-Traded Market Risk - Interest rate risk.
CRR 449: Exposure to securitisation positions		
449	Exposure to securitisations positions.	RBS has no correlation trading portfolio.
449 (a)	Objectives in relation to securitisation activity.	Securitisation – Objectives and roles.
449 (b)	Nature of other risks in securitised assets, including liquidity.	Securitisation – Risk management.
449 (c)	Risks in re-securitisation activity stemming from seniority of underlying securitisations and ultimate underlying assets.	Securitisation – Risk management.
449 (d)	The roles played by institutions in the securitisation process.	Securitisation – Objectives and roles.
449 (e)	Indication of the extent of involvement in these roles.	Securitisation – Objectives and roles.
449 (f)	Processes in place to monitor changes in credit and market risks of securitisation exposures, and how the processes differ for re-securitisation exposures.	Securitisation – Risk management.
449 (g)	Description of the institution's policies with respect to hedging and unfunded protection, and identification of material hedge counterparties.	Securitisation – Risk management.
449 (h)	Approaches to calculation of RWA for securitisations mapped to types of exposures.	Securitisation – Calculation of risk-weighted exposures.
449 (i)	Types of SSPEs used to securitise third-party exposures, and list of SSPEs.	Securitisation – SSPEs used by RBS SEC 4 & SEC 6.
449 (j)	Summary of accounting policies for securitisations.	Securitisation – Summary of accounting policies.
449 (j) (i)	Treatment of sales or financings;	Securitisation – Recognition of sales
449 (j) (ii)	Recognition of gains on sales;	Securitisation – Recognition of sales
449 (j) (iii)	Approach to valuing securitisation positions;	Securitisation - Key assumptions for valuing securitisation positions
449 (j) (iv)	Treatment of synthetic securitisations;	Securitisation - Synthetic securitisations
449 (j) (v)	Valuation of assets awaiting securitisations;	Securitisation - Assets awaiting securitisation
449 (j) (vi)	Recognition of arrangements that could require the bank to provide support to securitised assets.	Securitisation - Implicit support
449 (k)	Names of ECAs used for securitisations.	Securitisation – Calculation of risk-weighted exposures.
449 (l)	Full description of Internal Assessment Approach.	Securitisation – Summary of Internal Assessment Approach.
449 (m)	Explanation of changes in quantitative disclosures.	SEC 1 & SEC 6.
449 (n)	Banking and trading book securitisation exposures:	
449 (n) (i)	Amount of outstanding exposures securitised;	SEC 6.
449 (n) (ii)	On balance sheet securitisation retained or purchased, and off-balance sheet exposures;	SEC 4.
449 (n) (iii)	Amount of assets awaiting securitisation;	Securitisation - Assets awaiting securitisation.
449 (n) (iv)	Early amortisation treatment; aggregate drawn exposures, capital requirements;	RBS has no securitisation positions treated subject to early amortisation treatment.
449 (n) (v)	Deducted or 1,250%-weighted securitisation positions;	SEC 1, SEC 2 & SEC 3.
449 (n) (vi)	Amount of exposures securitised and recognised gains or losses on sales.	SEC 1.

Appendix 1 – CRR roadmap

CRR ref	High-level summary	Compliance reference
CRR 449: Exposure to securitisation positions		
449 (o)	Banking and trading book securitisations by risk band:	
449 (o) (i)	Retained and purchased exposure and associated capital requirements, broken down by risk-weight bands;	SEC 1 & SEC 2.
449 (o) (ii)	Retained and purchased re-securitisation exposures before and after hedging and insurance; exposure to financial guarantors broken down by guarantor credit worthiness.	SEC 1.
449 (p)	Impaired assets and recognised losses related to banking book securitisations, by exposure type.	SEC 6.
449 (q)	Exposure and capital requirements for trading book securitisations, separately into traditional.	SEC 5.
449 (r)	Whether the institution has provided non-contractual financial support to securitisation vehicles.	Securitisation – Implicit support.
CRR 450: Remuneration policy		
450	Remuneration policy	ARA: Governance - Directors' remuneration report and Other remuneration disclosures. And as set out in this document on page 132 for NWM Plc and page 134 for RBSI. Further detail on compliance with CRD IV and remuneration from rbs.com/rbs/about/board-and-governance.html
450 (1) (a)	Decision-making process for determining remuneration policy	
450 (1) (b)	Link between pay and performance;	
450 (1) (c)	Design characteristics of the remuneration system, criteria for performance measurement, risk adjustment, deferral policy and vesting criteria;	
450 (1) (d)	Ratios between fixed and variable remuneration;	
450 (1) (e)	Performance criteria on which entitlement to shares, options or variable components of remuneration is based;	
450 (1) (f)	Parameters and rationale for variable components schemes and other non-cash benefits;	
450 (1) (g)	Aggregate quantitative information on remuneration;	
450 (1) (h)	Aggregate quantitative information on remuneration, broken down by senior management and members staff with significant impact on risk profile of the institution:	
450 (1) (h) (i)	The amounts of remuneration for the financial year, split into fixed and flexible and number of beneficiaries;	
450 (1) (h) (ii)	The amounts and forms of variable remuneration;	
450 (1) (h) (iii)	The amounts of outstanding deferred remuneration, split into vested and unvested;	
450 (1) (h) (iv)	The amounts of deferred remuneration awarded during the financial year, paid out and reduced through performance adjustments;	
450 (1) (h) (v)	New sign-on and severance payments made during the financial year, number of beneficiaries;	
450 (1) (h) (vi)	The amount of severance payments awarded during the financial year, number of beneficiaries and highest award;	
450 (1) (i)	The number of individuals been remunerated EUR 1 million or more, between EUR 1 and 5 million and of EUR 5 million or above;	
450 (1) (j)	Upon demand from the Member State or competent authority, total remuneration for each member of management body or senior management;	If requested, RBS provides the information
450 (2)	For significant institutions, internal organisation and the nature, scope and the complexity of their activities and other quantitative information as per the article;	Remuneration disclosure for NWM Plc on page 132 and for RBSI on page 134;
CRR 451: Leverage		
451 (1)	See sub paragraphs below.	
451 (1) (a)	Leverage ratio, and breakdown of total exposure measure,	CAP 3.
451 (1) (b)	including reconciliation to financial statements, and	CAP 3.
451 (1) (c)	derecognised fiduciary items.	N/A
451 (1) (d)	Description of the risk management approach to mitigate excessive leverage.	ARA: Capital and risk management – Capital Management.
451 (1) (e)	Factors that impacted the leverage ratio during the year.	Capital, liquidity and funding – Key points.
451 (2)	EBA to publish implementation standards for points above.	RBS follows the current standards.

Appendix 1 – CRR roadmap

CRR ref	High-level summary	Compliance reference
CRR 452: Use of the IRB Approach to credit risk		
452	See sub paragraphs below.	
452 (a)	Permission for use of the IRB approach from authority.	EU CRE_1: IRB Models.
452 (b)	Explanation of:	
452 (b) (i)	Internal rating scales, mapped to external ratings;	EU CR9_A_2 & ARA: Capital and risk management - Credit Risk. Asset quality.
452 (b) (ii)	Use of internal ratings for purposes other than capital requirement calculations;	EU CRE: Qualitative disclosures relating to IRB models.
452 (b) (iii)	Management and recognition of credit risk mitigation;	Credit risk – Risk profile by credit risk mitigation technique.
452 (b) (iv)	Controls around ratings systems.	Credit risk – IRB modelling governance & Independent model validation.
452 (c)	Ratings processes for each IRB asset class.	EU CRE: Qualitative disclosures relating to IRB models (credit and counterparty risk), including EU CRE_2a & EU CRE_2b.
452 (c) (i)		
452 (c) (ii)		
452 (c) (iii)		
452 (c) (iv)		
452 (c) (v)		
452 (d)	Exposure values by IRB exposure class, separately for Advanced and Foundation IRB.	CR2 and numerous other tables throughout the report.
452 (e)	Disclosure by exposure classes, separately by obligor grade:	EU CR6_b & EU_CCR4.
452 (e) (i)	Total exposure, separating drawn and undrawn exposure	EU CR6_b & EU_CCR4.
452 (e) (ii)	Exposure-weighted average risk weight	EU CR6_b.
452 (e) (iii)	Undrawn commitments and the exposure-weighted average Credit Conversion Factor (CCF)	EU CR6_b.
452 (f)	The requirements laid out in 452(e) for the Retail exposure class.	EU_CR6_a.
452 (g)	Actual specific credit risk adjustments by exposure class.	EU_CR6_a & EU_CR6_b.
452 (h)	Commentary on drivers of losses in preceding period.	EU CR9, EU CR9_A, EU CR9_B. & EU CR9_C.
452 (i)	Predicted against actual losses for sufficient period, and historical analysis to help assess the performance of the rating system over a sufficient period.	EU_CR9_a; EU_CR9_a_1; EU_CR9_a_2; EU_CR9_b; EU_CR9_c.
452 (j)	For all IRB exposure classes, where applicable, PD and LGD by each country where the bank operates.	EU_CR6_C.
452 (j) (i)		
452 (j) (ii)		
CRR 453: Use of credit risk mitigation techniques		
453	See sub paragraphs below.	
453 (a)	Use of on and off-balance sheet netting.	EU CRC: IRB and STD: Qualitative disclosures relating to credit risk mitigation. Wholesale IRB models - Exposure at default models. EU LI2.
453 (b)	How collateral valuation is managed.	EU CRC: IRB and STD: Qualitative disclosures relating to credit risk mitigation.
453 (c)	Description of types of collateral used by RBS.	EU CRC: IRB and STD: Qualitative disclosures relating to credit risk mitigation.
453 (d)	Guarantor and credit derivative counterparty, creditworthiness.	Recognition of credit risk mitigation in the calculation of RWAs.
453 (e)	Market or credit risk concentrations within risk mitigation exposures.	EU CRC: IRB and STD: Qualitative disclosures relating to credit risk mitigation.
453 (f)	Standardised or Foundation IRB approach, exposure value covered by eligible collateral.	EU_CR4.
453 (g)	Exposures covered by guarantees, credit derivatives or collateral.	EU_CR3.

Appendix 1 – CRR roadmap

CRR ref	High-level summary	Compliance reference
CRR 454: Use of the Advanced Measurement Approaches to operational risk		
454	Description of the use of insurance or other risk transfer mechanisms to mitigate operational risk.	N/A
CRR 455: Use of Internal Market Risk Models		
455		
455(a)	See sub paragraphs below.	
455(a)(i)	Characteristics of the market risk models.	EU MRB_B: MR: Qualitative disclosure on use of internal model approach.
455 (a) (ii)	Methodology for all-price risk measure and incremental risk charge.	EU MRB_B: MR: Qualitative disclosure on use of internal model approach.
455 (a) (iii)	Descriptions of stress tests applied to the portfolios.	ARA: Capital and risk management - Stress testing in Market Risk.
455 (a) (iv)	Methodology for back-testing and validating the models.	ARA: Capital and risk management: Traded market risk.
455 (b)	Scope of permission for use of the models.	EU MRB_B: MR: Qualitative disclosure on use of internal model approach.
455 (c)	Policies and processes to determine trading book classification, and to comply with prudential valuation requirements.	EU MRB_A: MR: Qualitative information. PV1.
455 (d)	High/Low/Mean values over the year of VaR, SVaR, all-price risk measure and incremental risk charge.	EU_MR3.
455 (d) (i)		
455 (d) (ii)		
455 (d) (iii)		
455 (e)	The elements of the own fund calculation.	EU_MR2_A.
455 (f)	Weighted average liquidity horizons of portfolios covered by models.	EU MRB_B: MR: Qualitative disclosure on use of internal model approach.
455 (g)	Comparison of end-of-day VaR measures compared with one-day changes in portfolio's value.	EU_MR4.