RBC EUROPE LIMITED

PILLAR 3 DISCLOSURE

FOR THE YEAR ENDED 31 OCTOBER 2018

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1.0 Overview

1.1 Business Profile

RBC Europe Limited (the Company) is a wholly owned subsidiary of Royal Bank of Canada (RBC), a leading provider of financial services globally. Operating since 1869, RBC is Canada's largest bank and is amongst the top 20 largest banks globally based on market capitalisation. RBC has amongst the highest credit ratings for financial institutions (Moody's A1 and Standard & Poor's AA-) and continues to be well capitalised with Common Equity Tier 1 Capital Ratio 14.3% as at 31 October 2018 (2017: 14.4%).

The Company is a UK authorised bank and provides investment banking, capital markets and wealth management services to a wide range of clients including financial institutions, corporations, governments and High–Net-Worth clients around the world. The Company works with its clients to help raise capital, access markets, mitigate risk and acquire or divest assets. The business has grown its Investment Banking M&A fees and lending revenue streams in 2018 to complement its Fixed Income and other securities-related businesses.

The Company obtained a Standard & Poor's rating since October 2014. As of 31 October 2018 the Company's long- and short-term counterparty credit rating assigned by Standard & Poor's are unchanged at AA-/A-1+.

As at 31 October 2018, the Company does not have any subsidiaries or any investment in associates (2017: nil).

1.2 Basis and Frequency of Disclosures

Basel III is a global regulatory standard on bank capital adequacy, stress testing and market liquidity risk. It intended to strengthen global capital and liquidity rules with the goal of improving the banking sector's ability to absorb shocks arising from the financial and economic stress, thus reducing the risk of spillover from the financial sector to the real economy.

The EU implemented the Basel III framework through the new Capital Requirements Directive and Regulation (CRD IV package). Further UK implementation is by way of the PRA's Rulebook effective from 1 January 2014.

Basel III capital adequacy framework comprises three complementary pillars:

Pillar 1 establishes rules for the calculation of minimum capital for Credit, Market, Operational Risk and Leverage (capital adequacy requirements).

Pillar 2 is an internal discipline to evaluate the adequacy of the regulatory capital requirement under Pillar 1 and other non-Pillar 1 risks. This pillar requires the PRA to undertake a supervisory review to assess the robustness of the regulated entity's internal assessment (risk management and supervision).

Pillar 3 complements the other pillars and affects market discipline through public disclosure. Expanded disclosure about capital and risk enables interested parties to better understand the risk profile of individual banks and companies and to make comparisons (market discipline).

The aim of Pillar 3 is to publish a set of disclosures which allow market participants to assess key information on the capital condition, risk exposures and risk assessment process.

The information disclosed is prepared in accordance with the disclosure requirements set out in Part Eight of the Capital Requirement Regulation (CRR). The disclosures may differ from similar information in the Company's financial statements for the year ended 31 October 2018, which are prepared in accordance with International Financial Reporting Standards (IFRS). Therefore, the information in these disclosures may not be directly comparable with that information.

The Company updates these disclosures on an annually basis as at its financial year end of 31 October. The Company will assess the need to publish some or all disclosures more frequently than annually in the light of the criteria specified in Article 433 of the CRR and in accordance with European Banking Authority's Guidelines on materiality, proprietary and confidentiality and on disclosure frequency.

In preparing these disclosures, management has adjusted certain prior year amounts to conform to current year presentation. These adjustments do not have any impact on the Company's capital condition and risk exposures, unless stated otherwise.

1.3 Location and Verification

These disclosures have been reviewed and approved by the Company's Audit Committee and Board. A copy of these disclosures is also available on RBC Group's corporate website at http://www.rbc.com/aboutus/rbcel-index.html.

1.4 Risk Governance

The Company has a clear and robust corporate and risk governance framework in order to manage, control and provide assurance on risk on behalf of both internal and external stakeholders. The governance structure determines the relationships between the Company's Board of Directors (the Board), Management, RBC Group and other stakeholders. It also defines the framework in which values are established and the context in which corporate strategies and objectives are set.

The Company considers its risk and control framework to be appropriate for the effective management of its risks and is committed to ensuring that these remain relevant and effective in a changing business environment. The Company has a well-embedded Risk Appetite Framework articulating its appetite for the type and quantum of risk through clearly defined metrics. As at 31 October 2018, all measures were within the Company's Board limits and tolerances.

1.5 Regulatory Developments

The Company monitors regulatory and legislative developments on an on-going basis to ensure it is prepared for forthcoming regulatory change. In particular, the Company is closely monitoring the development of new European legislation that will amend the existing Capital Requirements Directive (CRD) and Regulation (CRR). The amending legislation is usually referred to as CRD 5 and CRR 2. The Company actively participates in advocacy efforts and engages with regulators. Implementation projects are already established to ensure that each of the Company's impacted functions are fully aware of and prepared for the new requirements. In Line with the European Parliament's legislative agenda and timelines, the Company expects the new requirements to start phasing into effect from Q2 2019. Specific implementation dates for various aspects of the new legislation are set out below. The Company is continuing its work on quantifying the impact of the proposed changes.

The proposals include the introduction of the Fundamental Review of the Trading Book (FRTB) rules, the Standardised Approach for Counterparty Credit Risk (SA-CCR) and application of a minimum leverage ratio requirement of 3%. Certain provisions relating to the definition of capital and minimum requirements for Total Loss Absorbing Capacity (TLAC), which are not applicable to the Company, are expected to come into effect during 2019. SA-CCR and the minimum leverage ratio are expected to apply from 2021. The new FRTB rules are not expected to become a binding capital requirement until 2022 at the earliest, although a preliminary FRTB Reporting requirement may be introduced from 2021.

The FRTB rules will represent a substantial change in market risk capital calculations. Under FRTB, standardised calculations using risk sensitivities as inputs will replace the current general risk and specific risk calculations. The FRTB implementation project is integrated with the wider of Royal Bank of Canada project. The same approach will be taken for SA-CCR implementation. SA-CCR is a more complex capital calculation than the current Standardised Method for Counterparty Credit Risk and, in particular, more accurately reflects the effects of margining derivative trades. SA-CCR will also change the inputs into the Company's large exposure calculations.

CRD 5 includes a proposal that EU banking sub-groups that are subsidiaries of non-EU banking groups establish an intermediate holding company (IHC) to cover all EU activities undertaken by their EU banks. This requirement will only apply to banking groups that exceed certain thresholds. As the text of the proposal is not yet finalised it remains to be seen whether the Company will be affected by this requirement. Furthermore, given the uncertainty surrounding the UK's future relationship with the European Union and the extent to which EU legislation will apply in the UK it is currently too early for the Company to develop contingency plans for the various possible outcomes. Moreover, the IHC requirement is not expected to come into effect until 2023 at the earliest.

The TLAC requirements will not apply to the Company as it does not meet the thresholds to be considered a 'material subsidiary' of the Royal Bank of Canada.

CRD 5 will also implement the Basel Committee on Banking Supervision (BCBS) standards on management of Interest Rate Risk in the Banking Book (IRRBB). The new IRRBB standards enhance management responsibilities and give regulators the powers to apply a Pillar 2 capital requirement 'add on' where a bank's potential losses related to IRRBB exceed certain quantitative thresholds.

The Company continues to monitor all international and domestic developments that could impact its regulatory requirements. Through its representative trade associations, the Company responded to the European Commission's call for advice on a proposal for a further Directive and Regulation to implement the BCBS December 2017 final standards on credit risk, operational risk and credit valuation adjustment (CVA). The Company will continue to monitor any proposals from UK and European authorities on transposing these final standards into regulatory rules.

1.6 Regulatory Capital Management

As at 31 October 2018, the Company continued to be well capitalised with a Common Equity Tier 1 capital ratio of 14.3% (2017: 14.4%), Tier 1 capital ratio of 16.1% (2017: 14.4%) and Total Capital Requirement of 12.0% (including Pillar 2A add on) (2017: 11.5%).

Table 1: Distribution of Risk-weighted amount

£'000	**2018**	**2017**
Risk-weighted exposure amounts for credit and counterparty credit		
Banking book credit risk	2,752,938	2,656,757
Counterparty credit risk	1,902,672	1,553,140
Risk exposure amount for contributions to the default fund of a CCP	35,672	56,896
	4,691,282	**4,266,793**
Risk-weighted exposure amount settlement/delivery risk in the Trading book	**1,789**	**59**
Risk-weighted exposure amount for position, foreign exchange and commodities risks		
Interest rate	2,266,363	2,036,620
Equity	48,957	42,469
Foreign exchange risk	163,545	89,433
Commodities	4,819	19,098
	2,483,684	**2,187,620**
Risk-weighted exposure amount for operational risk	**794,628**	**695,680**
Risk-weighted exposure amount for credit valuation adjustment	**6,571**	**6,840**
Total	**7,977,954**	**7,156,992**

2.0 Risk Governance

2.1 Accountability Structure

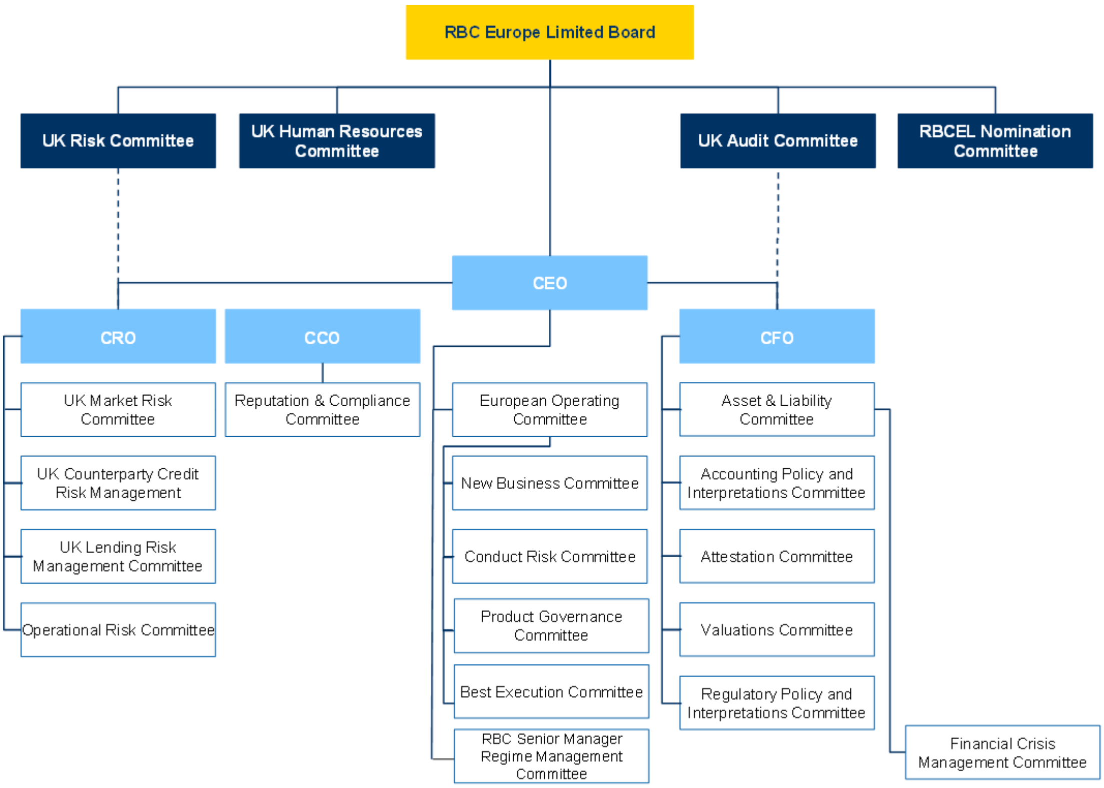
The Company has a clear and robust corporate and risk governance framework in order to manage, control and provide assurance on risk on behalf of both internal and external stakeholders. The governance structure determines the relationships between the Board of Directors, Management, RBC and other stakeholders. It also defines the framework in which values are established and the context in which corporate strategies and objectives are set.

The strength of the Company's governance starts at the top with an independent Chairman and experienced Executive and Non-Executive Directors, who give priority to strategic planning and risk oversight, ensure that standards exist to promote appropriate behaviour throughout the organisation and drive continuous improvement in governance practices.

The Board is ultimately responsible for the running of the firm but has delegated day-to-day decision making to the Chief Executive Officer. A number of Board and management committees have been established to ensure that appropriate controls and procedures are embedded to support the Company's operations. Each has formal Terms of Reference (ToR) establishing the membership, responsibilities, as well as how each committee sits within the Company's governance structure. The RBCEL board has also assumed responsibility for overseeing the Investor & Treasury Service and RBC London Branch entities.

The mandate and membership of all committees are reviewed on a regular basis to ensure that these committees are effective and continue to be relevant to meet business and risk management needs. This allows the Board to be confident that the governance structure remains appropriate and fit for purpose. Cross-membership of various management committees also ensures that senior management have a clear picture of issues impacting the Company.

The figure below depicts the current the Company's management committee structure:



2.1.1 Board of Directors

Ultimate responsibility for managing risk within the business resides with the Board of Directors (the "Board") of RBCEL. It is tasked with ensuring that an effective systems and controls framework is in place for business, risk and capital management. Through its governance structures and controls, the Board has a line-of-sight on key risks and operational controls across the firm. The Board also monitors and assesses effectiveness of controls against changing regulatory expectations.

The Board is responsible for setting the strategic risk direction and risk appetite for RBCEL. This includes:

- Clearly articulating the risk appetite for the firm and establishing mechanisms to ensure that the level of risk within the firm remains within the specified risk appetite.
- Maintaining a direct line-of-sight over key current and emerging risks across the firm.
- Ensuring that an effective systems and controls framework is in place for business, risk and capital management.
- Reviewing and approving the recovery strategies outlined in the RBCEL Recovery Plan.
- Ensuring that the financial objectives are aligned with risk appetite and objectives.
- Monitoring and assessing the effectiveness of controls against changing regulatory expectations.

As at 31 October 2018, the Board consists of three Independent Non-Executive Directors (INEDs), including the Chairman, three Non-Executive Directors (NEDs) representing the shareholder (RBC), and three Executive Directors.

Recruitment Policy for Board Members

Appointments to the Board follow a formal procedure. As the Company is a wholly owned subsidiary within RBC Group, the nomination and selection of board members is undertaken in accordance with internal corporate governance practices, stated within RBC's Policy on the Legal Governance of Subsidiaries (SGO Policy). The Board has two types of directors, (i) Executive Directors (ED), and (ii) Non-Executive Directors (NED), with three directors meeting the UK Corporate Governance Code's definition of 'independent' (INED).

In 2015, the Company established a Nomination Committee as part of its enhanced Corporate Governance Framework. The Nomination Committee is responsible for:

The identification, nomination and recommendation of INED candidates to the Board, for its consideration and approval. The nomination process follows a formal and rigorous approach, with candidates selected and assessed against established selection criteria. The Nomination Committee is governed by its Terms of Reference, under the umbrella of the SGO Policy, subject to local rules and regulations.

The Recruitment Criteria/Process. Director selection is based on local applicable laws, regulations and rules, taking into consideration the skills, diversity, geographies and areas of expertise already represented on the Board. In addition to this, successful candidates undergo a robust background check, including inter alia, criminal, financial, regulatory checks and competency validation.

In relation to EDs, candidates are identified in accordance with the SGO Policy. Following consultation with the Board Chair by the Company Secretary, and positive advice and counsel from the RBC Subsidiary Governance Office, the ED candidate is proposed to the Board for its consideration, and if deemed appropriate, approval.

All Board appointments reflect RBC's core values, in particular, "Diversity & Inclusion", which is an important factor in the assessment and nomination of all proposed director appointments. In addition, in December 2016 the Board approved a Board Diversity Policy.

The relevant background and professional experience of the Directors of the Board are provided in Appendix 1.

2.1.2 Chief Risk Officer, Europe

Decision-making relating to the management of risk is delegated by the Board to the Chief Risk Officer (CRO) Europe, supported by the Chief Executive Officer (CEO). The CRO then delegates risk decision-making to specific individuals, such as the Risk Management functions, in consultation with supporting committees as appropriate.

The CRO, supported by the Heads of Risk, is responsible for:

- Developing and embedding an RBCEL firm-wide Risk Framework for approval by the UK Risk Committee (RC).
- Recommending the RBCEL Risk Appetite Framework to the RC for subsequent approval by the Board.
- Ensuring that risks falling outside of the approved RBCEL Risk Appetite are identified and escalated to Business Heads, Senior Management, RC, and the Board.
- Ensuring that the risks generated by RBCEL's businesses are measured, monitored, controlled and reported on an on-going basis.

2.1.3 Risk Committee

The UK Risk Committee (RC) is a Board committee chaired by an Independent Non-Executive Director (INED) to ensure independence and robustness of review and challenge. The RC reviews risk issues, gives advice and makes recommendations to the RBCEL Board, or other parties as appropriate, as well as making decisions on risk issues within its sphere of responsibility.

The RC holds the following primary responsibilities:

- Develop a risk appetite for RBCEL and recommend it to the Board.
- Implement an effective risk management framework including directing and approving risk policies.
- Monitor all material risk exposures, review and approve any risk exceptions, and ensure that any breaches of risk appetite are remediated and/or escalated.
- Review and challenge the findings from the annual RBCEL Internal Capital Adequacy Assessment Process and Internal Liquidity Adequacy Assessment Process and recommend these to the Board for approval.
- Review, challenge and recommend for approval to the Board the recovery strategies outlined in the RBC UK Recovery Plan.
- Review emerging risks and changes in legal, regulatory and accounting requirements and their implications on risk management at RBCEL.

2.1.4 Audit Committee

The UK Audit Committee (AC) is responsible for providing independent assurance to the senior management and the Board of Directors on the effectiveness of risk management practices. The AC is chaired by an INED and includes two additional INEDs. Main responsibilities include:

- Monitoring the integrity of RBCEL's financial statements and reviewing and, where appropriate, making recommendations to the Board on business risks, internal controls and compliance.

- Overseeing the governance of independent valuation controls pertaining to RBCEL's financial statements.

- Monitoring performance of the internal audit function.

2.1.5 UK Human Resources Committee

The UK Human Resources Committee (HRC) is responsible for ensuring that RBC's compensation programs align with prudent risk management principles, regulatory guidance and sound compensation practices. RBCEL has an established process in place to assist the HRC in the determination of whether any performance adjustment to compensation are required. The HRC is chaired by an INED. Main responsibilities include:

- Review and approve the remuneration of Senior Managers (under the Senior Managers Regime) and Executive Directors ('Designated Employees').

- Review the remuneration of Material Risk Takers.

- Review incentive remuneration plans and equity-based remuneration plans.

- Review RBC Group Remuneration and Compensation policies.

- Review performance measures to be used to determine the remuneration of Designated Employees.

- Review management succession plans for the Executive Directors and senior officers of RBCEL.

- Review the output from the annual talent management process for the key staff in RBCEL.

2.1.6 Nomination Committee

The RBCEL Nominations Committee (Nomco) is chaired by an INED. It is a sub-committee of the Board established to lead the process for Independent Non-Executive Director succession planning and appointments to the RBCEL Board and its sub-Committees. The Committee is responsible for amongst other things, the identification, nomination and recommendation of INED candidates for appointment to the Board and its Committees. Main responsibilities include:

- Review the structure, size, and composition (including the skills, knowledge, experience, diversity and independence) of the Board and its Committees, and make recommendations to the Board with regard to any changes taking into account any legislative and/or regulatory requirements.

- Give full consideration to succession planning for INEDs, taking into account local regulatory requirements and corporate governance best practice, and the skills and expertise needed on the Board in the future.

- Be responsible for identifying and nominating, for the approval of the Board, suitable INED candidates to fill vacancies as and when they arise.

2.1.7 Asset and Liability Committee

The Asset and Liability Committee (ALCO), is a management committee chaired by the CFO, is responsible for all matters relating to the Company's financial resources including the management of balance sheet, capital position, funding and liquidity and structural banking book interest rate risk. ALCO is comprised of senior management from the business, Risk, Finance, and Corporate Treasury functions, and meet on a monthly basis. Main responsibilities include:

- Review of the current and projected positions relative to regulatory, Board, and management limits.

- Ensuring business and operational strategies are consistent with appetite, in the context of balance sheet and funding.

2.1.8 European Operating Committee

The European Operating Committee (EOC) is a key regional management forum to enable oversight of business strategies and performance as well as the determination of new business initiatives and local human resourcing policies. It also facilitates cross-business and cross-functional discussion around key decisions and material developments in RBCEL. The EOC is chaired by the CEO. Main responsibilities include:

- Review the Monthly RBC Europe financial performance report.
- Receive performance updates from the local business heads.
- Approve and recommend the Annual Business Plan to local Boards.
- Initial approval for new business initiatives prior to New Business Committee process and for recommendation to the Board.
- Set tone for executive leadership, teamwork, people and culture.

2.1.9 UK Counterparty Credit Risk Management Committee

The UK Counterparty Credit Risk Management Committee (UKCCRMC) is a monthly management committee responsible for reviewing the Counterparty Credit Risk of RBC Europe Limited UK. The UKCCRMC is chaired by the Managing Director, GRM Counterparty Credit. Responsibilities include:

- Review the status of the counterparty credit risk portfolio, which comprises trading inventory, debt and equity underwritings, commodities exposure, loans exposure, securities holding for liquidity, counterparty credit risk, mainly arising from securities financing and derivatives.
- Consider counterparty credit risk exposures booked in RBCEL and RBCLB, if deemed appropriate.
- Assist GRM Credit in the process to review the limit policy and the relevant limit exceptions at least annually.
- Consider all counterparty credit risk situations with significant risk impact as well as the implications of the evolving market and risk environment on trading initiatives and exposures.
- Serve as a forum for communication of initiatives related to trading credit risk activities.
- Highlight the Settlement Watch List of counterparty credit risk exposures that is deemed to represent high risk, consider the exposures should cut back and/or hedged.
- Assist in the process to review the relevant credit risk policies (with positive advice and counsel from RBC Group as appropriate).

2.1.10 UK Market Risk Management Committee

The UK Market Risk Management Committee (UKMRC) meets on a monthly basis and is a key management forum to manage and oversee market and counterparty credit risks across RBCCM and RBC ITS activities in the UK booked in RBCEL, RBCLB and ISTUB. The UKMRC is chaired by the European Head of Market Risk. The main responsibilities include:

- Review all excesses to market and counterparty credit risk operational and Board limits.
- Review all operational limits set by the local MD-Head of Market Risk.

- Review and recommend market risk Board limits to the UK Risk Committee.

- Bring all significant market and counterparty credit risk issues to the attention of the UK Risk Committee.

- Review trading risk policies.

- Review the market and counterparty credit risk elements of the RBCEL ICAAP prior to submission to the UK Risk Committee and the RBCEL, RBCLB and ISTUB Asset and Liability Committee.

2.1.11 UK Lending Risk Management Committee

The UK Lending Risk Management Committee (UKLRMC) is a management committee established to review all new and increased loan transactions, taking into account the advice and counsel of Group Risk Management and to monitor the existing portfolio at its monthly meetings. Main responsibilities include:

- Review the status of loan underwritings to ensure they are proceeding as expected.

- Review all lending situations with a significant risk impact as well as the impact of the evolving risk environment on lending strategies and exposures.

- Review emerging credit risk issues and activities, assess operational risk events arising from financing activities and make recommendations to avoid future similar operational risk events.

- Review emerging credit risk issues and activities, assess operational risk events arising from financing activities and make recommendations to avoid future similar operational risk events

- Review the Watch List of loan facilities, consider the recoverability of exposure and review and recommend the level of general and specific provisions.

- Serve as a forum for communication of compliance issues and initiatives related to lending activities and ensure that all outstanding or pending legal, regulatory and audit issues are addressed properly and in a timely fashion.

- Review credit risk policies and approve the RBCEL Credit Process Policy.

2.1.12 UK Operational Risk Management Committee

The UK Operational Risk Committee (ORC) is a management committee responsible for actively managing the operational risk of RBCEL, RBCLB, ISTLB (together "RBC UK") in the Capital Markets, Investor & Treasury Services, and Wealth Management International businesses undertaken in the UK. The Committee is responsible for regulatory operational risk requirements from both the FCA and PRA. The ORC holds meetings with all key desks and relevant functions to capture and review detailed operational issues and risks, operational risk appetite and associated actions. The ORC is chaired by the Head of Operational Risk – Europe & APAC, and is convened on a Monthly Basis. Key responsibilities include:

- Approve and recommend Operational Risk policies and procedures as part of the RBC Operational Risk Framework.

- Review of the operational risk profile as compared to the operational risk appetite including key risk indicators, operational risk events, risk and control assessments and other key information as required;

- Review and challenge of individual business unit operational risk profile including key risk indicators, operational risk events, risk and control assessments and performance against the business's established operational risk appetite;
- Review of Scenario Programme results;
- Regular review business continuity and crisis management plans;
- Regular monitoring of relevant operational risk regulatory matters including:
- Changes to regulations and standards and their potential impact;
- RBCUK-specific reviews;
- Review of emerging risks and issues that require management attention and escalate where appropriate.

2.1.13 Attestation Committee

The Attestation Committee (AC) is a management committee established to review the monthly general ledger attestation process. Key responsibilities include:

- Review the results of the monthly attestation process and issues arising.
- Review the results of the monthly standards of documentation process, specifically the monthly scorecards, aged breaks, and aging of receivables and payables.
- Review the results of the monthly and quarterly BRAG (Blue Red Amber Green) reconciliation self-assessment process.
- Approve local policies and procedures in relation to the general ledger attestation process.
- Ensure adequate resources are available to address issues arising.
- Ensure all disciplines are working together to achieve the attestation monthly process.
- Present the monthly reports and escalate unresolved issues to the Global Attestation Committee for review and direction.
- Review all Operational Risk Events and assess potential impacts to the Global Attestation process.

2.1.14 Valuations Committee

The Valuation Committee (VC) is responsible for the oversight of RBC's financial instrument fair value practices. As a benchmark, the VC shall meet the relevant seven Principles set out in the Basel Committee's Supervisory Guidance for assessing banks' financial instrument fair value practices.

2.1.15 New Business Committee

The New Business Committee (NBC) is responsible for reviewing and evaluating and making recommendations on all new capital markets business. It occurs monthly and as required. Main responsibilities include:

- Assess the level of materiality for new business initiatives.
- Ensure that risk issues are identified and addressed consistently with the RBC Code of Conduct prior to business commencing.
- Ensure that all requisite approvals are obtained prior to the commencement of a new initiative.

- Ensure timely documentation of policy, including Standing Orders, in accordance with bank standards.
- Ensuring that the approval of new business initiatives proposed by the Global Investor & Treasury Services and the regional Wealth Management International New Business Committees to be implemented through RBC Europe Limited is obtained by the NBC prior to their commencement.
- Review specific transactions that are outside of bank policy and ensuring that risks are identified and requisite approvals obtained.

2.1.16 Conduct Risk Management Committee

The Conduct Risk Committee was newly formed in 2018 to assist the RBCEL Board in assessing the conduct risk profile of the businesses and the identification, measurement and management of significant conduct risks to which RBCEL is exposed. Its responsibilities include:

- Review conduct trends;
- Identify emerging behaviour/conduct trends;
- Drive conduct risk and culture practices;
- Inform on local regulatory guidance and best practice and RBC Enterprise Policies and Risk Conduct Framework;
- Define appropriate action plans where necessary; and,
- Act as a point of escalation to the UK Risk Committee.

2.1.17 Product Governance Committee

The Product Governance Committee is a key management forum responsible for the review and oversight of the product governance arrangements established across RBC Capital Markets Europe (RBCCM). The Committee is chaired by the Head of Business Transformation.

The responsibilities of the Product Governance Committee include, but are not limited to:

- to consider and evaluate the results of the quarterly product reviews conducted by each RBCCM Europe business in order to identify emerging risks and issues;
- to recommend action to address emerging risks or issues;
- to provide information on the product governance arrangements and escalate any risks or issues to the CCO, Europe & Asia;
- to ensure that each RBCCM Europe business undertakes a detailed product review annually and takes appropriate action to address issues;
- to review the product inventories held by each RBCCM Europe business periodically (at a frequency to be determined by the Committee) and ensure they remain up to date; and
- approve the Product Governance Policy and annexes annually;
- to receive and review information RBCCMs Structured Product arrangements escalated by the Chair of the Structured Products Governance Committee (SPGC).

2.1.18 Best Execution Committee

The Best Execution Committee is a key management forum responsible for the review and oversight of the best execution arrangements established across RBC Capital Markets, Europe (RBCCM), chaired by the European Head of DCM & Syndicate

The key responsibilities of the Committee include, but are not limited to:

- Periodically reviewing the execution arrangements of each RBCCM business, including the applicable best execution reliance assessments (at a frequency to be determined by the Committee, but at least annually);
- Providing guidance on the appropriate levels of supervision to be performed by 1st Line of Defence supervisors;
- A monthly review of Management Information relating to 1st Line of Defence supervision;
- Recommending actions to address emerging risks or issues in relation to RBCCM's execution practices including enhancements to 1st Line of Defence supervision arrangements;
- Providing information on RBCCM's best execution arrangements and escalating any risks or issues to the EOC;
- Reviewing any formal complaints or concerns related to RBCCM's best execution arrangements, including those identified in Compliance Monitoring or Audit reviews;
- Oversight of RBCCM's periodic RTS 27 and RTS 28 reporting;
- Oversight of the execution venues utilized by each RBCCM business; and
- Approving, at least annually, the RBCCM Europe Best Execution Policy and information provided to clients on RBCCM's executions arrangements.

2.1.19 RBC Senior Manager Regime Management Committee

The Senior Managers Regime Management Committee is a regional management forum to enable Oversight of the Senior Mangers Regime (SMR); Certification Regime (CR); and relevant parts of CRD IV in relation to Material Risk Takers (MRT).

The Committee shall consider the following matters:

- Review changes to the Senior Managers population of entities in scope;
- Advise on implementation of changing regulation in relation to SMR, CR and MRT;
- Review changes to the MRT population;
- Receive updates on the implementation of the CR;
- Receive updates and act as escalation point in respect to the annual fitness and propriety assessment process;
- Act as final decision body for F&P determinations where disclosures have been made by a certified person as part of the annual F&P certification process.

2.1.20 Financial Crisis Management Committee

The RBC UK Financial Crisis Management Committee ("FCMC") was newly formed in 2018 to enable proactive management of a potential Financial Crisis Situation on behalf of the RBCEL & RBCLB Board, and the RBCISTLB Advisory Committee. It is co-chaired by the European CFO and the CRO UK, Europe & APAC, each of whom is responsible for ensuring the bank is appropriately managed during a financial crisis. Committee membership includes members from GRM, Corporate Treasury and Finance, in addition to representation from the Enterprise Risk Management team at RBC Group Level. The FCMC is an extension of and integration with RBCEL's relevant strategy, business and risk management processes. The Liquidity Crisis Team is a Subcommittee of the FCMC which is a subcommittee of the ALCO. The key responsibilities of the Committee are:

- To convene the FCMC and if appropriate, recommend if the crisis stage is to be changed.
- To ensure relevant parties are notified of any risk mitigating actions and provide an update as to the current crisis stage
- To undertake and implement appropriate approved actions to manage the crisis until the Firm returns to normalcy
- To coordinate internal and external communication with the Corporate Communication Crisis Team and Enterprise FCMT.
- To coordinate any actions with enterprise level requirements.

2.1.21 Reputation and Compliance Committee

The Reputation and Compliance Committee (RACC) is a key management forum to manage conflicts of interest and key compliance, reputational, regulatory and financial crime issues across RBC Capital Markets Europe ("RBCCM"). The RACC is responsible for considering, evaluating and opining on matters brought to its attention by the Business that may involve reputational risks or conflicts of interest, and as appropriate will be escalated to the Reputation Risk Oversight Committee (RROC), RBCEL Board, or RBC European Operating Committee. Main responsibilities include:

- To consider, evaluate and opine on the conflicts that are presented to it by the Business, and determine an appropriate course of action to manage the situation that is consistent with RBC's policies and guidance.
- To escalate to the appropriate UK management forum, such as the RBCEL and RBC London Branch Risk Committee or RROC, those conflicts and other relevant matters that potentially expose RBC to significant reputational, legal and regulatory risk.
- To consider, evaluate and opine on relevant matters that are presented for discussion.
- To consider, evaluate and opine on relevant possible regulatory risk issues locally escalated by the European Equity Commitment Committee (EECC), the Sponsor and Nomad Committee (SANC) or the Transaction & Valuation Committee (TVC), including any activities that may impair RBCEL's ability to effectively perform its role as Sponsor.
- To consider, evaluate and opine on client or transaction matters that are presented for discussion, including those displaying high risk attributes from an anti-money laundering / financial crime perspective.
- To approve Above The Wall list amendments

2.1.22 Accounting Policy and Interpretations Group

The Committee's function is to provide a governance forum to oversee and agree key accounting policy interpretations that support local and group financial reporting. The committee is chaired by the Chief Financial Officer, Europe.

Key responsibilities include:

- Approving accounting policies for use in RBCEL's statutory accounts
- Ensuring the application of accounting policy in RBCEL, RBCLB London Branch and IS Trust is aligned to the RBC Corporate Accounting Policy Manual.
- Assessing the local impact and manage the implementation of new accounting standards
- Approving accounting policy interpretations given to the business, functions and other interested parties
- Ensuring all accounting interpretation opinions are appropriately documented
- Providing regular updates to the Audit Committee (either directly or via the Finance Function report)

2.1.23 Regulatory Policy and Interpretation Committee

The Committee's function is to provide a governance forum to oversee and agree key regulatory policies and interpretations underpinning prudential capital and liquidity reporting performed by the Regulatory Reporting team in Finance and the Liquidity Measurement team in Corporate Treasury. The committee meets on a quarterly basis or as required, and its key responsibilities include:

- Approve relevant RBCEL policies owned by Regulatory Reporting (Finance).
- Approve relevant RBCEL policies owned by Liquidity Measurement (Corporate Treasury).
- Approve papers to UK Risk Committee on topics where Risk policies may not be aligned to regulatory requirements pertaining to regulatory reporting (including COREP reporting).
- In relation to Interpretations of regulatory requirements as they pertain to risk-weight calculations, leverage ratio and COREP reporting, to approve Prudential Interpretations where impact is greater than 5% of financial resources, interpretations are different to the interpretations taken at a global RBC level, interpretations are seen by their owner as creating significant regulatory risk.
- In relation to mandatory prudential change programmes, at the discretion of the Committee, it may function as oversight Committee for prudential regulatory implementation programmes, such as the forthcoming CRR2 and CRDV projects and the leverage ratio.
- Receive regular updates of significant proposed regulatory changes impacting reporting requirements;
- Recommend policies and interpretations for approval to the CFO.
- Provide regular reporting to the CFO.
- Monitor waivers / permissions in effect for RBCEL and ensure that renewals are applied for as and when necessary.

2.1.24 Common Reporting Data Attestation Committee

The RBCEL Common Reporting (COREP) Data Attestation Committee is a key management forum to review at the senior management level the quarterly COREP data attestation process, to present the attestation results related to own funds, large exposures and leverage, to assist the CFO in ensuring that local regulatory responsibilities are met and to provide assurance to regional senior management and the UK Audit Committee that the data used for regulatory returns is properly stated. It occurs quarterly and the main responsibilities of the committee include:

- Review the results of the quarterly attestation process.
- Be responsible for approving local policies and procedures in relation to the data attestation process.
- Ensure adequate resources are available to address issues arising.
- Ensure all disciplines are working together to achieve the quarterly attestation process.
- Present the quarterly report and highlight issues to be discussed and resolved.
- Ensure issues are resolved in a timely manner.
- Execute responsibilities as per the COREP Data Attestation Policy.
- Resolve any disputes that may arise in relation to the data attestation roles and responsibilities and review results of work paper reviews.

2.2 Risk Management Framework

Taking risks in a measured and controlled manner is an integral part of RBCEL's approach to business and is, therefore, an intrinsic part of strategy setting and business and capital planning processes. The RBCEL Enterprise Risk Management Framework (the "Framework") sets out the high level arrangements for risk management, control and assurance. The Framework is designed to provide a structured approach for risk identification and assessment, risk measurement and control, and risk monitoring and reporting. RBCEL's Frameworks (including the Risk Management Framework) are reviewed and refreshed annually, and approved by the Risk Committee. RBCEL's Risk Frameworks were last approved by the Board in September 2018.

The Framework helps to ensure that risk is managed and controlled on behalf of internal and external stakeholders, including shareholders, customers, employees and regulators. Effective and efficient risk governance and oversight provide Management with assurance that RBCEL's business activities will not be excessively impacted by risks that could have been reasonably foreseen. This, in turn, reduces the uncertainty of achieving RBCEL's strategic objectives.

RBCEL respects and complies with laws and regulations that govern its businesses in the jurisdictions in which it operates. The Framework recognises that RBCEL is required to comply with a range of external risk governance requirements, including but not limited to:

- Prudential Regulatory Authority (PRA) rules;
- Financial Conduct Authority (FCA) rules; and
- Office of the Superintendent of Financial Institutions (OSFI) requirements as a subsidiary of a Canadian banking group.

2.2.1 Risk Principles

The Company applies the following general principles for its management of risk:

Table 2: Risk Management Principles

Principle	Description
Effectively balance risk and reward to enable sustainable growth	RBCEL balances risk and reward to capitalise on opportunities within our business strategy and risk appetite, avoid excessive concentrations of risk through diversification and risk transfer, manage earning volatility, and ensure the long-term viability and profitability of the organization.
Responsibility for risk management is shared	Employees at all levels of RBCEL are responsible for managing the day-to-day risks that arise in the context of their roles. RBCEL follows the "Three Lines of Defence" risk governance model discussed in detail in this section.
Undertake only risks we understand. Make thoughtful and future-focused risk decisions	In order to create long term value for our shareholders, clients, employees and communities, RBCEL exercises rigour in our risk assessments, analyse emerging risk factors and trends, ensure transparency in risk discussions, and improve processes and tools for simpler, better, faster decision-making without exposing us to undue risks.
Always uphold our Purpose and Vision, and consistently abide by our Values and Code of Conduct to maintain our reputation and the trust of our clients, colleagues and communities	Guided by our Collective Ambition, RBCEL exhibits Good Conduct and does business openly and fairly. RBCEL never compromises quality or integrity for growth. RBCEL adheres to the "Know You Client" standards, and ensures transparency and suitability of the products and services offered. RBCEL complies with all laws and regulatory requirements, and supports transactions and relationships with proper and complete documentation.
Maintain a healthy and robust control environment to protect our stakeholders.	To achieve our operational and financial performance goals while maintaining our reputation and integrity, and operating within the parameters of applicable laws and established risk appetite, RBCEL employs effective processes and controls and resiliency practices to minimize harm from internal and external threats, avoid business interruptions, and ensure timely resolution of control issues.
Use judgment and common sense	Policies and procedures cannot cover all circumstances. RBCEL Employees should apply judgment and common sense, and when in doubt, escalate. Management should hire the right people for the right jobs and provide proper training and support.
Always be operationally prepared and financially resilient for a potential crisis	RBCEL strives to maintain effective protocols and escalation strategies to respond to all risks that we face, including regulatory, macroeconomic, market and other stakeholder developments. This includes maintaining operational readiness and financial resilience to effectively operate during and following a financial crisis. It is also critical to maintain agility and readiness to respond to potential disruptors to the financial industry.

2.2.2 Three Lines of Defence Model

The Company RBCEL has implemented a robust system of monitoring, reporting and control based on the Three Lines of Defence model. This details responsibility for risk management, control and assurance, and clarifies the segregation of duties between those who take on risk, those who control risk and those who provide assurance.

First Line of Defence - This is provided by the business and support functions embedded in the business. The First Line of Defence has the ownership and accountability for:

- Risk identification, assessment, mitigation, monitoring and reporting in accordance with established RBCEL risk policies and Risk Appetite;
- Ensuring appropriate and adequate capabilities to manage risks relevant to the business;
- Alignment of business and operational strategies with risk conduct and culture and risk appetite; and
- Execution of Business and Corporate Segments' Risk Governance practices.

Second Line of Defence - This is provided by areas with independent oversight accountabilities residing in functions such as GRM, Group Compliance, and other areas within Control and Group Functions. The Second Line of Defence is accountable for:

- Establishing the RBCEL-level risk management frameworks and providing risk guidance;
- Providing oversight for the effectiveness of First Line risk management practices; and
- Monitoring and independently reporting on the level of risk against the established appetite measures and associated constraints.

Third Line of Defence - This is provided through Internal Audit Services and the Audit Committee. The Third Line provides independent objective assurance on the effectiveness of risk management policies, processes and practices in all areas of RBCEL to senior management and the Board of Directors. Further assurance is provided by the firm's external auditor, PricewaterhouseCoopers LLP, in the form of a quarterly report to the Audit Committee.

2.2.3 Risk Appetite

Risk Appetite is defined as the amount and type of risk that RBCEL is able and willing to accept in the pursuit of its business objectives.

The overall objective of the RBCEL Risk Appetite Framework is to protect RBCEL from unacceptable levels of risk while supporting and enabling the firm's overall business strategy and goals. The Framework is defined in the context of the RBC Enterprise Risk Appetite Framework and has been customised to cater for local requirements. It provides details on RBCEL risk appetite principles, constraints and metrics and is reviewed and approved at least annually by the Board. RBCEL's Risk Appetite was last presented and approved by the Board in June 2018. A monthly MI report is produced and disseminated to senior members of GRM showing the trend against the Board approved Risk Appetite.

2.2.4 Risk Identification

The process of Risk Identification and assessment is intrinsic within RBCEL's pursuit of approved business strategies, and as part of the risk oversight responsibilities undertaken by the support functions outlined in this document. Risk Identification is embedded within a wide range of activities, including but not limited to:

- The approval of new products, transactions, client relationships, projects or initiatives;
- Business strategy development;

- ICAAP, Stress Testing and Recovery Planning;
- Monitoring and Reporting
- Ongoing assessment of Industry and Regulatory Developments

RBCEL's assessment, identification, monitoring and escalation processes are continuously advancing in response to the environment in which it operates and the consequent risks to which it is exposed. This forward-looking approach has materialized with the creation of the Financial Crisis Management Committee in 2018, and further plans to enhance the Risk Identification process for the 2019 ICAAP Process.

2.2.5 Risk Policy Management

RBCEL has implemented RBC policies and processes in the context of the RBCEL Risk Policy Management Requirements to support the assessment and management of risks. RBCEL regularly reviews policies and controls to ensure continued effectiveness and alignment with relevant laws and regulations. To ensure operation with integrity, RBCEL adheres to a number of other principles, codes and policies, including the RBC Code of Conduct which governs the behaviour of RBCEL employees and informs how RBCEL conducts its business operations.

Where necessary, RBCEL adapts the Enterprise policies to ensure compliance with local legal and regulatory requirements and expectations. The CRO Europe has the responsibility of ensuring these policies are consistent with:

- Regulatory requirements;
- Relevant RBC policies; and
- Higher and lower level policy documents within the risk policy architecture.

The RBCEL Risk Policy Management Requirements document adopts the following three-tier hierarchy for approving frameworks, policies, standing orders, standards and procedures (collectively referred to as policy documents):

- **Level 1** policy documents include overarching frameworks and policies that outline regulatory requirements and risk governance at RBCEL. These are approved by the RC (Board Committee) or ALCO (Management Committee).
- **Level 2** policy documents include risk-specific frameworks and policies that lay the foundations for how each risk (and any sub-risk) is managed. These are approved by Management Committees.
- **Level 3** policy documents include those that are put in place to support Level 2 policy documents. These are approved by either Management Committees or Heads of Risk.

The Board of Directors delegates responsibility to the RC to ensure that all RBCEL risk and capital policies meet the minimum governance standards defined within the RBCEL Risk Policy Management Requirements.

2.2.6 Capital Planning

The Company undertakes an annual Internal Capital Adequacy Assessment Process (ICAAP) to ensure that the business strategy and planning translate into adequate capital levels over internal and external capital minima, and identifies period where capital buffers become tight so corrective action can be undertaken in advance. This also includes reviewing the capital levels against risk appetite to ensure that the business strategy and planned capital levels remain in line with the Company's risk appetite.

The capital plan is derived from the Company's base case business plan and takes into account changes to business forecasts, market conditions and other developments, such as accounting or regulatory changes that may impact capital requirements.

The base case capital plan also forms the basis for stress testing analysis. Stressing the capital plans, enables the Company to test the strength of its capital base and also to consider mitigating actions in advance in order to maintain overall financial adequacy in periods of stress.

The capital plan is updated on a periodic basis to reflect actual operating results, updated Profit and Loss forecasts and any changes in business strategies.

The ICAAP is an annual process managed by the Enterprise Risk Management (ERM), UK function within Group Risk Management (GRM).

The ERM UK Steering Committee, which consists of the CRO Europe & APAC, CFO Europe, senior management representatives from ERM, Finance, GRM and Corporate Treasury, oversee all aspects involved in the development of the ICAAP, including accurate documentation of key findings from the assessment. Following the ERM Steering Committee review, the ICAAP report is submitted to the Risk Committee (RC) for review, challenge and recommendation for approval to the Board.

3.0 Own Funds

3.1 Overview of Own Funds

As at 31 October 2018, the Company had total own funds of £1,517 million (2017: £1,241 million), which comprises of Tier 1 Capital of £1,282 million (2017: £1,030 million) and Tier 2 Capital of £235 million (2017: £211 million) under the transitional provisions. This represents a change in the Company's capital structure, following the redemption of $100 million Tier 2 sub-debt and the issuance of $200 million Additional Tier 1 equity. A full reconciliation of own funds items to audited financial statements are shown in the table below.

Table 3: Full reconciliation of own funds items to audited financial statements

Per Audited Statement of changes in equity		
£'000		**31 October 2018**
Common shares		497,996
Other components of equity:		
Capital reserves	*36,619*	
Share premium	*803*	
Remeasurement of pension assets and liabilities	*7,497*	
Fair Value through Other Comprehensive Income reserve	*35,015*	
AT1 equity issuance	*141,953*	
Total other components of equity		221,887
Retained earnings		
Opening	*493,712*	
Net profit	*93,711*	
Audited retained earnings at 31 October		587,423
Total equity		**1,307,306**
Adjustments to CET1 due to prudential filters		
Value adjustments due to the requirements for prudent valuation		(11,931)
Transitional adjustments due to IFRS9		774
Deductions of CET1 Capital		
Other intangible assets	*0*	
Deferred tax liabilities associated to other intangible assets	*0*	
Deferred tax assets that rely on future profitability and do not arise from temporary differences net of associated tax liabilities	*0*	
Defined benefit pension assets	*(19,400)*	
Deferred tax liabilities associated to defined benefit pension assets	*5,063*	
Deduction of holdings Common Equity Tier 1 instruments where an institution does not have a significant investment in a financial sector entity	*0*	
Total CET1 deductions		(14,337)
Total Fully Loaded Tier 1 Capital		**1,281,813**
Tier 2 Capital		
Subordinated loans		235,091
Deduction of holdings Tier 2 instruments where an intuition does not have a significant investment in a financial sector entity	0	
Total Tier 2 deductions		0
Total Fully Loaded Tier 2 Capital		**235,091**
Fully Loaded Own Funds		**1,516,904**

Per Audited Statement of changes in equity

£'000		**31 October 2017**
Common shares		497,996
Other components of equity:		
Capital reserves	*36,619*	
Share premium	*803*	
Remeasurement of pension assets and liabilities	*(5,874)*	
Available-for-sale reserve	*33,713*	
Total other components of equity		65,261
Retained earnings		
Opening	*413,640*	
Net profit	*80,072*	
Audited retained earnings at 31 October		493,712
Total equity		**1,056,969**
Adjustments to CET1 due to prudential filters		
Value adjustments due to the requirements for prudent valuation		(10,868)
Deductions of CET1 Capital		
Other intangible assets	*(74)*	
Deferred tax liabilities associated to other intangible assets	*18*	
Deferred tax assets that rely on future profitability and do not arise from temporary differences net of associated tax liabilities	*0*	
Defined benefit pension assets	*(600)*	
Deferred tax liabilities associated to defined benefit pension assets	*144*	
Deduction of holdings Common Equity Tier 1 instruments where an institution does not have a significant investment in a financial sector entity	*(15,229)*	
Total CET1 deductions		(15,741)
Total Fully Loaded Tier 1 Capital		**1,030,359**
Tier 2 Capital		
Subordinated loans		248,105
Deduction of holdings Tier 2 instruments where an intuition does not have a significant investment in a financial sector entity	(36,860)	
Total Tier 2 deductions		(36,860)
Total Fully Loaded Tier 2 Capital		**211,245**
Fully Loaded Own Funds		**1,241,604**

Table 4: Transitional own funds disclosure

Common Equity Tier 1 capital: instruments and reserves	31 October 2018 £'000	Prescribed residual amount	Final CRD IV
Capital instruments and the related share premium accounts	**498,799**	**-**	**498,799**
of which: Common shares	497,996	-	497,996
Retained earnings	587,423	-	587,423
Accumulated other comprehensive income (and any other reserves)	79,131	-	79,131
Common Equity Tier 1 (CET1) capital before regulatory adjustments	**1,165,353**	**-**	**1,165,353**
Common Equity Tier 1 (CET1) capital: regulatory adjustments			
Additional value adjustments	(11,931)	-	(11,931)
Goodwill and Other intangible assets (net of related tax liability)	-	-	-
Defined-benefit pension fund assets (net of related tax liability)	(14,337)	-	(14,337)
Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	-	-
Transitional adjustments due to IFRS9	774	(774)	-
Total regulatory adjustments to Common Equity Tier 1 (CET1)	**(25,493)**	**(774)**	**(26,267)**
Common Equity Tier 1 (CET1) capital	**1,139,860**	**(774)**	**1,139,086**
Additional Tier 1 (AT1) capital	141,953	-	141,953
Tier 1 capital (T1 = CET1 + AT1)	**1,281,813**	**(774)**	**1,281,039**
Tier 2 (T2) capital: instruments and provisions			
Subordinated loans	235,091	-	235,091
Credit risk adjustments	-	-	-
Tier 2 (T2) capital before regulatory adjustment	**235,091**	**-**	**235,091**
Tier 2 (T2) capital	**235,091**	**-**	**235,091**
Total capital (TC = T1 + T2)	**1,516,904**	**(774)**	**1,516,130**
Total risk-weighted exposures	**7,977,954**		
Capital ratios and buffers			
Common Equity Tier 1 ratio	14.3%		
Tier 1 ratio	16.1%		
Total capital ratio	19.0%		
Institution specific buffer requirement	162,981		
of which: capital conservation buffer requirement	149,587		
of which: countercyclical buffer requirement	13,394		
Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	9.8%		
Amounts below the thresholds for deduction (before risk-weighting)			
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	-		
Direct and indirect holdings 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	-		
Deferred tax assets arising from temporary difference	-		
Applicable caps on the inclusion of provisions in Tier 2			
Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	-		
Cap on inclusion of credit risk adjustments in T2 under standardised approach	-		
Credit risk adjustments included in T2 in respect of exposures subject to internal rating-based approach (prior to the application of the cap)	-		
Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	-		
Capital instruments subject to phase-out arrangements (applicable between 1 Jan 2014 and 1 Jan 2022)			
- Current cap on CET1 instruments subject to phase-out arrangements	-		
- Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-		
- Current cap on AT1 instruments subject to phase-out arrangements	-		
- Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-		
- Current cap on T2 instruments subject to phase-out arrangements	-		
- Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-		

Common Equity Tier 1 capital: instruments and reserves	31 October 2017 £'000	Prescribed residual amount	Final CRD IV
Capital instruments and the related share premium accounts	**498,799**	**-**	**498,799**
of which: Common shares	497,996	-	497,996
Retained earnings	493,712	-	493,712
Accumulated other comprehensive income (and any other reserves)	64,458	-	64,458
Common Equity Tier 1 (CET1) capital before regulatory adjustments	**1,056,969**	**-**	**1,056,969**
Common Equity Tier 1 (CET1) capital: regulatory adjustments			
Additional value adjustments	(10,868)	-	(10,868)
Goodwill and Other intangible assets (net of related tax liability)	(56)	-	(56)
Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	(15,229)	-	(15,229)
Total regulatory adjustments to Common Equity Tier 1 (CET1)	**(26,610)**	**-**	**(26,610)**
Common Equity Tier 1 (CET1) capital	**1,030,359**	**-**	**1,030,359**
Additional Tier 1 (AT1) capital	-	-	-
Tier 1 capital (T1 = CET1 + AT1)	**1,030,359**	**-**	**1,030,359**
Tier 2 (T2) capital: instruments and provisions			
Subordinated loans	248,105	-	248,105
Credit risk adjustments	-	-	-
Tier 2 (T2) capital before regulatory adjustment	**248,105**	**-**	**248,105**
Tier 2 (T2) capital: regulatory adjustments			
Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10 % threshold and net of eligible short positions) (negative amount)	(36,860)	-	(36,860)
Of which new holdings not subject to transitional arrangements	(36,860)	-	(36,860)
Total regulatory adjustments to Tier 2 (T2) capital	**(36,860)**	**-**	**(36,860)**
Tier 2 (T2) capital	**211,245**	**-**	**211,245**
Total capital (TC = T1 + T2)	**1,241,604**	**-**	**1,241,604**
Total risk-weighted exposures	**7,156,992**		
Capital ratios and buffers			
Common Equity Tier 1 ratio	14.4%		
Tier 1 ratio	14.4%		
Total capital ratio	17.3%		
Institution specific buffer requirement	45,508		
of which: capital conservation buffer requirement	44,731		
of which: countercyclical buffer requirement	777		
of which: systemic risk buffer requirement	-		
of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	-		
Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	8.4%		
Amounts below the thresholds for deduction (before risk-weighting)			
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	-		
Direct and indirect holdings 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	-		
Deferred tax assets arising from temporary difference	26,610		
Applicable caps on the inclusion of provisions in Tier 2			
Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	-		
Cap on inclusion of credit risk adjustments in T2 under standardised approach	-		
Credit risk adjustments included in T2 in respect of exposures subject to internal rating-based approach (prior to the application of the cap)	-		
Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	-		
Capital instruments subject to phase-out arrangements (applicable between 1 Jan 2014 and 1 Jan 2022)			
- Current cap on CET1 instruments subject to phase-out arrangements	-		
- Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-		
- Current cap on AT1 instruments subject to phase-out arrangements	-		
- Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-		
- Current cap on T2 instruments subject to phase-out arrangements	-		
- Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-		

Table 5: Transitional arrangements for IFRS9

As at 31 October 2018	**£'000**
Available capital (amounts)	
Common Equity Tier 1 (CET1) capital	1,140,695
Common Equity Tier 1 (CET1) capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	1,139,921
Tier 1 capital	1,282,648
Tier 1 capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	1,281,874
Total capital	1,517,739
Total capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	1,516,966
Risk-weighted assets (amounts)	
Total risk-weighted assets	7,978,919
Total risk-weighted assets as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	7,977,954
Capital ratios	
Common Equity Tier 1 (as a percentage of risk exposure amount)	14.3%
Common Equity Tier 1 (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	14.3%
Tier 1 (as a percentage of risk exposure amount)	16.1%
Tier 1 (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	16.1%
Total capital (as a percentage of risk exposure amount)	19.0%
Total capital (as a percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	19.0%
Leverage ratio	
Leverage ratio total exposure measure	46,509,827
Leverage ratio	2.76%
Leverage ratio as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	2.76%

Table 6: Capital instruments main features table

As at 31 October 2018

Capital instruments' main features template ([1])	Common shares	Common shares	Subordinated loan due 2024	Subordinated loan due 2026	Subordinated Perpetual Contingent Conversion Securities	Subordinated Perpetual Contingent Conversion Securities
Issuer	RBC Europe Limited	RBC Europe Limited	RBC Europe Limited	RBC Europe Limited	RBC Europe Limited	RBC Europe Limited
Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement	N/A	N/A	N/A	N/A	N/A	N/A
Governing law(s) of the instrument	English	English	English	English	English	English
Regulatory treatment						
Transitional CRR rules	Common Equity Tier 1	Common Equity Tier 1	Tier 2	Tier 2	Additional Tier 1 Capital	Additional Tier 1 Capital
Post-transitional CRR rules	Common Equity Tier 1	Common Equity Tier 1	Tier 2	Tier 2	Additional Tier 1 Capital	Additional Tier 1 Capital
Eligible at solo/(sub-)consolidated/solo & (sub-)consolidated	Solo	Solo	Solo	Solo	Solo	Solo
Instrument type (types to be specified by each jurisdiction)	Common Equity Tier 1 as published in Regulation (EU) No 575/2013 Article 28	Common Equity Tier 1 as published in Regulation (EU) No 575/2013 Article 28	Tier 2 as published in Regulation (EU) No 575/2013 Article 63	Tier 2 as published in Regulation (EU) No 575/2013 Article 63	Additional Tier 1 Equity as published in Regulation (EU) No 575/2013 Article 52	Additional Tier 1 Equity as published in Regulation (EU) No 575/2013 Article 52
Amount recognised in regulatory capital (currency in million, as of most recent reporting date)	GBP 21m	GBP 477m	GBP 151m	GBP 75m	GBP 71.7m	GBP 70.3m
Nominal amount of instrument	GBP 25m	GBP 477m	USD 200m	USD 100m	USD 100m	USD 100m
Issue price	84 per cent	100 per cent	100 per cent	100 per cent	100 per cent	100 per cent
Redemption price	100 per cent of Nominal amount	100 per cent of Nominal amount	100 per cent of Nominal amount	100 per cent of Nominal amount	100 per cent of Nominal amount	100 per cent of Nominal amount
Accounting classification	Equity	Equity	Liability - amortised cost	Liability - amortised cost	Equity	Equity
Original date of issuance	20 December 1970	20 December 1970	28 May 2014	28 May 2014	26 February 2018	18 April 2018
Perpetual or dated	Perpetual	Perpetual	Dated	Dated	Perpetual	Perpetual
Original maturity date	No maturity	No maturity	28 May 2024	28 May 2026	No maturity	No maturity
Issuer call subject to prior supervisory approval	No	No	Yes	Yes	Yes	Yes
Optional call date, contingent call dates, and redemption amount	N/A	N/A	Redemption at the Option of the Issuer 100 per cent of Nominal amount First call date: 28/May/2019 In addition Tax/Regulatory call	Redemption at the Option of the Issuer 100 per cent of Nominal amount First call date: 28/May/2021 In addition Tax/Regulatory call	Redemption at the Option of the Issuer 100 per cent of Nominal amount First call date:26/Feb/2023 In addition Tax/Regulatory call	Redemption at the Option of the Issuer 100 per cent of Nominal amount First call date: 18/Apr/2023 In addition Tax/Regulatory call
Subsequent call dates, if applicable	N/A	N/A	N/A	N/A	Subsequent Interest Payment Dates	Subsequent Interest Payment Dates
Coupons / dividends						
Fixed or floating dividend/coupon	N/A	N/A	Floating	Floating	Floating	Floating
Coupon rate and any related index	N/A	N/A	Reuters page LIBOR01 +1.82 per cent per annum	Reuters page LIBOR01 +1.92 per cent per annum	Reuters page LIBOR01 +3.4 per cent per annum	Reuters page LIBOR01 +4.0 per cent per annum
Existence of a dividend stopper	N/A	N/A	No	No	No	No
Fully discretionary, partially discretionary or mandatory (in terms of timing)	Fully discretionary	Fully discretionary	Mandatory	Mandatory	Fully discretionary	Fully discretionary
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully discretionary	Fully discretionary	Mandatory	Mandatory	Fully discretionary	Fully discretionary
Existence of step up or other incentive to redeem	No	No	No	No	No	No
Noncumulative or cumulative	Non cumulative	Non cumulative	Non cumulative	Non cumulative	Non cumulative	Non cumulative
Convertible or non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Convertible	Convertible
If convertible, conversion trigger (s)	N/A	N/A	N/A	N/A	Common Equity Tier 1 Capital Ratio falls below 7.00 per cent	Common Equity Tier 1 Capital Ratio falls below 7.00 per cent
If convertible, fully or partially	N/A	N/A	N/A	N/A	Fully convertible	Fully convertible
If convertible, conversion rate	N/A	N/A	N/A	N/A	GBP equivalent of Security Prinipal multiplied by 2.12, in Ordinary Shares	GBP equivalent of Security Prinipal multiplied by 2.12, in Ordinary Shares
If convertible, mandatory or optional conversion	N/A	N/A	N/A	N/A	Mandatory Conversion	Mandatory Conversion
If convertible, specify instrument type convertible into	N/A	N/A	N/A	N/A	Ordinary Share	Ordinary Share
If convertible, specify issuer of instrument it converts into	N/A	N/A	N/A	N/A	RBC Europe Limited	RBC Europe Limited
Write-down features	No	No	Yes	Yes	No	No
If write-down, write-down trigger (s)	N/A	N/A	N/A	N/A	N/A	N/A
If write-down, full or partial	N/A	N/A	N/A	N/A	N/A	N/A
If write-down, permanent or temporary	N/A	N/A	N/A	N/A	N/A	N/A
If temporary write-down, description of write-up mechanism	N/A	N/A	N/A	N/A	N/A	N/A
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	N/A	N/A	N/A	N/A	N/A	N/A
Non-compliant transitioned features	No	No	No	No	No	No
If yes, specify non-compliant features	N/A	N/A	N/A	N/A	N/A	N/A

As at 31 October 2017

Capital instruments' main features template ([1])	Common shares	Common shares	Subordinated loan due 2019	Subordinated loan due 2024	Subordinated loan due 2026
Issuer	RBC Europe Limited	RBC Europe Limited	RBC Europe Limited	RBC Europe Limited	RBC Europe Limited
Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement	N/A	N/A	N/A	N/A	N/A
Governing law(s) of the instrument	English	English	English	English	English
Regulatory treatment					
Transitional CRR rules	Common Equity Tier 1	Common Equity Tier 1	Tier 2	Tier 2	Tier 2
Post-transitional CRR rules	Common Equity Tier 1	Common Equity Tier 1	Tier 2	Tier 2	Tier 2
Eligible at solo/(sub-)consolidated/solo & (sub-)consolidated	Solo	Solo	Solo	Solo	Solo
Instrument type (types to be specified by each jurisdiction)	Common Equity Tier 1 as published in Regulation (EU) No 575/2013 Article 28	Common Equity Tier 1 as published in Regulation (EU) No 575/2013 Article 28	Tier 2 as published in Regulation (EU) No 575/2013 Article 63	Tier 2 as published in Regulation (EU) No 575/2013 Article 63	Tier 2 as published in Regulation (EU) No 575/2013 Article 63
Amount recognised in regulatory capital (currency in million, as of most recent reporting date)	GBP 21m	GBP 477m	GBP 22m	GBP 151m	GBP 75m
Nominal amount of instrument	GBP 25m	GBP 477m	USD 100m	USD 200m	USD 100m
Issue price	84 per cent	100 per cent	100 per cent	100 per cent	100 per cent
Redemption price	100 per cent of Nominal amount	100 per cent of Nominal amount	100 per cent of Nominal amount	100 per cent of Nominal amount	100 per cent of Nominal amount
Accounting classification	Equity	Equity	Liability - amortised cost	Liability - amortised cost	Liability - amortised cost
Original date of issuance	20 December 1970	20 December 1970	18 April 2012	28 May 2014	28 May 2014
Perpetual or dated	Perpetual	Perpetual	Dated	Dated	Dated
Original maturity date	No maturity	No maturity	18 April 2019	28 May 2024	28 May 2026
Issuer call subject to prior supervisory approval	No	No	Yes	Yes	Yes
Optional call date, contingent call dates, and redemption amount	N/A	N/A	Redemption at the Option of the Issuer 100 per cent of Nominal amount First call date: 18/Apr/2017 In addition Tax/Regulatory call	Redemption at the Option of the Issuer 100 per cent of Nominal amount First call date: 28/May/2019 In addition Tax/Regulatory call	Redemption at the Option of the Issuer 100 per cent of Nominal amount First call date: 28/May/2021 In addition Tax/Regulatory call
Subsequent call dates, if applicable	N/A	N/A	N/A	N/A	N/A
Coupons / dividends					
Fixed or floating dividend/coupon	N/A	N/A	Floating	Floating	Floating
Coupon rate and any related index	N/A	N/A	Reuters page LIBOR01 +2.40 per cent per annum	Reuters page LIBOR01 +1.82 per cent per annum	Reuters page LIBOR01 +1.92 per cent per annum
Existence of a dividend stopper	N/A	N/A	No	No	No
Fully discretionary, partially discretionary or mandatory (in terms of timing	Fully discretionary	Fully discretionary	Mandatory	Mandatory	Mandatory
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully discretionary	Fully discretionary	Mandatory	Mandatory	Mandatory
Existence of step up or other incentive to redeem	No	No	No	No	No
Noncumulative or cumulative	Non cumulative	Non cumulative	Non cumulative	Non cumulative	Non cumulative
Convertible or non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible
If convertible, conversion trigger (s)	N/A	N/A	N/A	N/A	N/A
If convertible, fully or partially	N/A	N/A	N/A	N/A	N/A
If convertible, conversion rate	N/A	N/A	N/A	N/A	N/A
If convertible, mandatory or optional conversion	N/A	N/A	N/A	N/A	N/A
If convertible, specify instrument type convertible into	N/A	N/A	N/A	N/A	N/A
If convertible, specify issuer of instrument it converts into	N/A	N/A	N/A	N/A	N/A
Write-down features	No	No	Yes	Yes	Yes
If write-down, write-down trigger (s)	N/A	N/A	N/A	N/A	N/A
If write-down, full or partial	N/A	N/A	N/A	N/A	N/A
If write-down, permanent or temporary	N/A	N/A	N/A	N/A	N/A
If temporary write-down, description of write-up mechanism	N/A	N/A	N/A	N/A	N/A
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	N/A	N/A	N/A	N/A	N/A
Non-compliant transitioned features	No	No	No	No	No
If yes, specify non-compliant features	N/A	N/A	N/A	N/A	N/A
(1) 'N/A' inserted if the question is not applicable					

3.2 Countercyclical Capital Buffer

The UK implementation of CRD IV requires institutions to maintain an institution-specific countercyclical capital buffer based on regulatory determined buffer rates. This requirement follows closely the international approach of Basel III which introduced the countercyclical capital buffer to be implemented by national jurisdictions when excess aggregate credit growth is judged to be associated with a build-up of system-wide risk in each country the Company is exposed to.

As at 31 October 2018, the Company's specific countercyclical capital buffer rate is 0.1679% (2017: 0.0109%) and the capital requirement is £13.4 million (2017: £0.8 million). The increase in the requirement is largely due to increased United Kingdom countercyclical buffer rate to 0.50% (2017: 0.0%), where 31.9% of relevant credit exposures are assigned (2017: 35.2%).

Detailed disclosure on the geographical distribution of credit exposure and the Company's specific countercyclical buffer requirements is included in Appendix 4.

3.3 Unencumbered Assets

The Company defines the following assets as encumbered:

- Assets which have been pledged as collateral; or
- Assets which the Company believes it was restricted from using to secure funding, for legal or other reasons.

Asset encumbrance is an integral part of RBC Europe Limited's liquidity, funding and collateral management processes. The majority of the Company's encumbrance is driven by secured financing activities, predominantly transactions in collateral swaps and repo. This also includes shorts facilitation as part of its trading activities. These activities are carried out under industry standard contractual agreements (mostly Global Master Repurchase Agreements (GMRAs)). Where securities are borrowed or lent between the Company and RBC Group companies, this is done with arm's length terms.

The level of over-collateralisation is dependent on specific trade details. The Company's ratio of encumbered assets is relatively stable with a high turnover of assets available for encumbrance. Encumbrance will vary depending on the composition of the balance sheet, and there are no notable trends during the disclosure period

A significant proportion (c. 70%) of the assets included in other unencumbered assets of £36.4bn (2017: £27.5bn) relates to reverse repurchase transactions and the Company has rehypothecation rights over the underlying security collateral. The remainder comprises of derivative related assets and receivables. All of these are not deemed to be available for encumbrance in the normal course of RBC Europe Limited's business.

Table 7: Encumbered and unencumbered assets

For the year ended at 31 October 2018

£'000	Carrying amount of encumbered assets	Fair value of encumbered assets	Carrying amount of unencumbered assets	Fair value of unencumbered assets
Assets of the reporting institution	3,313,132		37,911,174	
Equity instruments	5,574		50,023	
Debt securities	2,832,995	2,832,995	1,374,676	1,374,676
Other assets	1,319,038		36,426,171	

	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	12,683,218	12,967,968

For the year ended at 31 October 2017

£'000	Carrying amount of encumbered assets	Fair value of encumbered assets	Carrying amount of unencumbered assets	Fair value of unencumbered assets
Assets of the reporting institution	2,113,580		35,726,501	
Equity instruments	0	-	27,962	27,962
Debt securities	1,651,291	1,651,291	1,332,819	1,332,819
Other assets	411,533		27,544,072	

	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	14,232,163	14,232,163

The above information is prepared using median values of monthly data on a rolling basis over the previous twelve months as expected by PRA.

3.4 Leverage Ratio

The leverage ratio was introduced into the Basel III framework as a simple, transparent, non-risk based supplementary measure to the risk-based capital requirements. The primary objectives are to restrict the build-up of excessive leverage in the banking sector and to reinforce the risk-based requirements with a simple, non-risk "backstop" measure.

Basel III provides for a transitional period for the introduction of the leverage ratio, comprising a supervisory monitoring period that started in 2011 and a parallel run period from 1 January 2013 to 1 January 2017. The Basel Committee have tested a minimum requirement of 3% for the leverage during the parallel run period. In April 2016 the Basel Committee proposed a 3% minimum leverage requirement along with adjustments to the calculation of the exposure measure and these have been incorporated into CRD 5. The 3% minimum leverage requirement in CRD 5 was originally proposed to apply from 1 January 2019. However, this was delayed and the European Council have proposed implementing this in 2021. The Company continues to closely monitor legislative developments in this area in order to ensure that it can comply with any new requirements well in advance of them coming into effect.

The EU implementation of the Basel III leverage ratio calculation is provided in Article 429 of the CRR, which mirrors the Basel III framework from December 2010. In October 2014, the European

Commission issued a Delegated Act to align the definition of the CRR leverage exposure with the final Basel III leverage ratio framework published in January 2014.

Leverage ratio is reported to and monitored by ALCO on a monthly basis since July 2013 as one of its risk appetite metrics. GRM has established internal threshold for each business line in accordance with the Company's risk appetite as approved by the Company's Board. Regulatory Reporting team monitors the leverage usage against the internal threshold on a daily basis. As at 31 October 2018, the Company's leverage ratio is 2.76% (2017: 2.38%).

Table 8: Leverage ratio disclosure

As at 31 October 2018	£'000
Summary reconciliation of accounting assets and leverage ratio exposures	
	Applicable Amounts
Total assets as per published financial statements	48,518,274
Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-
(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 "CRR")	-
Adjustments for derivative financial instruments	(992,210)
Adjustments for securities financing transactions "SFTs"	(3,845,675)
Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	3,335,682
(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	-
(Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013)	-
Other adjustments	(506,244)
Total leverage ratio exposure	**46,509,827**

Leverage ratio common disclosure	CRR leverage ratio exposures
On-balance sheet exposures (excluding derivatives and SFTs)	
On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	20,613,069
(Asset amounts deducted in determining Tier 1 capital)	(12,387)
Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)	**20,600,682**
Derivative exposures	
Replacement cost associated with *all* derivatives transactions (ie net of eligible cash variation margin)	499,031
Add-on amounts for PFE associated with *all* derivatives transactions (mark-to-market method)	1,008,029
Exposure determined under Original Exposure Method	-
Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	-
(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-
(Exempted CCP leg of client-cleared trade exposures)	-
Adjusted effective notional amount of written credit derivatives	1,497,335
(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(1,477,884)
Total derivative exposures	**1,526,511**
Securities financing transaction exposures	
Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	30,016,236
(Netted amounts of cash payables and cash receivables of gross SFT assets)	(9,533,882)
Counterparty credit risk exposure for SFT assets	709,424
Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	-
Agent transaction exposures	-
(Exempted CCP leg of client-cleared SFT exposure)	-
Total securities financing transaction exposures	**21,191,778**
Other off-balance sheet exposures	
Off-balance sheet exposures at gross notional amount	6,334,959
(Adjustments for conversion to credit equivalent amounts)	(3,144,103)
Other off-balance sheet exposures	**3,190,856**
Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)	
(Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance sheet))	-
(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sl	-
Capital and total exposures	
Tier 1 capital	**1,281,812**
Total leverage ratio exposures	**46,509,827**
Leverage ratio	
Leverage ratio	**2.76%**
Choice on transitional arrangements and amount of derecognised fiduciary items	
Choice on transitional arrangements for the definition of the capital measure	-
Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) NO 575/2013	-

As at 31 October 2017	£'000
Summary reconciliation of accounting assets and leverage ratio exposures	
	Applicable Amounts
Total assets as per published financial statements	40,034,945
Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-
(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 "CRR")	-
Adjustments for derivative financial instruments	(923,785)
Adjustments for securities financing transactions "SFTs"	1,480,486
Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	3,335,682
(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	-
(Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013)	-
Other adjustments	(598,833)
Total leverage ratio exposure	**43,328,495**

Leverage ratio common disclosure

	CRR leverage ratio exposures
On-balance sheet exposures (excluding derivatives and SFTs)	
On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	16,627,981
(Asset amounts deducted in determining Tier 1 capital)	(12,936)
Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)	**16,615,045**
Derivative exposures	
Replacement cost associated with *all* derivatives transactions (ie net of eligible cash variation margin)	312,827
Add-on amounts for PFE associated with *all* derivatives transactions (mark-to-market method)	951,018
Exposure determined under Original Exposure Method	-
Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	-
(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-
(Exempted CCP leg of client-cleared trade exposures)	-
Adjusted effective notional amount of written credit derivatives	306,212
(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(271,573)
Total derivative exposures	**1,298,484**
Securities financing transaction exposures	
Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	21,825,298
(Netted amounts of cash payables and cash receivables of gross SFT assets)	(1,072,823)
Counterparty credit risk exposure for SFT assets	1,327,687
Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	-
Agent transaction exposures	-
(Exempted CCP leg of client-cleared SFT exposure)	-
Total securities financing transaction exposures	**22,080,162**
Other off-balance sheet exposures	
Off-balance sheet exposures at gross notional amount	6,617,357
(Adjustments for conversion to credit equivalent amounts)	(3,282,553)
Other off-balance sheet exposures	**3,334,804**
Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)	
(Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance sheet))	-
(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sl	-
Capital and total exposures	
Tier 1 capital	**1,030,359**
Total leverage ratio exposures	**43,328,495**
Leverage ratio	
Leverage ratio	**2.38%**
Choice on transitional arrangements and amount of derecognised fiduciary items	
Choice on transitional arrangements for the definition of the capital measure	-
Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) NO 575/2013	-

4.0 Capital Requirements

Capital adequacy and capital ratios measured are monitored daily against internal thresholds by the Regulatory Reporting team in the Finance department. Any breaches would be escalated immediately. In addition ALCO receives monthly reports detailing capital requirements, while the Board and the RC are updated on a quarterly basis.

Analysis, monitoring and reporting of risk profiles and performance against risk appetite limits and tolerances are conducted by the relevant risk functions. Results are reported to the RC at least quarterly, with management committees updated on a more regular basis.

As at 31 October 2018, the Company's minimum capital requirements are illustrated below, expressed in terms of risk-weighted exposure, as calculated by the approaches adopted by the Company to calculate the minimum capital resources requirements. Exposure classes not mentioned below were immaterial and are not shown separately.

Table 9: Risk exposure amount by risk type and calculation approach adopted

As at 31 October 2018	Risk-weighted Exposure	CET1 Capital requirement @ 4.5%	Tier 1 Capital requirement @ 6%	Total Capital requirement @8%
£'000				
Risk-weighted exposure amounts for credit and counterparty credit				
Calculated under the Standardised Approach				
Central governments or central banks	36,396	1,638	2,184	2,912
Regional governments or local authorities	20,100	905	1,206	1,608
Public sector entities	94,521	4,253	5,671	7,562
Multilateral Development Banks	-	-	-	-
Institutions	754,509	33,953	45,271	60,361
Corporates	3,461,068	155,748	207,664	276,885
Secured by mortgages on immovable property	230,681	10,381	13,841	18,454
Equity	46,238	2,081	2,774	3,699
Other items	12,097	544	726	968
	4,655,610	*209,502*	*279,337*	*372,449*
Risk exposure amount for contributions to the default fund of a CCP	35,672	1,605	2,140	2,854
	4,691,282	***211,108***	***281,477***	***375,303***
Risk-weighted exposure amount settlement/delivery risk in the Trading book	**1,789**	**81**	**107**	**143**
Risk-weighted exposure amount for position, foreign exchange and commodities risks				
Calculated under the Standardised Approach				
Interest Rate	2,266,363	101,986	135,982	181,309
Equity	48,957	2,203	2,937	3,917
Foreign Exchange	163,545	7,360	9,813	13,084
Commodities	4,819	217	289	385
	2,483,684	**111,766**	**149,021**	**198,695**
Risk-weighted exposure amount for operational risk				
Calculated under the Basic Indicator Approach	**794,628**	35,758	47,678	**63,570**
Risk-weighted exposure amount for credit valuation adjustment				
Calculated under the Standardised Method	**6,571**	296	394	**526**
Total	**7,977,954**	**359,008**	**478,677**	**638,236**
Surplus CET1 Capital over the minimum requirement		**780,851**		
Surplus Tier1 Capital over the minimum requirement			**803,135**	
Surplus Total Capital over the minimum requirement				**878,667**

As at 31 October 2017

£'000	Risk-weighted Exposure	CET1 Capital requirement @ 4.5%	Tier 1 Capital requirement @ 6%	Total Capital requirement @8%
Risk-weighted exposure amounts for credit and counterparty credit				
Calculated under the Standardised Approach				
Central governments or central banks	45,599	2,052	2,736	3,648
Public sector entities	74,988	3,374	4,499	5,999
Multilateral Development Banks	-	-	-	-
Institutions	714,601	32,157	42,876	57,168
Corporates	3,045,028	137,026	182,702	243,602
Secured by mortgages on immovable property	286,888	12,910	17,213	22,951
Equity	18,848	848	1,131	1,508
Other items	23,945	1,078	1,437	1,916
	4,209,897	*189,445*	*252,594*	*336,792*
Risk exposure amount for contributions to the default fund of a CCP	56,896	2,560	3,414	4,552
	4,266,793	***192,006***	***256,008***	***341,343***
Risk-weighted exposure amount settlement/delivery risk in the Trading book	**59**	**3**	**4**	**5**
Risk-weighted exposure amount for position, foreign exchange and commodities risks				
Calculated under the Standardised Approach				
Interest Rate	2,036,620	91,648	122,197	162,930
Equity	42,469	1,911	2,548	3,398
Foreign Exchange	89,433	4,024	5,366	7,155
Commodities	19,098	859	1,146	1,528
	2,187,620	**98,443**	**131,257**	**175,010**
Risk-weighted exposure amount for operational risk				
Calculated under the Basic Indicator Approach	**695,680**	31,306	41,741	**55,654**
Risk-weighted exposure amount for credit valuation adjustment				
Calculated under the Standardised Method	**6,840**	308	410	**547**
Total	**7,156,992**	**322,065**	**429,419**	**572,559**
Surplus CET1 Capital over the minimum requirement		**708,295**		
Surplus Tier1 Capital over the minimum requirement			**600,940**	
Surplus Total Capital over the minimum requirement				**669,045**

Calculation methods for the capital requirements above are listed in Appendix 3.

5.0 Credit Risk

5.1 Definition of Credit Risk

The Company defines credit risk as the risk of loss associated with counterparty's potential inability or unwillingness to fulfil its on- and off-balance sheet payment obligations. Credit risk may arise directly from the risk of default of a primary obligor (e.g., issuer, debtor, borrower or policyholder), or indirectly from a secondary obligor (e.g., guarantor, reinsurance) and/or through off-balance sheet exposures, contingent credit risk and/or transactional risk. Credit risk includes counterparty credit risk from both trading and non-trading activities. Exposure to credit risk occurs any time funds are extended, committed or invested through actual or implied contractual agreement.

5.2 Governance and Framework

Credit risk exposures across all lending and trading activities are aggregated and reported to the RC on a quarterly basis.

Individually, credit risk is controlled and reported as follows:

Banking Book Credit Risk

The loan credit risk profile is managed through the RC and more specifically the UKLMC and Wealth Management International Risk and Compliance Committee (WMI-RACC). The monitoring of Credit risk is a continual process. All borrowers are subject to a risk assessment and an exposure/limit review at least annually, with risk managed proactively on an ongoing basis. Borrowers that experience a material deterioration in credit quality and/or that may breach their covenant are added to a watch list which is monitored by the UKLMC, the WMI-RACC and senior management.

Risk appetite is managed and controlled through exposure limits defined across single names, country, industry sector and ratings. Single Name exposures across the Banking Book are limited to the lower of any RBC group limits and the Company's Single Name Framework.

Ongoing monitoring and review processes undertaken by Group Risk Management Credit include:

Borrower Risk Rating (BRR) Regular Reviews – BRRs (measures probability of borrower default) are reviewed quarterly;

Continuous Risk Assessment – The impact of new information on borrowers is assessed on an ongoing basis to adjust BRR if appropriate;

Borrower Classification Code (BCC) – Considers the probability of recovery of all monies due to the Company, and is based on an assessment of the borrower's current repayment capacity, including structure and collateral; and

Limit monitoring – Exposures are monitored against single name limits.
Lending credit risk is mitigated through guarantees, collateral and/or the use of credit default swaps (CDS) where commercially feasible. As at 31 October 2018, none of the loans within the Company's loan portfolio carried any CDS as the credit worthiness of the borrowers remains within the Company's risk appetite (2017: nil).

Risk appetite is managed and controlled through exposure limits across single names, country, industry sector and ratings. Loan transactions are signed off by the Regulatory Reporting team for compliance with Regulatory Large Exposure Limits.

Trading Credit Risk

Each trading credit risk type is managed both separately as part of the RBC Group framework, and as part of a combined exposure metric specific to the Company, with exposure and limit usage reported daily to front office and senior management by GRM Trading Credit Risk.

The Company's Single Name Limit Framework is the primary constraint on the Trading Credit Exposure. The limits defined as part of this framework are directly related to the Company's Risk Appetite Framework (RAF). This Framework is approved by the Board annually. The Managing Director of Credit Risk has the authority to approve temporary excesses. All operational limit excesses are reported to the UK Market Risk Management Committee (UKMRMC). Monthly exposure data is also reviewed by the UK Counterparty Credit Risk Management Committee (UKCCRMC), UKMRMC, and Risk Committee.

The Regulatory Reporting team also reports the overall capital requirement, including capital requirement on the credit risk, to the Company's senior management on a daily basis.

Assigning Internal Capital and Credit Limits

The Company assigns credit risk ratings to its borrowers to reflect its assessment of the specific credit risk of each borrower over a 3-year horizon (or full credit cycle as appropriate) starting from the time of risk assessment or revision or confirmation. The 3-year time horizon is consistent with the term of the majority of the credit risk exposures. The Company extends the term of the rating horizon in the case of specific portfolios where the nature of the business predominantly exposes the bank to longer term exposures. On the other hand, the ratings of very weak borrowers are assigned to primarily reflect their riskiness based on current conditions and short-term expectations.

The rating is determined through an assessment of factors, specific to the industry and/or product, that differentiate the riskiness of the borrowers and reflects the probability of default of the borrower over the time horizon of the rating. The currency of the rating is maintained through a process of continuous monitoring and periodic review. This internal rating will be used to determine capital allocation.

5.3 Credit Risk Profile

The Company's credit risk is derived from its banking and trading activities. The table below indicates the risk-weighted exposure amounts of credit and counterparty credit risk from these two activities.

Table 10: Risk exposure amounts by banking and trading activities

As at 31 October 2018 *£'000*	**Banking**	**Trading**	**Total**
Risk-weighted exposure amounts for credit and counterparty credit			
Calculated under the Standardised Approach			
Central governments or central banks	33,300	3,096	36,396
Regional governments or local authorities	20,100	-	20,100
Public sector entities	92,576	1,945	94,521
Institutions	138,073	616,437	754,509
Corporates	2,179,874	1,281,194	3,461,068
Secured by mortgages on immovable property	230,681	-	230,681
Equity	46,238	-	46,238
Other items	12,097	-	12,097
	2,752,938	1,902,672	4,655,610
Risk exposure amount for contributions to the default fund of a CCP	-	35,672	35,672
	2,752,938	**1,938,344**	**4,691,282**
Risk-weighted exposure amount settlement/delivery risk in the Trading book	**-**	**1,789**	**1,789**
Total	**2,752,938**	**1,940,134**	**4,693,071**

As at 31 October 2017

£'000	**Banking**	**Trading**	**Total**
Risk-weighted exposure amounts for credit and counterparty credit			
Calculated under the Standardised Approach			
Central governments or central banks	34,183	11,416	45,599
Public sector entities	71,484	3,504	74,988
Institutions	86,829	627,772	714,601
Corporates	2,134,580	910,448	3,045,028
Secured by mortgages on immovable property	286,888	-	286,888
Equity	18,848	-	18,848
Other items	23,945	-	23,945
	2,656,757	1,553,140	4,209,897
Risk exposure amount for contributions to the default fund of a CCP	-	56,896	56,896
	2,656,757	**1,610,036**	**4,266,793**
Risk-weighted exposure amount settlement/delivery risk in the Trading book	**-**	**59**	**59**
Total	**2,656,757**	**1,610,095**	**4,266,851**

5.3.1 Banking Book Credit Risk

The Capital Markets Banking Book credit profile is managed through monthly review of the UKLMC, with the Wealth Management lending portfolio monitored at the quarterly WMI-RACC. The combined banking book credit risk profile for the Company is reported to the RC on a quarterly basis. All borrowers are subject to a risk assessment at least annually, with risk managed proactively on an ongoing basis. Borrowers with material deterioration in credit quality which may breach their covenant are added to a watch list for monitoring, and action is taken as appropriate.

Credit risk is mitigated through guarantees and collateral where considered appropriate and commercially feasible.

As at 31 October 2018, the Company had total gross credit exposures[1] of £15.9 billion (2017: £16.4 billion), and the average gross credit exposure is £16.4 billion over the year (2017: £13.5 billion). Detailed exposures by exposure class, residual maturity and geographic distribution are shown in the tables below.

[1] Gross credit risk exposure is after accounting offsets, but without taking into account the effects of the credit risk mitigation. Final exposure is after the accounting offsets and the credit risk mitigation.

Table 11: Gross credit exposures within the banking book

As at 31 October 2018
£'000

Exposure amounts for credit risk in the banking book	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
On balance sheet exposures			
Central governments or central banks	4,566,851	4,566,851	33,300
Regional governments or local authorities	100,000	100,000	20,100
Public sector entities	197,843	197,843	92,576
Multilateral Development Banks	425,000	425,000	-
Institutions	228,773	228,773	46,115
Corporates	3,355,773	1,393,742	1,242,353
Secured by mortgages on immovable property	592,803	574,475	218,209
Equity	46,238	46,238	46,238
Other items	4,955	4,955	12,097
	9,518,237	7,537,878	1,710,988
Off balance sheet exposures			
Central governments or central banks	107,300	53,700	-
Regional governments or local authorities	-	-	-
Public sector entities	-	-	-
Multilateral Development Banks	-	-	-
Institutions	25,102	18,180	91,958
Corporates	6,205,341	1,191,907	937,521
Secured by mortgages on immovable property	61,567	17,396	12,472
Equity	-	-	-
Other items	-	-	-
	6,399,310	1,281,183	1,041,950
Total	**15,917,546**	**8,819,061**	**2,752,938**
Small and medium enterprises included in Corporates	-	-	-

As at 31 October 2017
£'000

Exposure amounts for credit risk in the banking book	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
On balance sheet exposures			
Central governments or central banks	5,357,321	5,357,321	34,183
Public sector entities	142,969	142,969	71,484
Institutions	43,596	43,596	34,657
Corporates	3,550,517	1,554,664	1,249,851
Secured by mortgages on immovable property	671,763	652,466	278,258
Equity	18,848	18,848	18,848
Other items	23,945	23,945	23,945
	9,808,959	7,793,809	1,711,226
Off balance sheet exposures			
Central governments or central banks	106,184	53,092	-
Public sector entities			
Multilateral Development Banks	-	-	-
Institutions	90,286	58,397	52,172
Corporates	6,379,867	1,154,519	884,729
Secured by mortgages on immovable property	41,020	17,840	8,630
Equity	-	-	-
Other items	-	-	-
	6,617,357	1,283,848	945,531
Total	**16,426,315**	**9,077,656**	**2,656,757**
Small and medium enterprises included in Corporates	-	-	-

Table 12: Average gross credit exposures within the banking book

As at 31 October 2018
£'000

	Gross Exposure	Final Exposure	Risk-weighted Exposure
On balance sheet exposures			
Central governments or central banks	5,369,683	5,369,683	33,812
Institutions	106,234	106,234	22,210
Corporates	3,461,460	1,490,595	1,253,822
Secured by mortgages on immovable property	615,191	597,265	238,299
Equity	46,035	46,035	46,035
Other items	124,075	124,075	13,290
	9,722,678	**7,733,887**	**1,607,467**
Off balance sheet exposures			
Central governments or central banks	106,975	53,673	-
Institutions	38,945	456,420	92,027
Corporates	6,456,752	1,191,977	937,423
Secured by mortgages on immovable property	44,954	17,396	12,472
Equity	-	-	-
Other items			
	6,647,625	**1,719,467**	**1,041,922**
Total	**16,370,303**	**9,453,354**	**2,649,390**
Small and medium enterprises, included in Corporates	-	-	-

As at 31 October 2017
£'000

	Gross Exposure	Final Exposure	Risk-weighted Exposure
On balance sheet exposures			
Central governments or central banks	3,426,906	3,426,906	18,842
Institutions	57,539	158,263	31,850
Corporates	3,172,801	1,464,343	1,338,788
Secured by mortgages on immovable property	762,138	733,077	302,330
Equity	23,131	23,131	23,131
Other items	145,326	145,326	8,821
	7,587,841	**5,951,046**	**1,723,762**
Off balance sheet exposures			
Central governments or central banks	134,411	35,200	-
Institutions	59,542	32,000	6,408
Corporates	5,728,746	1,082,287	811,419
Secured by mortgages on immovable property	32,973	10,415	3,759
Equity	-	-	-
Other items	-	-	-
	5,955,672	**1,159,902**	**821,586**
Total	**13,543,513**	**7,110,948**	**2,545,348**
Small and medium enterprises, included in Corporates	***8,910***	***6,091***	***5,239***

Table 13: Gross credit exposure by residual maturity

As at 31 October 2018
£'000

Gross exposure amounts for credit risk in the banking book	**Less than 1 month**	**1 to 3 months**	**3 to 12 months**	**1 to 5 years**	**Greater than 5 years**	**Total**
On balance sheet exposures						
Central governments or central banks	4,566,851	-	-	-	-	4,566,851
Regional governments or local authorities	-	-	-	-	100,000	100,000
Multilateral Development Banks	-	-	-	425,000	-	425,000
Public sector entities	943	-	-	196,900	-	197,843
Institutions	101,186	-	1,786	85,700	40,100	228,773
Corporates	20,081	342,531	243,138	2,516,971	233,053	3,355,773
Secured by mortgages on immovable property	45,328	104,441	94,865	348,168	-	592,803
Equity	-	-	-	-	46,238	46,238
Other items	4,955	-	-	-	-	4,955
	4,739,345	446,972	339,790	3,572,739	419,391	9,518,237
Off balance sheet exposures						
Central governments or central banks	-	-	-	107,300	-	107,300
Institutions	-	1,483	12,621	9,900	1,097	25,102
Corporates	1,824	19,681	247,436	5,716,773	219,625	6,205,341
Secured by mortgages on immovable property	1,002	21,446	4,327	34,791	-	61,567
Equity	-	-	-	-	-	-
Other items	-	-	-	-	-	-
	2,826	42,611	264,385	5,868,765	220,722	6,399,310
Total	**4,742,171**	**489,583**	**604,175**	**9,441,504**	**640,113**	**15,917,546**

As at 31 October 2017
£'000

Gross exposure amounts for credit risk in the banking book	**Less than 1 month**	**1 to 3 months**	**3 to 12 months**	**1 to 5 years**	**Greater than 5 years**	**Total**
On balance sheet exposures						
Central governments or central banks	5,357,321	-	-	-	-	5,357,321
Public sector entities	-	-	-	142,969	-	142,969
Institutions	43,596	-	-	-	-	43,596
Corporates	17,134	85,276	453,595	2,626,262	368,251	3,550,517
Secured by mortgages on immovable property	27,107	84,883	191,260	368,513	-	671,763
Equity	-	-	-	-	18,848	18,848
Other items	23,945	-	-	-	-	23,945
	5,469,102	170,159	644,855	3,137,744	387,098	9,808,959
Off balance sheet exposures						
Central governments or central banks	-	-	-	106,184	-	106,184
Institutions	26,508	-	-	63,778	-	90,286
Corporates	26,047	6,102	567,693	5,410,573	369,453	6,379,867
Secured by mortgages on immovable property	96	2,217	24,772	13,934	-	41,020
Equity	-	-	-	-	-	-
Other items	-	-	-	-	-	-
	52,650	8,319	592,466	5,594,469	369,453	6,617,357
Total	**5,521,753**	**178,478**	**1,237,321**	**8,732,213**	**756,551**	**16,426,315**

Table 14: Final credit exposure by residual maturity

As at 31 October 2018

£'000

Final exposure amounts for credit risk in the banking book	**Less than 1 month**	**1 to 3 months**	**3 to 12 months**	**1 to 5 years**	**Greater than 5 years**	**Total**
On balance sheet exposures						
Central governments or central banks	4,566,851	-	-	-	-	4,566,851
Regional governments or local authorities	-	-	-	-	100,000	100,000
Multilateral Development Banks	-	-	-	425,000	-	425,000
Public sector entities	943	-	-	196,900	-	197,843
Institutions	101,186	-	1,786	85,700	40,100	228,773
Corporates	15,798	41,264	128,069	1,025,965	182,647	1,393,742
Secured by mortgages on immovable property	42,509	99,921	93,277	338,768	-	574,475
Equity	-	-	-	-	46,238	46,238
Other items	4,955	-	-	-	-	4,955
	4,732,243	141,184	223,132	2,072,333	368,985	7,537,878
Off balance sheet exposures						
Central governments or central banks	-	-	-	53,700	-	53,700
Institutions	-	1,483	12,579	4,117	-	18,180
Corporates	825	7,711	96,523	1,043,852	42,996	1,191,907
Secured by mortgages on immovable property	483	10,743	2,164	4,007	-	17,396
Equity	-	-	-	-	-	-
Other items	-	-	-	-	-	-
	1,308	19,938	111,266	1,105,675	42,996	1,281,183
Total	**4,733,551**	**161,122**	**334,399**	**3,178,007**	**411,981**	**8,819,061**

As at 31 October 2017

£'000

Final exposure amounts for credit risk in the banking book	**Less than 1 month**	**1 to 3 months**	**3 to 12 months**	**1 to 5 years**	**Greater than 5 years**	**Total**
On balance sheet exposures						
Central governments or central banks	5,357,321	-	-	-	-	5,357,321
Public sector entities	-	-	-	142,969	-	142,969
Institutions	43,596	-	-	-	-	43,596
Corporates	13,855	33,683	224,260	929,514	353,353	1,554,664
Secured by mortgages on immovable property	26,857	83,131	184,611	357,868	-	652,466
Equity	-	-	-	-	18,848	18,848
Other items	23,945	-	-	-	-	23,945
	5,465,574	116,813	408,871	1,430,350	372,200	7,793,809
Off balance sheet exposures						
Central governments or central banks	-	-	-	53,092	-	53,092
Institutions	26,508	-	-	31,889	-	58,397
Corporates	6,965	1,989	128,484	1,004,308	12,773	1,154,519
Secured by mortgages on immovable property	48	14	12,366	5,412	-	17,840
Equity	-	-	-	-	-	-
Other items	-	-	-	-	-	-
	33,521	2,003	140,850	1,094,701	12,773	1,283,848
Total	**5,499,094**	**118,816**	**549,721**	**2,525,052**	**384,974**	**9,077,656**

Table 15: Credit conversion factor for off balance sheet credit exposures

As at 31 October 2018
£'000

Exposure amounts for credit risk in the banking book	**Conversion Factors**	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
Off balance sheet exposures				
Central governments or central banks	50%	107,300	53,700	-
Institutions	0%	4,402	-	-
	50%	5,040	2,520	88,826
	100%	15,660	15,660	3,132
Corporates	0%	-	-	-
	50%	6,172,366	1,175,184	920,581
	100%	32,975	16,723	16,940
Secured by mortgages on immovable property	50%	61,567	17,396	12,472
Total		**6,399,310**	**1,281,183**	**1,041,950**

As at 31 October 2017
£'000

Exposure amounts for credit risk in the banking book	**Conversion Factors**	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
Off balance sheet exposures				
Central governments or central banks	50%	106,184	53,092	-
Institutions	50%	63,778	31,889	46,870
	100%	26,508	26,508	5,302
Corporates	0%	19	-	-
	50%	6,354,087	1,147,854	878,064
	100%	25,762	6,665	6,665
Secured by mortgages on immovable property	50%	41,020	17,840	8,630
Total		**6,617,357**	**1,283,848**	**945,531**

Table 16: Gross credit exposure by geographic distribution

As at 31 October 2018

£'000

Gross exposure amounts for credit risk in the banking book	**Asia-Pacific**	**Caribbean**	**EEA**	**Europe Other**	**Middle East**	**North America**	**Others**	**Total**
On balance sheet exposures								
Central governments or central banks	-	-	4,566,695	156	-	-	-	4,566,851
Regional government or local authorities	-	-	-	-	-	100,000	-	100,000
Multilateral Development Banks	110,000	-	115,000	-	-	200,000	-	425,000
Public sector entities	-	-	20,900	176,000	943	-	-	197,843
Institutions	43		219,753	8,469	2	486	20	228,773
Corporates	174,012	12,606	2,821,969	253,662	4,832	86,273	2,419	3,355,773
Secured by mortgages on immovable property	1,708	3,337	416,365	13,880	39,863	111,081	6,568	592,803
Equity	-	-	46,238	-	-	-	-	46,238
Other items	-	-	4,955	-	-	-	-	4,955
	285,762	15,943	8,211,876	452,167	45,640	497,841	9,007	9,518,237
Off balance sheet exposures								
Central governments or central banks	-	-	107,300	-	-	-	-	107,300
Institutions	-	-	20,699	-	-	4,402	-	25,102
Corporates	51,371	23,614	5,437,729	227,101	313,100	93,827	58,598	6,205,341
Secured by mortgages on immovable property	40	-	28,148	29,751	3,627	-	-	61,567
Equity	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-
	51,411	23,614	5,593,877	256,852	316,727	98,230	58,598	6,399,310
Total	**337,174**	**39,557**	**13,805,753**	**709,019**	**362,368**	**596,071**	**67,605**	**15,917,546**

As at 31 October 2017

£'000

Gross exposure amounts for credit risk in the banking book	**Asia-Pacific**	**Caribbean**	**EEA**	**Europe Other**	**Middle East**	**North America**	**Others**	**Total**
On balance sheet exposures								
Central governments or central banks	-	-	5,207,154	-	-	150,167	-	5,357,321
Public sector entities	-	-	-	142,969	-	-	-	142,969
Institutions	87		13,877	3,636	2	25,974	20	43,596
Corporates	119,310	7,132	3,161,777	191,889	5,928	58,770	5,711	3,550,517
Secured by mortgages on immovable property	1,410	4,038	515,407	20,966	43,508	81,869	4,565	671,763
Equity	-	-	18,848	-	-	-	-	18,848
Other items	-	-	23,945	-	-	-	-	23,945
	120,807	11,170	8,941,008	359,460	49,438	316,780	10,296	9,808,959
Off balance sheet exposures								
Central governments or central banks	-	-	106,184	-	-	-	-	106,184
Institutions	-	-	90,286	-	-	-	-	90,286
Corporates	52,934	107,132	5,293,014	206,055	452,114	200,782	67,836	6,379,867
Secured by mortgages on immovable property	-	-	28,585	5,190	7,245	-	-	41,020
Equity	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-
	52,934	107,132	5,518,068	211,245	459,359	200,782	67,836	6,617,357
Total	**173,741**	**118,302**	**14,459,076**	**570,705**	**508,797**	**517,562**	**78,133**	**16,426,315**

Table 17: Final credit exposure by geographic distribution

As at 31 October 2018

£'000

Final exposure amounts for credit risk in the banking book	Asia-Pacific	Caribbean	EEA	Europe Other	Middle East	North America	Others	Total
On balance sheet exposures								
Central governments or central banks	-	-	4,566,695	156	-	-	-	4,566,851
Regional government or local authorities	-	-	-	-	-	100,000	-	100,000
Multilateral Development Banks	110,000	-	115,000	-	-	200,000	-	425,000
Public sector entities	-	-	20,900	176,000	943	-	-	197,843
Institutions	43		219,753	8,469	2	486	20	228,773
Corporates	95,212	12,606	1,098,292	136,679	2,669	45,864	2,419	1,393,742
Secured by mortgages on immovable property	1,646	3,337	404,657	13,354	36,546	108,643	6,292	574,475
Equity	-	-	46,238	-	-	-	-	46,238
Other items	-	-	4,955	-	-	-	-	4,955
	206,901	15,943	6,476,491	334,658	40,161	454,994	8,731	7,537,878
Off balance sheet exposures								
Central governments or central banks	-	-	53,700	-	-	-	-	53,700
Institutions	-	-	18,180	-	-	-	-	18,180
Corporates	19,749	2,834	978,045	95,483	50,977	36,198	8,621	1,191,907
Secured by mortgages on immovable property	20	-	14,076	1,487	1,814	-	-	17,396
Equity	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-
	19,769	2,834	1,064,001	96,970	52,790	36,198	8,621	1,281,183
Total	**226,670**	**18,777**	**7,540,492**	**431,627**	**92,951**	**491,192**	**17,352**	**8,819,061**

As at 31 October 2017

£'000

Final exposure amounts for credit risk in the banking book	Asia-Pacific	Caribbean	EEA	Europe Other	Middle East	North America	Others	Total
On balance sheet exposures								
Central governments or central banks	-	-	5,207,154	-	-	150,167	-	5,357,321
Public sector entities	-	-	-	142,969	-	-	-	142,969
Institutions	87		13,877	3,636	2	25,974	20	43,596
Corporates	119,310	7,132	1,324,722	70,240	3,792	24,419	5,050	1,554,664
Secured by mortgages on immovable property	1,410	4,010	502,656	20,474	39,631	79,914	4,370	652,466
Equity	-	-	18,848	-	-	-	-	18,848
Other items	-	-	23,945	-	-	-	-	23,945
	120,807	11,142	7,091,202	237,318	43,425	280,474	9,440	7,793,809
Off balance sheet exposures								
Central governments or central banks	-	-	53,092	-	-	-	-	53,092
Institutions	-	-	58,397	-	-	-	-	58,397
Corporates	23,674	53,557	868,687	83,573	52,747	58,865	13,417	1,154,519
Secured by mortgages on immovable property	-	-	14,217	-	3,623	-	-	17,840
Equity	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-
	23,674	53,557	994,393	83,573	56,369	58,865	13,417	1,283,848
Total	**144,482**	**64,699**	**8,085,595**	**320,891**	**99,795**	**339,339**	**22,857**	**9,077,656**

Further details on geographic distribution in relation to the EEA member states are shown below.

Table 18: Gross credit exposure by geographic distribution within the EEA

As at 31 October 2018
£'000

Gross exposure in relation to the EEA member states	United Kingdom	France	Spain	Germany	Luxembourg	Ireland	Netherlands	Others	Total
On balance sheet exposures									
Central governments or central banks	516,004	4,000,082	-	50,609	-	-	-	-	4,566,695
Multilateral Development Banks	-	-	-	-	115,000	-	-	-	115,000
Public sector entities	-	-	-	-	-	-	-	20,900	20,900
Institutions	91,337	171	10	100,009	417	-	26,800	1,009	219,753
Corporates	1,027,884	118,836	58,897	472,767	390,442	53,258	72,592	627,294	2,821,969
Secured by mortgages on immovable property	401,221	6,850	-	1,560	-	-	4,422	2,313	416,365
Equity	46,238	-	-	-	-	-	-	-	46,238
Other items	4,955	-	-	-	-	-	-	-	4,955
	2,087,640	4,125,939	58,907	624,946	505,859	53,258	103,813	651,515	8,211,876
Off balance sheet exposures									
Central governments or central banks	-	107,300	-	-	-	-	-	-	107,300
Institutions	-	-	-	1,639	-	4,956	14,105	-	20,699
Corporates	497,768	3,932,964	376,667	196,605	146,478	47,059	127,794	112,394	5,437,729
Secured by mortgages on immovable property	28,148	-	-	-	-	-	-	-	28,148
Equity	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-
	525,917	4,040,264	376,667	198,244	146,478	52,015	141,898	112,394	5,593,877
Total	**2,613,556**	**8,166,203**	**435,574**	**823,190**	**652,337**	**105,272**	**245,711**	**763,909**	**13,805,753**

As at 31 October 2017
£'000

Gross exposure in relation to the EEA member states	United Kingdom	France	Spain	Germany	Luxembourg	Ireland	Netherlands	Others	Total
On balance sheet exposures									
Central governments or central banks	1,557,988	3,649,166	-	-	-	-	-	-	5,207,154
Institutions	13,725		-	9	-	72	-	72	13,877
Corporates	1,201,192	80,484	78,475	643,551	588,812	134,325	146,828	288,109	3,161,777
Secured by mortgages on immovable property	503,493	8,857	-	1,556	-	-	-	1,501	515,407
Equity	18,848	-	-	-	-	-	-	-	18,848
Other items	23,945	-	-	-	-	-	-	-	23,945
	3,319,191	3,738,507	78,475	645,116	588,812	134,397	146,828	289,681	8,941,008
Off balance sheet exposures									
Central governments or central banks	-	106,184	-	-	-	-	-	-	106,184
Institutions	63,778	-	-	-	-	-	26,508	-	90,286
Corporates	461,086	3,593,499	332,131	209,110	82,166	71,499	75,788	467,735	5,293,014
Secured by mortgages on immovable property	28,585	-	-	-	-	-	-	-	28,585
Equity	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-
	553,449	3,699,682	332,131	209,110	82,166	71,499	102,296	467,735	5,518,068
Total	**3,872,640**	**7,438,190**	**410,606**	**854,226**	**670,978**	**205,896**	**249,124**	**757,417**	**14,459,076**

Table 19: Final credit exposure by geographic distribution within the EEA

As at 31 October 2018
£'000

Final exposure in relation to the EEA member states	**United Kingdom**	**France**	**Spain**	**Germany**	**Luxembourg**	**Ireland**	**Netherlands**	**Others**	**Total**
On balance sheet exposures									
Central governments or central banks	516,004	4,000,082	-	50,609	-	-	-	-	4,566,695
Multilateral Development Banks	-	-	-	-	115,000	-	-	-	115,000
Public sector entities	-	-	-	-	-	-	-	20,900	20,900
Institutions	91,337	171	10	100,009	417	-	26,800	1,009	219,753
Corporates	611,848	53,272	43,597	70,152	108,916	47,287	70,596	92,624	1,098,292
Secured by mortgages on immovable property	389,779	6,687	-	1,560	-	-	4,345	2,286	404,657
Equity	46,238	-	-	-	-	-	-	-	46,238
Other items	4,955	-	-	-	-	-	-	-	4,955
	1,660,162	4,060,213	43,607	222,331	224,333	47,287	101,740	116,819	6,476,491
Off balance sheet exposures									
Central governments or central banks	-	53,700	-	-	-	-	-	-	53,700
Institutions	-	-	-	1,639	-	2,478	14,063	-	18,180
Corporates	176,189	496,853	57,647	67,270	47,690	22,918	55,870	53,608	978,045
Secured by mortgages on immovable property	14,076	-	-	-	-	-	-	-	14,076
Equity	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-
	190,265	550,553	57,647	68,909	47,690	25,396	69,933	53,608	1,064,001
Total	**1,850,427**	**4,610,766**	**101,254**	**291,240**	**272,023**	**72,683**	**171,674**	**170,427**	**7,540,492**

As at 31 October 2017
£'000

Final exposure in relation to the EEA member states	**United Kingdom**	**France**	**Spain**	**Germany**	**Luxembourg**	**Ireland**	**Netherlands**	**Others**	**Total**
On balance sheet exposures									
Central governments or central banks	1,557,988	3,649,166	-	-	-	-	-	-	5,207,154
Institutions	13,725		-	9	-	72	-	72	13,877
Corporates	803,774	33,505	32,892	108,827	113,834	57,126	90,385	84,379	1,324,722
Secured by mortgages on immovable property	490,850	8,748	-	1,556	-	-	-	1,501	502,656
Equity	18,848	-	-	-	-	-	-	-	18,848
Other items	23,945	-	-	-	-	-	-	-	23,945
	2,909,130	3,691,420	32,892	110,392	113,834	57,198	90,385	85,951	7,091,202
Off balance sheet exposures									
Central governments or central banks	-	53,092	-	-	-	-	-	-	53,092
Institutions	31,889	-	-	-	-	-	26,508	-	58,397
Corporates	160,936	415,581	78,874	73,614	32,518	35,102	19,246	52,816	868,687
Secured by mortgages on immovable property	14,217	-	-	-	-	-	-	-	14,217
Equity	-	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-	-
	207,042	468,673	78,874	73,614	32,518	35,102	45,754	52,816	994,393
Total	**3,116,172**	**4,160,093**	**111,766**	**184,006**	**146,352**	**92,300**	**136,138**	**138,767**	**8,085,595**

5.3.2 Credit Risk Adjustments

The Company defines a credit risk adjustment as the amount of specific loan provision for credit losses that has been recognised in its financial statements in accordance with the International Financial Reporting Standards (IFRS).

An allowance for credit losses (ACL) is established for all financial instruments, except for financial assets classified or designated as FVTPL and equity securities designated as FVOCI, which are not subject to impairment assessment. Assets subject to impairment assessment include certain loans, debt securities, accounts and accrued interest receivable. ACL on loans is presented in Allowance for loan losses. ACL on debt securities measured at FVOCI is presented in Other components of equity. Other financial assets carried at amortised cost are presented net of ACL on Balance Sheet.

Off-balance sheet items subject to impairment assessment include financial guarantees and undrawn loan commitments. For certain retail products, expected credit losses are measured based on the total exposure and are not attributable to the on- and off-balance sheet components. For these products, ACL is presented in Allowance for loan losses to the extent that ACL does not exceed the related loan balance, and thereafter presented in Other Liabilities – Provisions. For all other off-balance sheet products subject to impairment assessment, ACL is separately calculated and included in Other Liabilities – Provisions.

The Company measures the ACL on each balance sheet date according to a three-stage expected credit loss impairment model:

Performing financial assets

- Stage 1 – From initial recognition of a financial asset to the date on which the asset has experienced a significant increase in credit risk relative to its initial recognition, a loss allowance is recognised equal to the credit losses expected to result from defaults occurring over the 12 months following the reporting date.

- Stage 2 – Following a significant increase in credit risk relative to the initial recognition of the financial asset, a loss allowance is recognised equal to the credit losses expected over the remaining lifetime of the asset.

Impaired financial assets

- Stage 3 – When a financial asset is considered to be credit-impaired, a loss allowance is recognised equal to credit losses expected over the remaining lifetime of the asset. Interest revenue is calculated based on the carrying amount of the asset, net of the loss allowance, rather than on its gross carrying amount.

The ACL is a discounted probability-weighted estimate of the cash shortfalls expected to result from defaults over the relevant time horizon. For loan commitments, credit loss estimates consider the portion of the commitment that is expected to be drawn over the relevant time period. For financial guarantees, credit loss estimates are based on the expected payments required under the guarantee contract.

Increases or decreases in the required ACL attributable to purchases and new originations, derecognitions or maturities, and remeasurements due to changes in loss expectations or stage transfers are recorded in Provision for credit losses. Write-offs and recoveries of amounts previously written off are recorded against ACL.

The ACL represents an unbiased estimate of expected credit losses on the financial assets as at the balance sheet date. Judgment is required in making assumptions and estimations when calculating the ACL, including movements between the three stages and the application of forward looking information. The underlying assumptions and estimates may result in changes to the provisions from period to period that significantly affect the Company's results of operations.

Measurement of expected credit losses

Expected credit losses are based on a range of possible outcomes and consider all available reasonable and supportable information including internal and external ratings, historical credit loss experience, and expectations about future cash flows. The measurement of expected credit losses is based primarily on the product of the instrument's probability of default (PD), loss given default (LGD), and exposure at default (EAD) discounted to the reporting date. The main difference between Stage 1 and Stage 2 expected credit losses for performing financial assets is the respective calculation horizon. Stage 1 estimates project PD, LGD and EAD over a maximum period of 12 months while Stage 2 estimates project PD, LGD and EAD over the remaining lifetime of the instrument.

An expected credit loss estimate is produced for each individual exposure. Relevant parameters are modelled on a collective basis using portfolio segmentation that allows for appropriate incorporation of forward looking information. To reflect other characteristics that are not already considered through modelling, expert credit judgment is exercised in determining the final expected credit losses.

For a small percentage of the Company's portfolios which lack detailed historical information and/or loss experience, the Company applies simplified measurement approaches that may differ from what is described above. These approaches have been designed to maximize the available information that is reliable and supportable for each portfolio and may be collective in nature. Expected credit losses are discounted to the reporting period date using the effective interest rate.

Expected life

For instruments in Stage 2 or Stage 3, loss allowances reflect expected credit losses over the expected remaining lifetime of the instrument. For most instruments, the expected life is limited to the remaining contractual life.

An exemption is provided for certain instruments with the following characteristics: (a) the instrument includes both a loan and undrawn commitment component; (b) the Company have the contractual ability to demand repayment and cancel the undrawn commitment; and (c) the exposure to credit losses is not limited to the contractual notice period. For products in scope of this exemption, the expected life may exceed the remaining contractual life and is the period over which the exposure to credit losses is not mitigated by the Company's normal credit risk management actions. This period varies by product and risk category and is estimated based on the historical experience with similar exposures and consideration of credit risk management actions taken as part of the Company's regular credit review cycle. Products in scope of this exemption include certain revolving lines of credit. Judgment is required in determining the instruments in scope for this exemption and estimating the appropriate remaining life based on the Company's historical experience and credit risk mitigation practices.

Assessment of significant increase in credit risk

The assessment of significant increase in credit risk requires significant judgment. Movements between Stage 1 and Stage 2 are based on whether an instrument's credit risk as at the reporting date has increased significantly relative to the date it was initially recognised. For the purposes of this assessment, credit risk is based on an instrument's lifetime PD, not the losses that the Company expects to incur. The assessment is generally performed at the instrument level.

Assessment of significant increases in credit risk is performed at least quarterly based on three factors. If any of the following factors indicates that a significant increase in credit risk has occurred, the instrument is moved from Stage 1 to Stage 2:

- The Company has established thresholds for significant increases in credit risk based on both a percentage and absolute change in lifetime PD relative to initial recognition.

- Additional qualitative reviews are performed to assess the staging results and make adjustments, as necessary, to better reflect the positions whose credit risk has increased significantly.

- Instruments which are 30 days past due are generally considered to have experienced a significant increase in credit risk, even if the Company's other metrics do not indicate that a significant increase in credit risk has occurred.

The thresholds for movement between Stage 1 and Stage 2 are symmetrical. After a financial asset has migrated to Stage 2, if its credit risk is no longer considered to have significantly increased relative to its initial recognition, the financial asset will move back to Stage 1.

For certain instruments with low credit risk as at the reporting date, it is presumed that credit risk has not increased significantly relative to initial recognition. Credit risk is considered to be low if the instrument has a low risk of default, and the borrower has the ability to fulfil their contractual obligations both in the near term and in the longer term, including periods of adverse changes in the economic or business environment. Certain interest-bearing deposits with banks have been identified as having low credit risk.

Use of forward-looking information

The measurement of expected credit losses for each stage and the assessment of significant increase in credit risk considers information about past events and current conditions as well as reasonable and supportable projections of future events and economic conditions. The estimation and application of forward-looking information requires significant judgment.

The PD, LGD and EAD inputs used to estimate Stage 1 and Stage 2 credit loss allowances are modelled based on the macroeconomic variables (or changes in macroeconomic variables) that are most closely correlated with credit losses in the relevant portfolio. Each macroeconomic scenario used in our expected credit loss calculation includes a projection of all relevant macroeconomic variables used in our models for a five year period, subsequently reverting to long-run averages. Macroeconomic variables used in our expected credit loss models include, but are not limited to, gross domestic product, unemployment rates, bond yields, equity return indices, commercial real estate indices, and commodity prices. Depending on their usage in the models, macroeconomic variables may be projected at a country, province/state or more granular level.

Estimation of expected credit losses in Stage 1 and Stage 2 is a discounted probability-weighted estimate that considers a minimum of three future macroeconomic scenarios. The base case scenario is based on macroeconomic forecasts published by RBC internal economics group. Upside and downside scenarios vary relative to our base case scenario based on reasonably possible alternative macroeconomic conditions. Additional and more severe downside scenarios are designed to capture material non-linearity of potential credit losses in portfolios. Scenario design, including the identification of additional downside scenarios, occurs at least on an annually basis and more frequently if conditions warrant.

Scenarios are designed to capture a wide range of possible outcomes and weighted according to the Company's best estimate of the relative likelihood of the range of outcomes that each scenario represents. Scenario weights take into account historical frequency, current trends, and forward-looking conditions and are updated on a quarterly basis. All scenarios considered are applied to all portfolios subject to expected credit losses with the same probabilities.

Assessment of significant increases in credit risk is based on changes in probability-weighted forward-looking lifetime PD as at the reporting date, using the same macroeconomic scenarios as the calculation of expected credit losses.

Definition of default

The definition of default used in the measurement of expected credit losses is consistent with the definition of default used for the Company's internal credit risk management purposes. The Company's definition of default may differ across products and consider both quantitative and qualitative factors, such as the terms of financial covenants and days past due. For retail and wholesale borrowers, except as detailed below, default occurs when the borrower is more than 90 days past due on any material obligation to us, and/or the Company considers the borrower unlikely to make their payments in full without recourse action on the Company's part, such as taking formal possession of any collateral held. The definition of default used is applied consistently from period to period and to all financial instruments unless it can be demonstrated that circumstances have changed such that another definition of default is more appropriate.

Credit-impaired financial assets (Stage 3)

Financial assets are assessed for credit-impairment at each balance sheet date and more frequently when circumstances warrant further assessment. Evidence of credit-impairment may include indications that the borrower is experiencing significant financial difficulty, probability of bankruptcy or other financial reorganization, as well as a measurable decrease in the estimated future cash flows evidenced by the adverse changes in the payments status of the borrower or economic conditions that correlate with defaults. An asset that is in Stage 3 will move back to Stage 2 when, as at the reporting date, it is no longer considered to be credit-impaired. The asset will transfer back to Stage 1 when its credit risk at the reporting date is no longer considered to have increased significantly from initial recognition, which could occur during the same reporting period as the transfer from Stage 3 to Stage 2.

When a financial asset has been identified as credit-impaired, expected credit losses are measured as the difference between the asset's gross carrying amount and the present value of estimated future cash flows discounted at the instrument's original effective interest rate. For impaired financial assets with drawn and undrawn components, expected credit losses also reflect any credit losses related to the portion of the loan commitment that is expected to be drawn down over the remaining life of the instrument.

When a financial asset is credit-impaired, interest ceases to be recognised on the regular accrual basis, which accrues income based on the gross carrying amount of the asset. Rather, interest income is calculated by applying the original effective interest rate to the amortised cost of the asset, which is the gross carrying amount less the related ACL. Following impairment, interest income is recognised on the unwinding of the discount from the initial recognition of impairment.

ACL for credit-impaired loans in Stage 3 are established at the borrower level, where losses related to impaired loans are identified on individually significant loans, or collectively assessed and determined through the use of portfolio-based rates, without reference to particular loans.

Individually assessed loans (Stage 3)

When individually significant loans are identified as impaired, the Company reduces the carrying value of the loans to their estimated realizable value by recording an individually assessed ACL to cover identified credit losses. The individually assessed ACL reflects the expected amount of principal and interest calculated under the terms of the original loan agreement that will not be recovered, and the impact of time delays in collecting principal and/or interest (time value of money). The estimated realizable value for each individually significant loan is the present value of expected future cash flows discounted using the original effective interest rate for each loan. When the amounts and timing of future cash flows cannot be estimated with reasonable reliability, the estimated realizable amount may be determined using observable market prices for comparable loans, the fair value of collateral underlying the loans, and other reasonable and supported methods based on management judgment.

Individually-assessed allowances are established in consideration of a range of possible outcomes, which may include macroeconomic or non-macroeconomic scenarios, to the extent relevant to the circumstances of the specific borrower being assessed. Assumptions used in estimating expected future cash flows reflect current and expected future economic conditions and are generally consistent with those used in Stage 1 and Stage 2 measurement.

Significant judgment is required in assessing evidence of credit-impairment and estimation of the amount and timing of future cash flows when determining expected credit losses. Changes in the amount expected to be recovered would have a direct impact on the Provision for credit losses and may result in a change in the ACL.

Write-off of loans

Loans and the related ACL are written off, either partially or in full, when there is no realistic prospect of recovery. Where loans are secured, they are generally written off after receipt of any proceeds from the realization of collateral. In circumstances where the net realizable value of any collateral has been determined and there is no reasonable expectation of further recovery, write off may be earlier.

Table 20: Reconciliation of provision for credit losses

	31 October 2018 (Under IFRS 9) £'000	31 October 2017 (Under IAS 39) £'000
Provisions brought forward	5,084	3,814
Provisions raised during the year	1,495	88
Net write-offs	(2,142)	-
Exchange rate and other	106	-
Provisions as at year end	**4,543**	3,902

No specific adjustments were proposed as at 31 October 2018 (2017: nil).

5.3.3 Counterparty Credit Risk

Trading book counterparty risk arises from exposure to the following:

- Securities finance transactions (SFT), as part of Fixed Income, Central Funding Group and Equity Finance businesses.
- Derivatives, primarily through Exchange traded derivatives (ETD) and over-the-counter (OTC) derivatives.

Table 21: Trading credit risk

As at 31 October 2018
£'000

Counterparty credit risk exposure by products	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
Calculated under the Standardised Approach			
Exchange traded derivatives	1,181,319	971,849	186,557
OTC derivatives	568,364	26,812	6,096
SFTs	3,098,157	3,098,157	1,710,018
Total	**4,847,840**	**4,096,818**	**1,902,672**

As at 31 October 2017
£'000

Counterparty credit risk exposure by products	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
Calculated under the Standardised Approach			
Exchange traded derivatives	1,341,192	1,077,345	194,209
OTC derivatives	289,021	29,422	6,289
SFTs	2,760,542	2,760,542	1,352,642
Total	**4,390,754**	**3,867,309**	**1,553,140**

Each trading credit risk type is managed both separately as part of the RBC Group framework, and as part of a combined exposure metric specific to the Company, with exposure and limit usage reported daily to senior management by GRM Trading Credit Risk.

The Company's Single Name Limit Framework is the primary constraint of the Company's trading credit exposure. The limits defined as part of this framework are directly related to the Company's risk appetite.

The Company's counterparty credit risk profile is largely made up of equity securities finance / stock lending and fixed income repurchase transactions (repo). Counterparty credit risk is managed through increasing over-collateralisation margins on riskier counterparties with margins being actively managed and exchanged daily. Cash margins are introduced once the market value of collateral is insufficient to cover the underlying amount of the repurchase agreement or securities borrowed or loaned. Collateral is an important mitigation of credit risk. The Company holds collateral mainly in the form of debt securities and equities and has the ability to use CDSs in order to enhance credit protection.

Credit counterparty risk from derivatives is mitigated where possible through netting agreements whereby derivative assets and liabilities with the same counterparty can be offset. The Company requires all netting arrangement to be legally enforceable. Collateral and cash margins are also obtained as an important mitigation of credit risk.

The Company ensures that any collateral held is sufficiently liquid, legally effective, enforceable and regularly reassessed. Any collateral taken is generally subject to a valuation adjustment with a percentage applicable to each type of collateral, which will be largely based on liquidity and price volatility of the underlying security.

As at 31 October 2018, the Company had total gross credit exposures of £4.8 billion (2017: £4.3 billion), and the average gross credit exposure is £4.6 billion over the year (2017: £4.4 billion). Detailed exposures by products, exposure class, residual maturity and geographic distribution are shown in the tables below.

Table 22: Counterparty credit risk by exposure class

As at 31 October 2018
£'000

Exposure amounts for counterparty credit risk in trading book	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
Calculated under the Standardised Approach			
Central governments or central banks	228,847	228,847	3,096
International organisations	26,017	26,017	-
Public sector entities	9,727	9,727	1,945
Institutions	3,138,598	2,413,081	616,437
Corporates	1,444,651	1,419,146	1,281,194
Total	**4,847,840**	**4,096,818**	**1,902,672**
Small and medium enterprises, included in Corporates	-	-	-

As at 31 October 2017
£'000

Exposure amounts for counterparty credit risk in trading book	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
Calculated under the Standardised Approach			
Central governments or central banks	210,058	210,058	11,416
Public sector entities	4,864	4,864	3,504
Institutions	3,083,913	2,580,677	627,772
Corporates	1,091,919	1,071,709	910,448
Total	**4,390,754**	**3,867,309**	**1,553,140**
Small and medium enterprises, included in Corporates	-	-	-

Table 23: Average counterparty credit risk exposure

For the year ended 31 October 2018
£'000

Exposure amounts for counterparty credit risk in trading book	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
Calculated under the Standardised Approach			
Central governments or central banks	332,250	332,250	16,169
Public sector entities	1,861	1,861	676
Institutions	3,059,292	2,469,500	643,705
Corporates	1,208,930	1,171,499	1,035,427
Total	**4,602,334**	**3,975,110**	**1,695,977**
Small and medium enterprises, included in Corporates	-	-	-

For the year ended 31 October 2017
£'000

Exposure amounts for counterparty credit risk in trading book	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposure**
Calculated under the Standardised Approach			
Central governments or central banks	277,091	277,091	8,487
Public sector entities	5,116	5,116	1,294
Institutions	3,006,402	2,582,575	597,727
Corporates	1,172,044	1,140,269	930,301
Total	**4,460,653**	**4,005,051**	**1,537,808**
Small and medium enterprises, included in Corporates	-	-	-

Table 24: Gross counterparty credit exposure by residual maturity

As at 31 October 2018
£'000

Gross exposure amounts for counterparty credit risk	**Less than 1 month**	**1 to 3 months**	**3 to 12 months**	**1 to 5 years**	**Greater than 5 years**	**Total**
Central governments or central banks	203,041	25,806	-	-	-	228,847
Public sector entities	9,727	-	-	-	-	9,727
Institutions	1,595,584	521,632	507,008	449,563	64,811	3,138,598
Corporates	1,085,600	244,492	114,029	531	-	1,444,651
Total	**2,893,951**	**791,931**	**621,037**	**450,094**	**64,811**	**4,821,823**

As at 31 October 2017
£'000

Gross exposure amounts for counterparty credit risk	**Less than 1 month**	**1 to 3 months**	**3 to 12 months**	**1 to 5 years**	**Greater than 5 years**	**Total**
Central governments or central banks	208,994	1,064	-	-	-	210,058
Public sector entities	2,984	1,880	-	-	-	4,864
Institutions	1,597,214	564,310	531,703	375,409	15,277	3,083,913
Corporates	739,091	241,388	94,391	17,050	-	1,091,919
Total	**2,548,283**	**808,642**	**626,094**	**392,458**	**15,277**	**4,390,754**

Table 25: Final counterparty credit exposure by residual maturity

As at 31 October 2018

£'000

Final exposure amounts for counterparty credit risk	Less than 1 month	1 to 3 months	3 to 12 months	1 to 5 years	Greater than 5 years	Total
Central governments or central banks	203,041	25,806	-	-	-	228,847
Public sector entities	9,727	-	-	-	-	9,727
Institutions	1,557,350	405,981	398,503	51,248	-	2,413,081
Corporates	1,081,397	224,286	112,933	531	-	1,419,146
Total	**2,851,513**	**656,073**	**511,436**	**51,778**	**-**	**4,070,801**

As at 31 October 2017

£'000

Final exposure amounts for counterparty credit risk	Less than 1 month	1 to 3 months	3 to 12 months	1 to 5 years	Greater than 5 years	Total
Central governments or central banks	208,994	1,064	-	-	-	210,058
Public sector entities	2,984	1,880	-	-	-	4,864
Institutions	1,544,383	347,982	505,849	182,463	-	2,580,677
Corporates	735,098	230,729	88,936	16,947	-	1,071,709
Total	**2,491,459**	**581,655**	**594,785**	**199,410**	**-**	**3,867,309**

Table 26: Gross counterparty credit exposure by geographic distribution

As at 31 October 2018

£'000

Gross exposure amounts for counterparty credit risk	Asia-Pacific	Caribbean	EEA	Europe Other	Middle East	North America	Others	Total
Central governments or central banks	84,304	-	60,107	-	45,606	23,351	15,480	228,847
Public sector entities	-	-	-	-	9,727	-	-	9,727
Institutions	442,688		1,623,763	76,866	-	995,079	201	3,138,598
Corporates	213,316	326,771	609,580	22,674	-	271,053	1,257	1,444,651
Total	**740,308**	**326,772**	**2,293,450**	**99,540**	**55,332**	**1,289,484**	**16,937**	**4,821,823**

As at 31 October 2017

£'000

Gross exposure amounts for counterparty credit risk	Asia-Pacific	Caribbean	EEA	Europe Other	Middle East	North America	Others	Total
Central governments or central banks	58,173	-	7,688	-	144,197	-	-	210,058
Public sector entities	3,163	-	-	-	-	1,701	-	4,864
Institutions	513,151		1,739,874	138,087	2	686,854	5,944	3,083,913
Corporates	101,560	102,792	654,603	69,957	-	163,009	-	1,091,919
Total	**676,047**	**102,792**	**2,402,165**	**208,044**	**144,200**	**851,564**	**5,944**	**4,390,754**

Table 27: Final counterparty credit exposure by geographic distribution

As at 31 October 2018

£'000

Final exposure amounts for counterparty credit risk	Asia-Pacific	Caribbean	EEA	Europe Other	Middle East	North America	Others	Total
Central governments or central banks	84,304	-	60,107	-	45,606	23,351	15,480	228,847
Public sector entities	-	-	-	-	9,727	-	-	9,727
Institutions	442,058		1,617,932	76,866	-	276,024	201	2,413,081
Corporates	213,316	325,407	605,307	15,891	-	257,969	1,257	1,419,146
Total	**739,677**	**325,408**	**2,283,346**	**92,757**	**55,332**	**557,344**	**16,937**	**4,070,801**

As at 31 October 2017

£'000

Final exposure amounts for counterparty credit risk	Asia-Pacific	Caribbean	EEA	Europe Other	Middle East	North America	Others	Total
Central governments or central banks	58,173	-	7,688	-	144,197	-	-	210,058
Public sector entities	3,163	-	-	-	-	1,701	-	4,864
Institutions	512,360		1,693,140	138,087	2	232,188	4,900	2,580,677
Corporates	101,560	102,735	650,743	56,537	-	160,134	-	1,071,709
Total	**675,256**	**102,735**	**2,351,571**	**194,624**	**144,200**	**394,023**	**4,900**	**3,867,309**

Further details on geographic distribution in relation to the EEA member states and North America are shown below.

Table 28: Gross credit exposure by geographic distribution within the EEA and North America

As at 31 October 2018
£'000

Gross exposure in relation to the EEA member states	**United Kingdom**	**France**	**Netherlands**	**Germany**	**Belgium**	**Sweden**	**Finland**	**Spain**	**Others**	**Total**
Central governments or central banks	-	-	-	-	-	-	-	-	60,107	60,107
Institutions	1,170,886	102,447	115,316	103,543	94,608	-	-	810	36,152	1,623,763
Corporates	303,906	7,558	123,033	5,527	-	32,367	12,055	-	125,135	609,580
Total	**1,474,792**	**110,005**	**238,349**	**109,070**	**94,608**	**32,367**	**12,055**	**810**	**221,394**	**2,293,450**

As at 31 October 2018
£'000

Gross exposure in relation to North America	**Canada**	**United States**	**Bermuda**	**Total**
Central governments or central banks	-	23,351	-	23,351
Public sector entities	-	-	-	-
Institutions	691,596	303,483	-	995,079
Corporates	17,658	231,991	21,405	271,053
Total	**709,254**	**558,825**	**21,405**	**1,289,484**

As at 31 October 2017
£'000

Gross exposure in relation to the EEA member states	**United Kingdom**	**France**	**Netherlands**	**Germany**	**Belgium**	**Sweden**	**Finland**	**Spain**	**Others**	**Total**
Central governments or central banks	7,688	-	-	-	-	-	-	-	-	7,688
Institutions	1,590,039	16,926	30,092	77,567	1,426	-	-	197	23,627	1,739,874
Corporates	398,043	6,012	25,806	4,605		5,536	10,684	-	203,918	654,603
Total	**1,995,770**	**22,938**	**55,898**	**82,171**	**1,426**	**5,536**	**10,684**	**197**	**227,544**	**2,402,165**

As at 31 October 2017
£'000

Gross exposure in relation to North America	**Canada**	**United States**	**Bermuda**	**Total**
Central governments or central banks	-	-	-	-
Public sector entities	-	1,701	-	1,701
Institutions	418,361	268,493	-	686,854
Corporates	7,864	134,342	20,803	163,009
Total	**426,225**	**404,536**	**20,803**	**851,564**

Table 29: Final credit exposure by geographic distribution within the EEA and North America

As at 31 October 2018
£'000

Final exposure in relation to the EEA member states	**United Kingdom**	**France**	**Netherlands**	**Germany**	**Belgium**	**Sweden**	**Finland**	**Spain**	**Others**	**Total**
Central governments or central banks	-	-	-	-	-	-	-	-	60,107	60,107
Institutions	1,167,783	99,719	115,316	103,543	94,608	-	-	810	36,152	1,617,932
Corporates	303,906	5,428	123,033	5,527	-	32,367	12,055	-	122,992	605,307
Total	**1,471,689**	**105,147**	**238,349**	**109,070**	**94,608**	**32,367**	**12,055**	**810**	**219,251**	**2,283,346**

As at 31 October 2018
£'000

Final exposure in relation to North America	**Canada**	**United States**	**Bermuda**	**Total**
Central governments or central banks	-	23,351	-	23,351
Public sector entities	-	-	-	-
Institutions	21,857	254,167	-	276,024
Corporates	17,658	219,190	21,121	257,969
Total	**39,515**	**496,708**	**21,121**	**557,344**

As at 31 October 2017
£'000

Final exposure in relation to the EEA member states	**United Kingdom**	**France**	**Netherlands**	**Germany**	**Belgium**	**Sweden**	**Finland**	**Spain**	**Others**	**Total**
Central governments or central banks	7,688	-	-	-	-	-	-	-	-	7,688
Institutions	1,543,305	16,926	30,092	77,567	1,426	-	-	197	23,627	1,693,140
Corporates	397,496	4,254	25,806	4,605		5,536	10,684	-	202,363	650,743
Total	**1,948,489**	**21,180**	**55,898**	**82,171**	**1,426**	**5,536**	**10,684**	**197**	**225,989**	**2,351,571**

As at 31 October 2017
£'000

Final exposure in relation to North America	**Canada**	**United States**	**Bermuda**	**Total**
Central governments or central banks	-	-	-	-
Public sector entities	-	1,701	-	1,701
Institutions	19,122	213,066	-	232,188
Corporates	7,864	133,750	18,521	160,134
Total	**26,986**	**348,517**	**18,521**	**394,023**

5.3.4 Wrong-Way Risk Exposures

The Company has detailed policies and procedures in place to ensure that the wrong-way risk is closely monitored. General wrong-way risk exists when there is a positive correlation between the probability of default of counterparties to general market risk factors. GRM-Enterprise Market Risk monitors general wrong-way risk using a variety of counterparty risk metrics including geographically centred hypothetical and historical stress events and single risk factor stresses and sensitivities.

For securities financing transactions, specific wrong-way risk counterparty exposure is incurred when the Company enters into a securities financing transaction with a counterparty where the underlying collateral held by the Company includes securities issued by the counterparty or any affiliate of that counterparty. Collateral value will deemed to be zero for any such security included in a counterparty collateral pool. Where the risk to the collateral and the risk of default by the counterparty are potentially correlated, GRM will evaluate and perform ad hoc wrong-way risk analyses against potential scenarios, as appropriate.

For derivative transactions, specific wrong-way risk exists when the exposure to a particular counterparty is positively and highly correlated with the probability of default of the counterparty due to the nature of the transactions with the counterparty. Specific guidelines have been established to calculate the exposure as well as the internal approval process to be used. GRM-Market Risk and GRM-Trading Credit Risk are responsible for the monitoring of the wrong-way risk in derivative transactions.

5.3.5 Counterparty Credit Risk Arising from Derivative Transactions

As at 31 October 2018, the final exposure arising from derivative transactions amounted to £761.6 million (2017: £741.7 million), excluding £483.9 million relating to the margin receivables (2017: £365.1 million). Refer to the previous section for detailed disclosure on exposures by product type.

Table 30: Counterparty credit risk for derivative transactions

As at 31 October 2018	Gross Positive Fair Value	Gross PFCE*	Netting Benefits	Initial Exposure	Collateral Allocated**	Final Exposure***	Gross Notional
£'000							
Calculated under the Mark to Market Method							
Exchanged Traded Derivatives							
Commodities	257,808	527,151	(275,797)	509,163	(77,521)	431,642	5,160,644
Equities	102,231	413,163	(175,426)	339,969	(74,316)	265,653	6,887,944
Interest Rate	9,145	165,793	(85,183)	89,755	(52,767)	36,988	105,352,794
Foreign Exchange and Gold	1,293	939	(56)	2,176	(1,721)	455	93,929
	370,477	1,107,046	(536,461)	941,063	(206,324)	734,738	117,495,311
Over-The-Counter Derivatives							
Commodities	41,841	4,981	(3,183)	43,639	(19,839)	23,801	49,807
Credit Default Swaps	12,408	299,747	(140,075)	172,079	(172,079)	-	3,003,897
Equities	2	-	(2)	-	-	-	-
Foreign Exchange and Gold	124,588	253,934	(79,400)	299,122	(299,122)	-	12,693,600
Interest Rate	514,881	58,121	(519,479)	53,523	(50,512)	3,011	21,524,531
	693,720	616,783	(742,140)	568,364	(541,552)	26,812	37,271,835
Total	**1,064,198**	**1,723,830**	**(1,278,601)**	**1,509,426**	**(747,877)**	**761,550**	**154,767,146**

**PFCE stands for potential future credit exposure.*
***Collateral allocated amount is the collateral mark to market value after appropriate volatility adjustments.*
****The final exposure does not include margin receivable of £483.9million (2017: £365.1 million).*

As at 31 October 2017	Gross Positive Fair Value	Gross PFCE*	Netting Benefits	Initial Exposure	Collateral Allocated**	Final Exposure***	Gross Notional
£'000							
Calculated under the Mark to Market Method							
Exchanged Traded Derivatives							
Commodities	236,320	587,888	(322,990)	501,218	(128,336)	372,882	5,820,379
Equities	64,323	405,191	(178,739)	290,775	(101,729)	189,046	6,333,299
Interest Rate	75,319	198,709	(88,459)	185,569	(35,216)	150,353	121,251,740
	375,961	1,191,787	(590,187)	977,561	(265,281)	712,281	133,405,418
Over-The-Counter Derivatives							
Commodities	41,841	3,804	(1,014)	44,631	(19,170)	25,461	38,038
Credit Default Swaps	12,408	68,089	(48,346)	32,151	(32,151)	-	727,062
Equities	2	-	(2)	-	-	-	-
Foreign Exchange and Gold	124,588	281,726	(230,986)	175,328	(175,328)	-	18,271,046
Interest Rate	514,881	53,283	(531,253)	36,911	(32,949)	3,962	15,309,476
	693,720	406,902	(811,601)	289,021	(259,598)	29,422	34,345,622
Total	**1,069,682**	**1,598,689**	**(1,401,788)**	**1,266,582**	**(524,879)**	**741,703**	**167,751,040**

**PFCE stands for potential future credit exposure.*
***Collateral allocated amount is the collateral mark to market value after appropriate volatility adjustments.*
****The final exposure does not include margin receivable of £365.1million (2016: £329.3 million).*

The Company uses (CDS) to manage the traded credit risk arising from its trading activities. The table below indicates the notional amounts of CDS sold and purchased at year end.

Table 31: Notional of CDS

Notional		
£'000	**2018**	**2017**
Own credit portfolio		
Buy	1,506,562	420,851
Sell	1,497,335	306,212
Total	**3,003,897**	**727,062**

As at 31 October 2018, the Company received total collateral of £571.6 million for derivative transactions (2017: £288.4 million). The Company also pledges collateral for its OTC derivative transactions. As at the year end, if RBC's credit rating had been downgraded by three notches, it would be required to pledge additional collateral of £19.6 million to its OTC derivative counterparties (2017: £19.1 million). The Company maintains a sufficient level of high quality liquid assets to satisfy any additional collateral requirements triggered by the downgrade of its credit rating.

5.3.6 Use of Credit Risk Mitigation Techniques

The Company uses the following credit risk mitigation techniques to actively manage its credit risks within its banking and trading portfolios:

- Netting and set-off,
- Collateral, and
- Risk transfers.

The Company has detailed policies in place to ensure that credit mitigation is appropriately recognised and captured for regulatory capital purposes. In order to recognise the credit risk mitigation, the Company takes into account the following factors:

- Effectiveness and enforceability of the legal arrangements in place;
- Correlation between the value of collateral and the credit quality of the obligor;
- Eligibility and quality of the collateral received.

The Company will often seek to enter into standard master netting agreements with counterparties for derivative and SFT transactions. These master netting agreements enable the Company to apply on/off balance sheet netting to reduce net credit exposure.

Collateral received from derivative and SFT transactions are mainly government and other high quality securities. All financial collateral is subject to daily revaluation and the Company also performs a revaluation on all properties held as collateral every three years. The valuation is then reviewed by a Credit Specialist and GRM. Credit Management is responsible for ensuring that the revaluation is executed in a timely manner.

The Company has established the following principles for collateral management:

- Collateral must be liquid i.e. actively traded in secondary markets.
- Collateral must be of high credit quality.
- Collateral must be readily settled at an authorized clearing agency.
- Collateral should be exchanged on a regular basis.
- GRM risk capture and reporting must be in place.
- Collateral must be able to be independently valued.
- Collateral should be held so that it is available and protected in the event of a counterparty's default.
- Securities issued by a counterparty or its related entities are not eligible as collateral, (excludes specified equity derivative transactions).
- Collateral should be diversified and not concentrated by issuer type or issue.

Guarantees and funded/unfunded risk participation arrangements have been sought mainly from other financial institutions by the Company to transfer its credit exposure to a counterparty which is more credit worthy than the original counterparty to reduce the overall credit risk.

The market risk and credit concentrations within the credit mitigation taken are monitored by the Regulatory Reporting team through its daily capital requirements and large exposure reporting process.

5.3.7 Use of External Credit Assessment Institutions

The Company uses the following external credit assessment institutions (ECAIs) for banking book credit risk and counterparty credit risk calculations purposes throughout the reporting period:

- Standard & Poor's, and
- Moody's.

As at 31 October 2018, the gross exposure amount subject to the use of the ECAIs was £7.7 billion (2017: £6.4 billion), which accounts for 37.4% of the total gross exposure[2] at year end (2017: 30.9%).

[2] Total gross exposure amounts exclude the exposure amount for contributions to the default fund of a CCP.

Table 32: Exposures amounts subjected to the use of the ECAIs

As at 31 October 2018

£'000	Gross Exposure	Final Exposure	Risk-weighted Exposures
Exposure amounts subject to the use of the ECAIs			
Central governments or central banks	184,609	131,009	-
Regional governments or local authorities	100,000	100,000	20,100
Public sector entities	196,900	196,900	92,387
Multilateral Development Banks	425,000	425,000	-
Institutions	1,875,534	1,172,236	393,548
Corporates	5,062,767	1,195,259	780,851
Total	**7,844,810**	**3,220,405**	**1,286,886**

As at 31 October 2017

£'000	Gross Exposure	Final Exposure	Risk-weighted Exposures
Exposure amounts subject to the use of the ECAIs			
Central governments or central banks	264,038	210,946	-
Public sector entities	142,969	142,969	71,484
Multilateral Development Banks	-	-	-
Institutions	1,079,902	643,659	276,129
Corporates	4,958,532	1,302,404	726,055
Total	**6,445,441**	**2,299,979**	**1,073,668**

As at 31 October 2018, majority of the Company's credit exposures subject to the use of ECAIs are to those counterparties with Credit Quality Step (CQS) 1 and 2[3] (2018: 81.24%; 2017: 78.03%). Exposures amounts by CQS are shown below.

Table 33: Exposures amounts by CQS

	2018			2017		
£'000	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposures**	**Gross Exposure**	**Final Exposure**	**Risk-weighted Exposures**
CQS						
1	1,814,879	1,028,858	94,696	1,217,871	694,607	96,732
2	4,558,525	1,663,150	685,611	3,811,404	1,254,861	626,668
3	1,346,943	488,567	458,920	1,234,791	313,560	311,665
4	79,750	24,170	24,170	137,498	33,659	33,667
5	40,952	14,166	21,249	43,878	3,291	4,936
6	3,760	1,494	2,241	-	-	-
Total	**7,844,810**	**3,220,405**	**1,286,886**	**6,445,441**	**2,299,979**	**1,073,668**

[3] CQS 1-3 represent investment grades (e.g. S&P: AAA+ to BBB-).

6.0 Market Risk

6.1 Definition of Market Risk

The Company defines the market risk as the risk of loss resulting from changes in market factors and the volatility of these factors. Mark risk can be exacerbated by thinly-traded or illiquid markets.

The Company considered market risk to fall into the following categories:

Credit Spread Risk[4]*:* The risk of loss due to the change in credit spreads on all financial instruments whose accounting fair value depends on credit spreads. This includes securities, credit derivatives and fair value liabilities.

Interest Rate Risk: The risk of loss resulting from changes in interest rates and/or the volatility of interest rates.

Foreign Exchange Risk: The risk of loss resulting from changes in exchange rates and/or the volatility of exchange rates.

Equity Risk: The risk of loss resulting from changes in equity prices, indices and/or equity implied volatility.

Commodity Risk: The risk of loss resulting from changes in commodity prices and/or the volatility of commodity prices.

Underwriting Risk: The risk of loss resulting from (i) the failure to place or sell a particular security or bond concurrent with a negative market or credit risk event; and (ii) inadequate due diligence in connection with a securities offering.

6.2 Governance and Framework

Market Risk is managed through the Company’s Market Risk Framework which is governed and overseen by the Head of Market Risk in London. The Company is also subject to the RBC Group policies laid out in the RBC Group Market Risk Framework and standing orders.

The market risk management function produces daily reports for the business and senior management detailing the Company’s exposure against limits, as well as monthly summary reports for the UKMRMC and quarterly for the RC.

The Company's market risk appetite is set and reviewed by the Board. The Company has a range of limits in place covering the risk measurement metrics noted above. All limits set by the Company are consistent with the stated risk appetite. In addition to the Board approved limits, exposures are also limited by the RBC Group limit structure.

The Company uses a two tier market risk limit structure:

Tactical limits are set and approved by the Board and are constrained by economic capital limits. Tactical limits are designed so risk taken cannot exceed available financial resources. All tactical limit excesses and limit changes are reported to the UKMRMC and the RC; and

Operational limits are approved by the Managing Director of GRM-Market Risk and reviewed as required by the UKMRMC. Operational limits must always remain lower than tactical limits. All operational limit excesses and limit changes are reported to the UKMRMC.

[4] CRR considers the credit spread risk in the trading book is part of specific interest rate risk.

The Regulatory Reporting team also reports the overall capital requirement, including capital requirement on market risk, to the Company's senior management on a daily basis.

Additional information is provided in the Company's Annual Accounts and Financial Statements.

6.3 Risk Profile

As at 31 October 2018, the Company's capital requirement in relation to the market risk is £199 million (2017: £175 million).

Table 34: Market risk by risk type

As at 31 October 2018	**Risk-weighted Exposure**	**Capital Requirement**
£'000		
Interest rate risk	2,266,363	181,309
of which: Securitisation position risk	*355*	28
Equity risk	48,957	3,917
Foreign-exchange risk	163,545	13,084
Settlement risk	-	-
Commodities risk	4,819	385
	2,483,684	**198,695**

As at 31 October 2017	**Risk-weighted Exposure**	**Capital Requirement**
£'000		
Interest rate risk	2,036,620	162,930
of which: Securitisation position risk	*9,620*	770
Equity risk	42,469	3,398
Foreign-exchange risk	89,433	7,155
Settlement risk	-	-
Commodities risk	19,098	1,528
	2,187,620	**175,010**

The Company had £48.9 million (2017 £42.4 million) CIU trading book exposures (included in equity risk) as at the financial year-end.

The Company had no Underwriting risk as at the financial year-end.

6.4 Securitisations

6.4.1 Definitions

The Company defines securitisation as a transaction or scheme, whereby the credit risk associated with an exposure or pool of exposures is tranched, having both of the following characteristics:

a) payments in the transaction or scheme are dependent upon the performance of the exposure or pool of exposures; and
b) the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme.

Re-securitisation means securitisation where the risk associated with an underlying pool of exposures is tranched and at least one of the underlying exposures is a securitisation position.

A securitisation position can be either classified as:

Traditional securitisation: a securitisation involving the economic transfer of the exposures being securitised.

Synthetic securitisation: a securitisation where the transfer of risk is achieved by the use of credit derivatives or guarantees, and the exposures being securitised remain exposures of the originator institution.

6.4.2 Objectives of Securitisation Activities

The Company trades a range of European securitised products in the secondary market. These transactions are included the Company's trading book. The Company is not engaged in any securitisation of its own originated assets or the securitisation of third party assets via special purpose vehicles.

The Company monitors the market and credit risks arising from its securitisation positions in the similar manner as those of non-securitisation trading positions. Refer to the Company's risk governance and control framework discussion in the previous sections.

In addition, the Company adopts RBC's Trading Book Securitisation Framework, which requires:

- a comprehensive understanding of the risk characteristics of its individual securitisation exposures as well as the risk characteristics of the pools underlying its securitisation exposures;
- access performance information on the underlying pools on an on-going basis in a timely manner, including exposure type, percentage of loans past due, default rate, prepayment rates, loans in foreclosure, property type, occupancy, average credit score or other measures of creditworthiness, average loan-to-value ratio and industry and geographic diversifications;
- a thorough understanding of all structural features of a securitisation transaction that would materially impact the performance of the Company's exposures to the transactions, such as the contractual waterfall and waterfall-related triggers, credit enhancement, liquidity enhancements, market value triggers, and deal-specific definitions of default.

6.4.3 Summary of Relevant Accounting Policies

Classification of financial assets

Financial assets are measured at initial recognition at fair value, and are classified and subsequently measured at fair value through profit or loss (FVTPL), FVOCI or amortised cost based on the business model for managing the financial instruments and the contractual cash flow characteristics of the instrument.

Debt instruments are measured at amortised cost if both of the following conditions are met and the asset is not designated as FVTPL: (a) the asset is held within a business model that is Held-to-Collect (HTC) as described below, and (b) the contractual terms of the instrument give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding (SPPI).

Debt instruments are measured at FVOCI if both of the following conditions are met and the asset is not designated as FVTPL: (a) the asset is held within a business model that is Held-to-Collect-and-Sell (HTC&S) as described below, and (b) the contractual terms of the instrument give rise, on specified dates, to cash flows that are SPPI.

Business model assessment

The Company determines its business models at the level that best reflects how it manage portfolios of financial assets to achieve business objectives. Judgment is used in determining the business models, which is supported by relevant, objective evidence including:

- How the economic activities of the Company's businesses generate benefits, for example through trading revenue, enhancing yields or hedging funding or other costs and how such economic activities are evaluated and reported to key management personnel;

- The significant risks affecting the performance of the businesses, for example, market risk, credit risk, or other risks as described in Notes 4 to 9, and the activities undertaken to manage those risks;

- Historical and future expectations of sales of the loans or securities portfolios managed as part of a business model;

- The compensation structures for managers of businesses, to the extent that these are directly linked to the economic performance of the business model. Business models fall into three categories, which are indicative of the key strategies used to generate returns:

  - HTC: The objective of this business model is to hold loans and securities to collect contractual principal and interest cash flows. Sales are incidental to this objective and are expected to be insignificant or infrequent.

  - HTC&S: Both collecting contractual cash flows and sales are integral to achieving the objective of the business model.

  - Other fair value business models: These business models are neither HTC nor HTC&S, and primarily represent business models where assets are held-for-trading or managed on a fair value basis.

SPPI assessment

Instruments held within a HTC or HTC&S business model are assessed to evaluate if their contractual cash flows are comprised of solely payments of principal and interest. SPPI payments are those which would typically be expected from basic lending arrangements. Principal amounts include par repayments from lending and financing arrangements, and interest primarily relates to basic lending returns, including compensation for credit risk and the time value of money associated with the principal amount outstanding over a period of time. Interest can also include other basic lending risks and costs (for example, liquidity risk, servicing or administrative costs) associated with holding the financial asset for a period of time, and a profit margin.

Where the contractual terms introduce exposure to risk or variability of cash flows that are inconsistent with a basic lending arrangement, the related financial asset is classified and measured at FVTPL.

Financial instruments - recognition and measurement of financial instruments

Securities

Trading securities, including securitisation positions, are classified as FVTPL by nature and securities designated as FVTPL. Obligations to deliver trading securities sold but not yet purchased are recorded as liabilities and carried at fair value. Realised and unrealised gains and losses on these securities are generally recorded as Trading revenue in Non-interest income. Dividends and interest income accruing on Trading securities are recorded in Interest income. Interest and dividends accrued on interest-bearing and equity securities sold short are recorded in Interest expense.

Investment securities include all securities classified as FVOCI and amortised cost. All investment securities are initially recorded at fair value and subsequently measured according to the respective classification. Prior to the adoption of IFRS 9, Investment securities were comprised of available-for-sale securities.

Investment securities carried at amortised cost are measured using the effective interest method, and are presented net of any allowance for credit losses, calculated in accordance with the Company's policy for Allowance for credit losses, as described below. Interest income, including the amortisation of premiums and discounts on securities measured at amortised cost are recorded in Net interest income. Impairment gains or losses recognised on amortised cost securities are recorded in Provision for credit losses. When a debt instrument measured at amortised cost is sold, the difference between the sale proceeds and the amortised cost of the security at the time of the sale is recorded as a Net gains/(losses) on derecognition of financial assets measured at amortised cost.

Debt securities carried at FVOCI are measured at fair value with unrealised gains and losses arising from changes in fair value included in Other components of equity. Impairment gains and losses are included in Provision for credit losses and correspondingly reduce the accumulated changes in fair value included in Other components of equity. When a debt instrument measured at FVOCI is sold, the cumulative gain or loss is reclassified from Other components of equity to Income Statement.

Equity securities carried at FVOCI are measured at fair value. Unrealised gains and losses arising from changes in fair value are recorded in Other components of equity and not subsequently reclassified to profit or loss when realised. Dividends from FVOCI equity securities are recognised in Interest income.

Loans and advances

Loans are debt instruments, including securitisation positions, recognised initially at fair value and are subsequently measured in accordance with the Classification of financial assets policy provided above. The majority of the loans are carried at amortised cost using the effective interest method, which represents the gross carrying amount less allowance for credit losses.

Interest on loans is recognised in Interest income using the effective interest method. The estimated future cash flows used in this calculation include those determined by the contractual term of the asset and all fees that are considered to be integral to the effective interest rate. Also included in this amount are transaction costs and all other premiums or discounts. Fees that relate to activities such as originating, restructuring or renegotiating loans are deferred and recognised as Interest income over the expected term of such loans using the effective interest method.

Derecognition of financial assets

Financial assets are derecognised from the Balance Sheet when the contractual rights to the cash flows from the assets have expired, when the Company retains the rights to receive the cash flows of the assets but assume an obligation to pay those cash flows to a third party subject to certain pass-through requirements or when the contractual rights to receive the cash flows and substantially all of the risk and rewards of the assets have been transferred. When the Company retains substantially all of the risks and rewards of the transferred assets, the transferred assets are not derecognised from the Balance Sheet and are accounted for as secured financing transactions. When the Company neither retains nor transfers substantially all risks and rewards of ownership of the assets, the Company derecognises the assets if control over the assets is relinquished. If the Company retains control over the transferred assets, the Company continues to recognise the transferred assets to the extent of its continuing involvement.

Management's judgment is applied in determining whether the contractual rights to the cash flows from the transferred assets have expired or whether the Company retains the rights to receive cash flows on the assets but assumes an obligation to pay those cash flows. The Company derecognises transferred financial assets if it transfers substantially all the risk and rewards of ownerships assets. When assessing whether it has transferred substantially all of the risk and rewards of the transferred assets, management considers the entity exposure before and after the transfer with the variability in the amount and timing of the net cash flows of the transferred assets. In transfers that the Company retains the servicing rights, management has applied judgment in assessing the benefits of servicing against market expectations. When the benefits of servicing are greater than fair market value, a servicing asset is recognised in Other assets in the Balance Sheet. When the benefits of servicing are less than fair market value, a servicing liability is recognised in Other liabilities in the Balance Sheet.

6.4.4 Risk Profile

As at 31 October 2018, the Company had a total exposure of £1.8 million (2017: £6.5 million) in relation to the securitisation positions, resulting in own funds requirement of £0.3 million (2017: £0.7million) using the Standardised calculation. Detailed analysis on the securitisation positions is included in the tables below.

Table 35: Exposures by underlying exposure type

As at 31 October 2018
£'000

Exposure Type	**Exposure**	**Risk-weighted Exposure**	**Capital Requirement**
Traditional securitisation			
Residential mortgages	-	-	-
Credit card receivables	-	-	-
Consumer loans	-	-	-
Other assets	23,110	4,622	370
	23,110	**4,622**	**370**

As at 31 October 2017
£'000

Exposure Type	**Exposure**	**Risk-weighted Exposure**	**Capital Requirement**
Traditional securitisation			
Residential mortgages	-	-	-
Credit card receivables	4,408	882	71
Consumer loans	2,106	8,732	699
Other assets	30	6	.5
	6,543	**9,620**	**770**

Table 36: Securitisation exposures by seniority

As at 31 October 2018
£'000

Tranche	**Exposure**	**Risk-weighted Exposure**	**Capital Requirement**
Senior	21,338	4,268	341
Mezzanine	1,773	355	28
First loss	-	-	-
	23,110	**4,622**	**370**

As at 31 October 2017
£'000

Tranche	**Exposure**	**Risk-weighted Exposure**	**Capital Requirement**
Senior	5,867	1,173	94
Mezzanine	-	-	-
First loss	676	8,446	676
	6,543	**9,620**	**770**

Table 37: Securitisation exposures by risk weighting

As at 31 October 2018

£'000 **Risk Weighting**		**Exposure**	**Risk-weighted Exposure**	**Capital Requirement**
Exposures rated by ECAIs				
	20%	23,110	4,622	370
	50%	-	-	-
	100%	-	-	-
	350%	-	-	-
	1250%	-	-	-
		23,110	*4,622*	*370*
Exposures not rated by ECAIs				
	1250%	-	-	-
Total		**23,110**	**4,622**	**370**

As at 31 October 2017

£'000 **Risk Weighting**		**Exposure**	**Risk-weighted Exposure**	**Capital Requirement**
Exposures rated by ECAIs				
	20%	5,867	1,173	94
	50%	-	-	-
	100%	-	-	-
	350%	-	-	-
	1250%	-	-	-
		5,867	*1,173*	*94*
Exposures not rated by ECAIs				
	1250%	676	8,446	676
Total		**6,543**	**9,620**	**770**

The Company uses the following three ECAIs in assigning the appropriate risk weights for the securitisation positions held:

- Standard & Poor's,
- Moody's and
- Fitch Ratings.

7.0 Operational Risk

The Company defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, and includes legal risk. The Company assesses its operational risk profile through a combination of qualitative and quantitative methods.

A variety of risk and control criteria are used to assess different business lines within the Company. The information is used to generate the risk profiles for each business area. These quantitative profiles are analysed at an aggregate level to provide a view of the risk profile of the business and the local platform as a whole. These profiles are reported to various committees for discussion and action. Specific risks and issues as well as overall themes are discussed.

The Operational Risk Appetite Framework is a formally articulated structure comprised of an operational risk appetite, operational risk tolerance and operational risk profile. The Company's Operational Risk Appetite definition is: 'The level of operational risk the Company is willing to accept on a risk-reward basis. The operational risk tolerance is defined as the operational risk level beyond which the entity/ platform/ business line should not go, regardless of what the entity/ platform/ business is comfortable with'.

An operational risk report is presented to each of the committees and captures both Capital Markets and Wealth Management activities within the Company.

The Company has adopted the Basic Indicator Approach to calculate the own funds requirement for operational risk. As at 31 October 2018, the own funds requirement for operational risk is £63.6 million (2017: £55.7 million).

8.0 Non-trading Book Equity Exposures

The Company holds a small equity portfolio within its non-trading book in order to maintain its memberships with a number of clearing houses and exchanges in Europe. The Company has no intention of actively trading these equities for short term profit making purposes.

This equity portfolio has been disclosed as Investments - Equity securities in the Company's audited financial statements in according to IFRS. The Company measures this equity portfolio at fair value. Unrealised gains and losses arising from changes in fair value are included in Other components of equity. Changes in foreign exchange rates are recognised in Other components of equity. When the security is sold, the cumulative gain or loss recorded in Other components of equity is closed to Retained earnings. Dividend and interest income accruing on Investments – Equity securities are recorded in Net interest income.

As at 31 October 2018, the Company had a total OCI reserve of £34.4 million (2017: £33.6 million) arising from the non-trading book equity exposures. This OCI reserve has been fully included in the Company's CET1 Capital since 1 January 2015.

Table 38: Non-trading book equity exposures

£'000	**2018** **Unlisted** (IFRS 9)	**2017** **Unlisted** (IAS 39)
As at 1 November		
Cost	925	925
Accumulated unrealised gains	44,532	27,106
	45,457	28,031
Realised gains/(losses)	-	-
Unrealised gains/(losses)	781	17,426
As at 31 October	**46,238**	**45,457**
Accumulated unrealised gains	45,313	44,532
Less: Deferred tax	(10,884)	(10,878)
Reserve	**34,429**	**33,654**

9.0 Interest Rate Risk in the Banking Book

Interest Rate Risk in the Banking Book (IRRBB) arises from interest rate basis and duration mismatches between assets and liabilities.

RBCEL's IRRBB is governed by Royal Bank of Canada's interest rate risk policies which define the acceptable limits within which risks to Economic Value of Equity (EVE) and Net Interest Income (NII) over a 12-month time horizon are to be contained.

RBCEL's limit framework is maintained by Corporate Treasury which sets maximum NII and EVE sensitivity on a business segment level basis.

RBCEL's has limited tolerance for risks arising from Interest Rate Risk in the Banking Book (IRRBB). The majority of transactions are priced relative to short term interbank rates (resetting either monthly or quarterly). This can lead to some interest rate gaps in the very short end of the curve (1m v 3m) however RBCEL's IRRBB risk remains negligible.

10.0 Liquidity Risk

10.1 Definition of Liquidity Risk

Liquidity risk is the risk that the Company is unable to generate or obtain sufficient liquidity in a cost-effective manner to meet contractual and contingent commitments as they fall due. Liquidity management activities are designed to safeguard RBC against stresses, and to ensure the safety and soundness of the organisation.

Liquidity risk arises from mismatches in the timing and/or the value of on-balance sheet and off-balance sheet positions. Timing mismatches between the effective maturity of the Company's assets and liabilities, or unexpected draws from on and off-balance sheet commitments, create liquidity, or cash flow gaps. Differences in values of assets in comparison to repayment obligations can also create cash flow gaps. If the sources of cash (liquid assets / funding) are not available to meet these cash flow requirements, there is potential for a liquidity event to adversely impact the Company.

External or internal stress events have the potential to amplify liquidity mismatches and create adverse liquidity outcomes. For example, losses from credit, market, or operational risk events that negatively impact the Company's capital base can have an impact on the real or perceived credit quality of the Company, which can result in a loss of funding. Thus, liquidity risk is considered a "consequential" risk and must be managed in an integrated manner with credit, market, operational and other relevant risks.

10.2 Governance and Framework

Ultimate responsibility for managing liquidity risk resides with the Company's Board. The Board is tasked with ensuring that an effective systems and controls framework is in place for business activity, risk management and capital and liquidity risk management.

The Board ensures that effective governance arrangement and control frameworks are in place for liquidity risk, enabling it to be adequately overseen, assessed and managed. The role of the Board for liquidity risk, alongside monitoring and oversight of the liquidity position of the Company, includes approval of:

- Liquidity Risk Framework;
- Risk Appetite Statement and Metrics;

- Recovery Plan; and
- The annual Internal Liquidity Adequacy Assessment Process (ILAAP).

Responsibility for the detailed management and oversight of liquidity risk is delegated to the RC and ALCO.

Within the Company, the risk tolerance statement is articulated through a series of limits, covering both internal and regulatory metrics. The Company's risk appetite takes direction from RBC (the parent) and includes additional aspects designed to capture locally specific risks. At the lowest level the Company employs desk limits to govern individual business, markets, products or transactions.

Key risks for the Company include a withdrawal of intragroup funding and an inability to monetise high quality liquid assets in the secured funding markets. These risks are mitigated somewhat by the regular review and extension of term intragroup funding arrangements and maintaining large GBP and Euro cash deposits at central banks.

Corporate Treasury is responsible for all liquidity reporting, including ensuring completeness and accuracy of data. The Company primarily uses RBC Group strategic platforms for liquidity risk measurement and monitoring.

Reports produced by the Corporate Treasury-Liquidity Measurement Team include, but are not limited to, LCR, NSFR, Asset Encumbrance, FSA 047 + FSA 048, ALMM and several internally defined reports designed to complement the regulatory requirements.

On a monthly basis an overview of management information is presented to the ALCO, this is also presented to the RC on a quarterly basis.

10.3 Risk Profile

The Company is comfortable with the level of liquidity risk within the entity and RBC enterprise. Throughout the financial year the Company remained within both internal risk appetite and regulatory limits.

The Company has in place a robust governance model with individuals empowered to make decisions that benefit the organisation without creating unnecessary risk.

At all times The Company maintains sufficient levels of short and long term funding and holds substantial high quality securities that are diverse in nature, prudently valued and regularly turned over as part of its trading activities.

Minimum liquid asset buffer requirements are defined internally through use of the Net Cash Flow Metric, an internally-defined metric that estimates net liquidity surpluses (or gaps) over specific short time horizons (7, 30, 60 days) for on-balance sheet and off-balance sheet transactions.

The metric measures the amount of potential liquidity and funding risk being taken after liquidity sources such as liquid assets have been factored in.

10.4 Individual Liquidity Adequacy Assessment Process

The ILAAP is the Company's internal attestation of the management and measurement of liquidity risk within the organisation, under both stressed and business as usual conditions. The ILAAP is a comprehensive document covering all aspects of liquidity risk. It is prepared annually, and approved by the Board.

Conclusions drawn from the ILAAP contribute to the risk management framework within the organisation.

11.0 Remuneration

Remuneration disclosures are made in line with RBC Europe Limited's (the "**Company's**") application of the qualitative and quantitative remuneration disclosures requirement under the Pillar 3 framework and the requirements of Article 450 of the Capital Requirements Regulation ("**CRR**")[5]. For enhanced disclosure on RBC's enterprise-wide compensation practices, please refer to RBC's proxy circular (published on March 7th, 2019[6]).

A separate Pillar 3 disclosure is made in relation to RBC Holdings (UK) Limited.

11.1 Constitution and Activities of the UK HRC

The Company has a Human Resources Committee (UK HRC) which is responsible for the application of the compensation principles, practices and processes within all of RBC's operations on the UK mainland, except in relation to BlueBay Asset Management Ltd (which is managed separately and publishes a separate Pillar 3 report). The UK HRC reviews and approves our compensation policies which support the business objectives determined by the Board of Directors of the Company (the "**Board**") and/or senior management and take into appropriate account sound risk management practices, including long-term and short-term risk.

Within the authority delegated by the Board, the UK HRC is responsible for approving compensation policy and, in doing so, takes into account the pay and benefits across our Company. This includes the terms of bonus plans, other incentive plans and the individual compensation packages of Executive Directors and Senior Managers, as well as oversight of compensation for other Material Risk Takers.

The UK HRC has a specific responsibility to ensure UK-applicable group-wide policies are compliant with UK Compensation regulations which apply to each respective UK group entity, including the Company.

Members (fiscal year)	Meeting Attendance (4 meetings in total)
▪ Nicola Mumford (Chair)	4 meetings
▪ Jim Pettigrew	4 meetings
▪ Polly Williams	4 meetings

Each of the members of the UK HRC is a Non-Executive Director, independent of day-to-day management as defined by the standards set out by the Board. No individual is involved in decisions relating to his or her own compensation.

During the year, the UK HRC received advice from the Company's Head of Human Resources, Head of Compliance, Chief Financial Officer and Chief Risk Officer, who provided advice to the UK HRC on the implications of the compensation policy on risk and risk management, and on the adjustments that should be made to levels of variable compensation payable to staff, at both a pool and individual level, to take into account all relevant current and future risks.

[5] Regulation (EU) No 575/2013

[6] http://www.rbc.com/investorrelations/pdf/2019englishproxy.pdf

In June 2018, the UK HRC completed its annual review of the Company's policies, standards and protocols relating to compensation. Changes to compensation structures for Material Risk Takers resulting from that review included ending the Company's practice of paying interest on deferred cash awards and notional dividends on deferred equity-linked awards and extending the post-vesting retention period for equity-linked awards from 6 to 12 months for most employees. Both changes were made to comply with the European Banking Authority's Guidelines on Sound Remuneration Policies, which applied to the Company for the first time this year.

External Consultants

The UK HRC did not engage consultants independent of the company's external advisers.

Role of the Relevant Stakeholders

The UK HRC takes full account of the Company's strategic goals in applying its compensation policy and is mindful of its duties to shareholders and other stakeholders. The UK HRC seeks to preserve shareholder value by ensuring alignment of variable compensation payouts with risk and economic performance, as well as the successful retention, recruitment and motivation of employees.

11.2 Criteria for the Identification of Material Risk Takers

The following criteria were applied to identify Material Risk Takers for the purposes of CRD IV, in line with the Regulatory Technical Standards set out in Commission Delegated Regulation (EU) No 604/2014 (RTS):

Employees captured by qualitative criteria include but are not limited to:

- Board of Directors
- Senior management including individuals registered with the UK regulators as holding a Senior Manager Function (an SMF) such as heads of business areas
- Senior control function management including risk, compliance and internal audit and heads of human resources, information technology, legal and tax
- Staff who have authority either individually or as members of a Committee to approve or veto new products or decisions that result in market or credit risk exposures that exceed specified thresholds as provided for in the RTS

Employees captured by quantitative criteria

- Employees awarded total compensation of €500,000 or more in the preceding financial year
- Employees within the top 0.3% of staff who have been awarded the highest total compensation in the preceding year
- Employees awarded compensation in the preceding financial year which was equal to or greater than the lowest total compensation awarded to those meeting specified qualitative criteria
- In accordance with the RTS, employees identified under the quantitative criteria were then assessed to determine if the professional activities of the employee had the potential to have a material impact on the risk profile of the Company. As required under the RTS, all regulatory notification and approval requirements on the outcomes of this assessment were completed in respect of 2018

Additional RBC Material Risk Taker Identification Criteria

- In addition to the criteria set out in the RTS, the Company has identified Material Risk Takers on the basis of its own criteria based on its assessment of risks beyond those specifically identified in the RTS, taking into account prudential, operational, market, credit, conduct and reputational risks

11.3 Design and Structure of Compensation for Material Risk Takers

Guided by our vision of being among the world's most trusted and successful financial institutions and our purpose of helping clients thrive and communities prosper, our approach to compensation, including executive compensation, is based on the five guiding principles set out below. The UK HRC continually evaluates the policies and procedures applicable to the Company with a view to upholding these principles:

1. Compensation aligns with shareholder interests

- Awards vary based on absolute and relative performance of RBC.
- Mid and long-term incentives vest and pay out over time, encouraging a longer-term view of increasing shareholder value.

2. Compensation aligns with sound risk management principles

- Our risk management culture is reflected in our approach to compensation. Our compensation practices appropriately balance risk and reward, and align with shareholder interests.
- Performance of individuals, lines of business and RBC overall is assessed on a number of measures, including adherence to risk management policies and guidelines.

3. Compensation rewards performance

- Our pay-for-performance approach rewards contributions of employees to individual, business segment and enterprise results relative to objectives that support our business strategies for sustainable growth over short, medium and long-term horizons, which are aligned with the risk appetite of RBC.

4. Compensation enables the Company to attract, engage and retain talent

- Talented and motivated employees are essential to building a sustainable future for RBC. We offer compensation that is competitive within the markets where we operate and compete for talent.
- Compensation programs reward employees for high performance and their potential for future contribution.

5. Compensation rewards behaviours that align with RBC values and drive exceptional client experiences.

- RBC values, embedded in our Code of Conduct, form the foundation of our culture and underpin our ongoing commitment to put the needs of our clients first and deliver value to all of our stakeholders.
- Risk conduct and compliance with policies and procedures are considered in determining performance-based compensation.

All the Company's compensation policies and plans align with these principles and are approved by the UK HRC. The Company's remuneration policies apply in the same way to all the branches of RBC Europe Limited.

Elements of compensation

The employee package is made up of fixed remuneration and benefits (reward for fulfilling the job requirements) and incentive compensation designed to incentivise employees to demonstrate achievement in terms of results and behaviours, to reward them for that achievement, and to encourage them to remain with RBC.

For more highly paid employees, a proportion of an employee's total remuneration is deferred over a minimum of 3 years with at least 50% reflecting the value of RBC shares over that period.

Incentive compensation awards are adjusted downwards or clawback is sought in cases where disciplinary action is taken for breaches of the RBC Code of Conduct.

a) Fixed Remuneration

All Material Risk Takers receive fixed remuneration, which is most commonly paid in the form of base salary, but which may include Role Based Pay meeting the conditions of EBA/Op/2014/10 for certain roles and which reflects the individual's market value, skills, qualifications, relevant experience, responsibility and contribution to the Company.

Fixed pay is typically only changed to reflect a change to the role or responsibilities of the recipient or market conditions.

b) Variable Remuneration

All Material Risk Takers, other than the Independent Non-Executive Directors and overseas Board Directors, are eligible to participate in discretionary performance-based incentive schemes in respect of their role with the Company.

Performance-based annual discretionary incentives may be awarded based on the performance of the Company, the business, and the individual as detailed below. Annual incentives may consist of a mix of cash and share-linked instruments. Annual incentives for Material Risk Takers are subject to review by the Chief Risk Officer Europe to ensure they adequately reflect risk and performance, and are subject to review by the UK HRC.

As part of the year-end risk adjustment process, the CFO Europe reports to the UK HRC on UK-specific financial performance by reference to metrics including revenues, Net Income After Tax, entity profit, accounting profit, prudential valuation adjustment and enterprise and business economic profit. If business platform or business unit economic profit is negative or trend year over year is misaligned to the UK bonus pool trend year-over-year, additional strategic, financial and risk related factors are also considered.

The amount of variable compensation to be awarded to employees is appropriately adjusted for risk in accordance with the Company's UK Compensation Risk and Performance Adjustment Process. Key considerations that are taken into account in the risk adjustment process include financial measures such as revenue, Net Income After Tax, Economic Profit and regulatory capital and non-financial risk factors such as conduct and credit, market and operational risk exposure against risk appetite. Upon completion of the review, adjustments for risk may be recommended for consideration in the approval of final variable compensation.

In October 2014 RBC Europe Limited obtained unanimous approval from its sole shareholder to operate a maximum ratio between the fixed and variable components of remuneration of 200% of the fixed component of the total remuneration for each individual as required under the UK remuneration rules and Article 91(1)(g) of CRD IV. At its meeting in September 2018, UK HRC resolved not to recommend a change to that ratio to the shareholder.

All compensation plans contain minimum compensation deferral requirements for Material Risk Takers in line with the UK remuneration rules and applicable European guidelines, as well as compensation risk and performance adjustment processes. Deferral requirements vary by plan and arrangements are typically based on the size of bonus, type of compensation plan and the individual's role. Deferral requirements are summarised below:

All MRTs regardless of bonus plan	**Minimum 40% deferral***	**Minimum 60% deferral if total variable compensation is £500,000 or more***
RBC Capital Markets Compensation Plan	The Plan contains a grid of deferral requirements starting at 30% when the bonus exceeds £75,000 and rising to 65% if the bonus is £3mm or more.	
RBC Investor and Treasury Services Incentive Programme	The Programme contains a grid of deferral requirements starting at 25% when the bonus is £50,000 and rising to 55% if the bonus is £1.5mm or more.	
RBC Discretionary Plans	These Plans award short-term incentives (STI) and mid-term incentives (MTI) which are equity-linked. The ratio of STI and MTI varies from individual to individual and is typically based on position level.	
RBC Wealth Management Incentive Compensation Plan (British Isles)	For Executives and Senior Leaders, the Plan contains a grid of deferral requirements starting at 25% (for Position Level 5) to 50% (for the EVP level).	
RBC Wealth Management UK Sales & Relationship Management Compensation Plan	The Plan contains a grid of deferral requirements starting at 25% when the bonus is £100,000 and rising to 35% if the bonus is greater than £450,000.	

* Variable remuneration awarded to all Material Risk Takers is deferred at least 40% (60% where the variable component exceeds £500,000) unless the de minimis exemption criteria apply[7].

At least 50% of variable compensation is delivered in equity-linked awards which are subject to an appropriate post-vesting retention period of at least 12 months, in line with the EBA Guidelines on Sound Remuneration which apply to the Company for the first time this year (save in circumstances where the deferral period exceeds 5 years, where, in accordance with the EBA Guidelines, a retention period of no less than 6 months for the deferred part is permitted for non-senior managers).

Depending on the compensation plan, deferred compensation will vest as follows, in line with UK remuneration rules:

	Year 3	**Year 4**	**Year 5**	**Year 6**	**Year 7**
MRTs who perform a PRA senior management function	20%	20%	20%	20%	20%
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
MRTs whose meet the criteria of 'Risk Managers' as defined by the PRA for deferral purposes	20%	20%	20%	20%	20%
Other MRTs – Capital Markets or Investor & Treasury Services	25%	25%	50%	-	-
Other MRTs – Other Business Platforms	-	-	100%	-	-

Variable compensation for RBC Europe Limited is awarded through the following plans which each provide an annual cash bonus and a deferred component if the Company's deferral requirements are met or deferral is otherwise required (e.g. for a Material Risk Taker):

- RBC Capital Markets Compensation Plan

[7] Such criteria are that the individual's: (i) variable remuneration is no more than 33% of their total remuneration; and (ii) total remuneration is no more than £500,000. In accordance with the FCA's dual-regulated firm Remuneration Code at SYSC 19D and the Remuneration Part of the PRA Rule Book, Material Risk Takers meeting this criteria are not subject to the full scope of the Remuneration Rules, including the deferral requirements.

- RBC Investor and Treasury Services Incentive Programme
- RBC Discretionary Plans
- RBC Wealth Management Incentive Compensation Plan (British Isles)
- RBC Wealth Management UK Sales & Relationship Management Compensation Plan

Shareholding Requirement

RBC operates a Share Ownership Requirement which requires Managing Directors in Capital Markets to hold at least 1.5 times their 3-year average base salary in Royal Bank Common Shares.

Remuneration of control functions

RBC's enterprise Policy on Compensation Risk Management states that performance measures for senior employees responsible for financial and risk control activities will be based on the achievements and objectives of the functions, and their compensation will be determined independently from the performance of the specific business areas they support, therefore avoiding any potential conflicts of interest. Employees who fall under this arrangement include senior employees in Compliance, CFO Group, Group Risk Management, Internal Audit and Human Resources. Global Function Heads and/or the Function Operating Committee Members will continue to review and approve the individual performance of these employees against established objectives, which are independent of the performance of the business areas that they oversee. Remuneration for employees engaged in control functions is reviewed regularly for market alignment to ensure that remuneration levels are competitive.

11.4 The Link between Pay and Performance for Material Risk Takers

Variable compensation plans reward employees on the basis of a number of factors, including individual, business and enterprise results relative to established performance objectives that are aligned with the risk appetite of RBC. A significant portion of performance-based pay is deferred in the form of equity incentive awards (linked to RBC's share price) in order to align compensation with the risk time horizon and motivate employees to generate longer-term value for shareholders and remain accountable for decisions with long tail risk. To create a clear relationship between pay and performance, employees have an opportunity to earn higher compensation for outstanding performance, and conversely, earn less compensation when RBC, a business segment and/or individual performance falls below expectations.

Incentive awards take into account firm-wide, business unit and individual financial and non-financial factors. Financial factors include the performance of RBC, its global business segments and regional operating subsidiaries. Individual performance is assessed based on the employee's contribution to the overall performance of their business or function, the achievement of individual performance objectives and performance against the Company's Leadership Model and Code of Conduct. Where appropriate (e.g., where firm-wide or entity performance is weak or in a net loss position or in the case of a significant failure of risk management) bonus pools may be reduced to zero at the discretion of the RBC CEO, UK HRC and RBC Board of Directors.

When determining the size of the bonus pool, financial measures such as revenues, Net Income After Tax, the compensation ratio (total compensation as a percentage of revenues), regulatory and economic capital, and economic profit are considered depending on the plan and business area.

Non-financial measures considered in the discretionary bonus evaluation process include the following:

- Adherence to our Code of Conduct. RBC's Code of Conduct (Code) promotes standards of ethical behaviour that applies to all employees globally. Our Code fosters an open environment in which questions and concerns may be brought forward. It creates a frame of reference for dealing with sensitive and complex issues, and provides for accountability if standards of conduct are not upheld. All employees are expected to adhere to our Code, and failure to do so through unethical or non-compliant behaviours may result in a disciplinary sanction up to and including immediate termination of employment. All employees receive Code of Conduct training and testing on joining RBC and every year thereafter
- Compliance with a full range of risk management policies specific to individual job requirements as outlined in employee Performance Management Documents
- Assessment of key behaviours, which are part of the RBC Global Performance Management process, and typically include the obligation to:
    - Abide by the letter and spirit of rules and procedures established by regulators
    - Follow all relevant internal policies and procedures including, but not limited to, trading and position limits and standing orders
    - At all times, act in the best interests of RBC and its clients
    - Escalate, on a timely basis, any areas of material concern related to any of the above
    - Lead by example so that direct reports adopt similar high standards
- Reports from control functions, including those from Internal Audit, Compliance (regulatory gaps, trades beyond excess limits), and Group Risk Management regarding operational, market and credit risks, among others
- Assessment of accountabilities and detailed action plans to implement and monitor changes required to close the gaps identified during risk management or internal audit reviews

Employees who are not meeting non-financial performance standards for their role are subject to our corrective action process, which can include either a significant reduction in bonus amounts or termination of employment.

Furthermore, prior to vesting, Material Risk Takers' deferred compensation is subject to review under the Company's risk and performance adjustment process whereby actual risk and performance outcomes are reviewed and if materially different from assessments made when deferred compensation was granted, or if misconduct has occurred, then deferred compensation may be reduced or forfeited in full.

All bonus awards made to Material Risk Takers under the Company's variable compensation schemes are subject to malus and clawback under the RBC Forfeiture and Clawback Policy for Code Material Risk Takers. A reduction may be applied, in summary, in cases of misconduct, a material failure of risk management or if there is a material downturn in financial performance. Since January 2015, all variable compensation awards made to Material Risk Takers are subject to clawback for a seven year period from the date of award as required under UK remuneration rules. This can be extended to ten years in relation to PRA-designated Senior Management Functions where there is an outstanding internal or external investigation at the end of the seven year period which could result in the application of clawback. Clawback can be applied in cases of misconduct or a material failure of risk management.

Guaranteed variable remuneration is only awarded in exceptional circumstances, such as senior control functions roles, business critical roles and strategic hires and then only for the first 12 months of employment.

The Company provides severance payments to fulfil its statutory obligations and to support the transition of employees away from their employment with RBC, in circumstances where there is an early termination of their employment.

11.5 Disclosures on Remuneration

During the year ended 31st October 2018, remuneration for staff employed by or seconded to the Company whose professional activities have a material impact on the risk profile of the business was as follows:

Table 39: Aggregate remuneration awarded during the financial year to MRTs, split into cash, shares or other share-linked instruments and other forms of remuneration, and showing amounts deferred for the 2018 financial year:[8]

£'000,000

Remuneration Amount			Management Body	Senior Management	Investment Banking	Independent Control Functions	Corporate Functions	All Other Business Areas
Fixed remuneration	1	Number of employees	9	15	92	5	5	10
	2	**Total fixed remuneration (3 + 5 + 7)**	4.08	7.25	29.41	1.16	1.13	1.43
	3	Of which: cash-based	4.03	6.94	28.05	1.10	1.07	1.21
	4	Of which: deferred	0.00	0.00	0.00	0.00	0.00	0.00
	5	Of which: shares or other share-linked instruments	0.00	0.00	0.00	0.00	0.00	0.00
	6	Of which: deferred	0.00	0.00	0.00	0.00	0.00	0.00
	7	Of which: other forms	0.05	0.31	1.35	0.07	0.06	0.23
	8	Of which: deferred	0.00	0.00	0.00	0.00	0.00	0.00
Variable remuneration	9	Number of employees	4	15	79	5	5	9
	10	**Total variable remuneration (11 + 13 + 15)**	5.10	10.82	27.80	1.02	1.32	1.21
	11	Of which: cash-based	0.81	2.47	10.43	0.52	0.50	0.60
	12	Of which: deferred	0.08	0.31	2.63	0.18	0.15	0.17
	13	Of which: shares or other share-linked instruments	4.28	8.35	17.38	0.50	0.82	0.61
	14	Of which: deferred	3.55	6.31	10.43	0.21	0.50	0.28
	15	Of which: other forms	0.00	0.00	0.00	0.00	0.00	0.00
	16	Of which: deferred	0.00	0.00	0.00	0.00	0.00	0.00
	17	**Total remuneration (2 + 10)**	9.17	18.07	57.21	2.18	2.45	2.64

Item 7: other forms of fixed remuneration includes employee benefits

[8] Note – Total Fixed Remuneration for the Management Body includes an amount of £0.475 in respect of the Supervisory Function

Table 40: Deferred Remuneration for MRTs, split into vested and unvested portions and showing amounts paid out and reduced through performance adjustment

£'000,000

Deferred and retained remuneration	Total amount of outstanding deferred remuneration			Of which: Total amount of outstanding deferred and retained remuneration exposed to ex post explicit and/or implicit adjustment	Total amount of amendment during the year due to ex post explicit adjustments	Total amount of deferred remuneration paid out in the financial year
	vested	unvested	Total			
Management Body	**3.62**	**9.33**	**12.95**	**12.95**	**0.00**	**6.41**
Cash	2.66	0.22	**2.88**	2.88	0.00	0.57
Shares	0.96	9.11	**10.07**	10.07	0.00	5.85
Cash-linked instruments	0.00		**0.00**	0.00	0.00	0.00
Other	0.00		**0.00**	0.00	0.00	0.00
Senior Management	**9.51**	**14.35**	**23.86**	**23.86**	**0.00**	**9.29**
Cash	4.36	0.78	**5.14**	5.14	0.00	0.74
Shares	5.15	13.57	**18.72**	18.72	0.00	8.55
Cash-linked instruments	0.00		**0.00**	0.00	0.00	0.00
Other	0.00		**0.00**	0.00	0.00	0.00
Investment Banking	**21.00**	**28.71**	**49.70**	**49.70**	**0.00**	**16.91**
Cash	5.56	5.06	**10.62**	10.62	0.00	0.57
Shares	15.44	23.65	**39.09**	39.09	0.00	16.33
Cash-linked instruments	0.00		**0.00**	0.00	0.00	0.00
Other	0.00		**0.00**	0.00	0.00	0.00
Independent Control Functions	0.00	1.17	**1.17**	1.17	0.00	0.83
Cash	0.00	0.39	**0.39**	0.39	0.00	0.16
Shares	0.00	0.78	**0.78**	0.78	0.00	0.67
Cash-linked instruments	0.00		**0.00**	0.00	0.00	0.00
Other	0.00		**0.00**	0.00	0.00	0.00
Corporate Functions	0.00	2.16	**2.16**	2.16	0.00	1.15
Cash	0.00	0.31	**0.31**	0.31	0.00	0.11
Shares	0.00	1.84	**1.84**	1.84	0.00	1.04
Cash-linked instruments	0.00		**0.00**	0.00	0.00	0.00
Other	0.00		**0.00**	0.00	0.00	0.00
All Other Business Areas	**0.00**	**2.31**	**2.31**	**2.31**	**0.00**	**1.36**
Cash	0.00	0.22	**0.22**	0.22	0.00	0.07
Shares	0.00	2.10	**2.10**	2.10	0.00	1.29
Cash-linked instruments	0.00		**0.00**	0.00	0.00	0.00
Other	0.00		**0.00**	0.00	0.00	0.00
Total	**34.13**	**58.03**	**92.16**	**92.16**	**0.00**	**35.95**

As at 31 October 2018. Includes outstanding deferred remuneration granted prior to acquiring MRT status

Table 41: Special Payments

£'000,000

Special payments	18		19		20	
	Guaranteed bonuses		**Sign-on awards**		**Severence payments**	
	Number of employees	Total amount	Number of employees	Total amount	Number of employees	Total amount
Management Body	0	0	0	0	0	0
Senior Management	0	0	0	0	0	0
Investment Banking	1	1.00	3	0.96	3	0.64
Independent Control	0	0	0	0	0	0
Corporate Functions	0	0	0	0	0	0
All Other Business Areas	0	0	0	0	0	0

Severance payments (other than those mandatory under applicable local labour law or following a court decision or calculated on a formulaic basis) are treated as variable remuneration and counted towards the ratio referred to at 1.3 above. The severance payments made during the year were not subject to deferred terms in accordance with paragraph 154 of the EBA Guidelines.

The highest severance payment made to an individual was £0.44 million.

Table 42: MRTs with Total Remuneration above One Million Euros

The number of MRTs with total compensation awarded for the financial year which was EUR1 million or more, arranged by compensation band, was as follows:

Total Compensation Band (EUR)	Number of individuals
1,000,000 < 1,500,000	14
1,500,000 < 2,000,000	5
2,000,000 < 2,500,000	5
2,500,000 < 3,000,000	0
3,000,000 < 3,500,000	0
3,500,000 < 4,000,000	2
4,000,000 < 4,500,000	0
4,500,000 < 5,000,000	0
5,000,000 < 6,000,000	1

12.0 Appendices

12.1 Appendix 1: Board Membership

Current Independent Non-Executive Directors

Director	Role	Biography
Jim Pettigrew (Residency: UK)	Chairman (since 16 March 2017) previously also Chair of Audit Committee and Risk Committee Member of Nomination Committee, Audit Committee, Risk Committee and UK Human Resources Committee	Jim Pettigrew has over 30 years of experience as a chartered accountant, with extensive experience in a listed environment at Board and Executive management level, including as CEO and Chairman. Jim trained with Ernst and Young before moving into the corporate sector where he has held several senior finance and leadership roles. He joined Sedgwick Group plc in 1988 rising to become Group Treasurer and stayed until December 1998 at which point he was Deputy Group FD. In January 1999 he joined ICAP plc which became a FTSE 100 company and the world's largest specialist inter-dealer broker, as Group Finance Director. He was Chief Operating and Financial Officer of Ashmore Group plc from 2006 to 2007 where he played an important role supporting the IPO initiative and managing the post IPO process both internally and externally. Jim then became Chief Executive Officer of CMC Markets plc in October 2007 having previously served as a Non- Executive Director with a seat on the Remuneration and Nominations Committees as well as chairing the Audit Committee. Currently Jim is Chairman of CYBG plc; Chairman of The Edinburgh Investment Trust PLC; Senior Independent Non-Executive Director of Crest Nicholson Holdings PLC; Chairman of RBC Europe Limited; Chairman of Scottish Financial Enterprise; Co-Chairman of the Financial Services Advisory Board with Nicola Sturgeon, First Minister of Scotland. Also, Jim has recently been appointed as a Non-Executive Director to the Audit, Remuneration, Risk and Nomination Committees for Rathbone Brothers plc. He was previously Non-Executive Director at Aberdeen Asset Management PLC, Non-Executive Director at AON UK Limited and Non-Executive Director at Hermes Fund Managers Limited. He is also the former President of the Institute of Chartered Accountants of Scotland.

Nicola Mumford (Residency: UK)	Chair of UK Human Resources Committee and Nomination Committee Member of Audit Committee and Risk Committee	Nicola has spent the bulk of her career with Wragge & Co LLP, the international law firm. She joined as a solicitor in 1987 and since then has gone on to become Senior Director and Managing Partner of the London Office. In her role as London Managing Partner she was responsible for strategy for the London office and the firm's business development generally in the Capital. As a lawyer she was a Senior Litigation Partner in the firm's Dispute Resolution Group working with clients such as Legal and General, London Stock Exchange and others in the automotive sector. She currently sits on the Board of Harbour Litigation Funding, the UK's largest provider of litigation funding.
Polly Williams (Residency: UK)	Chair of Risk and Audit Committees. Member of UK Human Resources Committee and Nomination Committee	Polly Williams is a Non-Executive director of Jupiter Fund Management plc where she chairs the Audit and Risk Committee and is chair of the Audit and Risk Committees and Senior Independent Director at RBC Europe Limited. In addition Polly is Chair of the Audit Committee at TSB Group plc which she joined on the creation of the Board for the flotation from Lloyds Banking Group in 2014. She is also a member of both the Risk and Remuneration Committees. Polly is a non-executive director and chairs the Remuneration Committee at XP Power plc, a FTSE small cap engineering business. She is a Trustee and chairs the Audit Committee of Guide Dogs for the Blind. Polly trained as a Chartered accountant with KPMG where she was a partner in the financial sector practice for 6 years until she retired for family reasons. Since then she has held a number of non-executive roles in the IT, telecoms and financial sectors.

Current Shareholder Representative Non-Executive Directors

Director	Role	Biography
Troy Maxwell (Residency: Canada)	Chief Operating Officier of RBC Capital Markets	Troy Maxwell is Chief Operating Officer of RBC Capital Markets with global responsibility for all operational and administrative matters of the firm, including optimising cost base management and financial resources, and leading the response to regulatory change. Previously, Troy was Executive Vice President of Finance and Chief Financial Officer of RBC Capital Markets and Technology & Operations, where he oversaw all finance services to RBC's wholesale business and technology and operations platform. Prior to joining RBC, Troy was Chief Financial Officer of CIBC World Markets and a partner at PricewaterhouseCoopers LLP, where he led the financial institutions and corporate treasury risk management consulting and advisory business. Troy is a Chartered Professional Accountant, and holds an Honours BA and a Master's Degree in Accounting from the University of Waterloo..
Nadine Ahn (Residency: Canada)	Chief Financial Officer, RBC Capital Markets	Nadine Ahn is currently Senior Vice-President, CFO Capital Markets, RBC. She has global accountability for financial governance, control, valuations and performance management for Investor & Treasury Services and Capital Markets, and is a member of Operating Committees for both businesses. She is also a member of the CAO & CFO Operating Committee and is based in Toronto, Canada.

Harry Samuel (Residency: United Kingdom)	CEO, RBC Investor & Treasury Services. Chairman, European Executive Committee	As the CEO for RBC Investor & Treasury Services, Mr Samuel has global oversight for one of RBC's five reporting segments responsible for asset, custody, treasury and payments services for institutional clients worldwide. Harry is a member of the RBC Investor & Treasury Services and Capital Markets' Operating Committees, Director of RBC Europe Ltd., and Chair of RBC Investor Services Trust Company in Canada. In addition, he was named Chairman of RBC's European Executive Committee in November 2013. Among his many responsibilities, he is also a leading advocate for equality and is Chair of the UK Diversity Council and a longstanding member of RBC's Diversity Leadership Council. Mr Samuel joined RBC in 1989 in FX and Money Markets, working in London, Toronto and Sydney. He has been co-head of global fixed income and FX, and previously established the securities finance business alongside commodities and futures trading. Between 2011 and April 2014, he was regional CEO for RBC Capital Markets in Europe. He holds an Honours BA from McGill University and an MSc from University of London (London School of Economics), and is actively involved in charitable and educational organisations in the UK, Canada and South Africa, promoting children's welfare and education

Executive Directors

Director	Role	Biography
Stephen Krag (Residency: UK)	Chief Financial Officer, Europe	Stephen joined RBC Capital Markets in April 2011 from Daiwa Capital Markets Europe where he was Chief Financial Officer. Prior to this, Stephen was Chief Operating Officer for HBOS Treasury Services and held a number of senior finance positions within capital markets, equities and global financial market businesses for NatWest Securities. Stephen graduated from Cambridge University and is a qualified Chartered Accountant.
Bruce MacLaren (Residency: UK)	Chief Risk Officer, Europe & APAC	Mr MacLaren is the Chief Risk Officer UK, Europe & APAC, with responsibility for providing independent oversight of risk for all RBC businesses across the UK, Europe and APAC regions. He sets the strategic direction of risk management and provides leadership in the implementation and execution of leading practices in risk oversight and governance for Europe and its key legal and regulatory entities. Bruce also has global accountability for risk oversight in Investor & Treasury Services. Based in London, Mr MacLaren is a member of the European Operating Committee. He is also a member of the Board of RBC Europe Limited. Mr MacLaren is a graduate of the University of Toronto and York University. He joined Royal Bank of Canada in 1987 and held various positions in client-facing roles in corporate banking, corporate finance, loan syndications and market management in both Toronto and London. He was appointed Vice President of Risk Management in 1997 responsible for financial institutions, and became Senior Vice President within Group Risk Management – Credit, in 2003. He assumed his current responsibilities in September 2015.

David Thomas (Residency: UK)	CEO, RBC Europe Limited	Mr Thomas is the CEO of RBC Europe Limited, responsible for leading all aspects of the business in the region, including strategy execution and effective governance. This includes all areas of the UK business and the branch operations of RBC Europe Ltd., in Germany and France. He is a member of the RBC Capital Markets Global Operating Committee and the European Executive Committee, and chairs the European Operating Committee. Mr Thomas also holds a number of UK Board roles including Executive Director of RBC Europe Limited and Chairman of RBC Global Asset Management (UK) Limited. Mr Thomas holds a BSc (Hons) degree from Loughborough University in the UK and joined RBC Capital Markets in 1992 following periods at a UK domestic bank and a technology company. Since joining RBC, Mr Thomas has held a number of both global and regional mandates in Technology, Operations, Risk Management and Compliance. He is a member of the Corporate Partnerships Board for Great Ormond Street Hospital

12.2 Appendix 2: Board and Management Committees

Board Committee	Frequency
Risk Committee (RC)	Quarterly
Audit Committee (AC)	Quarterly
Human Resources Committee (HRC)	Quarterly
Nominations Committee	Ad Hoc

Management Committee	Frequency
Asset and Liability Committee (ALCO)	Monthly
European Operating Committee (EOC)	Monthly
UK Counterparty Credit Risk Committee (UKCCRC)	Monthly
UK Market Risk Management Committee (UKMRMC)	Fortnightly and as required
UK Lending Risk Management Committee (UKLMC)	Monthly
Operational Risk Committee (ORC)	Monthly
Reputation and Compliance Committee (RACC)	Ad Hoc
Attestation Committee	Monthly
Valuations Committee (VC)	Monthly
New Business Committee (NBC)	Monthly and as required
Regulatory Policy Interpretation Committee (RPIC)	Quarterly and as required
Common Reporting Data Attestation Committee (CRDAC)	Quarterly

12.3 Appendix 3: Regulatory Capital Calculation Methods

The table below lists the relevant approaches elected to calculate the capital requirements for each applicable risk:

Risk Type	Approach or Treatment
Market Risk	Market risk pillar 1 calculations are undertaken according to the standardised approach. This provides a method for calculating position risk requirement (PRR) for all categories of market risk in the trading book in accordance with Part Three, Title 4 of the Capital Requirements Regulation (CRR). Market risk categories include interest rate risk, equity position risk, foreign exchange risk, commodities risk, options risk, collective investment undertakings risk and securities underwriting risk.
Specific Interest Rate Market Risk	Specific interest rate risk is calculated based on Articles 334 to 338 of the CRR for products for which there is a risk of loss for reasons other than a general move in market interest rates.
General Interest Rate Market Risk	General interest rate risk calculation is based on the maturity based method described in Article 339 of the CRR.
Foreign Exchange Position Risk	Net open position risk by currency is calculated in accordance with the provisions set out in Part Three, Title 4, Chapter 4 of the CRR.
Equity Position Risk	Equity risk PRR is calculated in accordance with Part Three, Title 4, Chapter 3, Section 3 of the CRR. Specific risk is calculated in line with Article 342, and general market risk is calculated in line with Article 343 of the CRR.
Option Position Risk	The Company calculates option risk PRR in accordance with Article 329 of the CRR.
Commodity Risk	Commodity risk is calculated in accordance with Part Three, Title 4, Chapter 4 of the CRR. The Company calculates commodity risk PRR using the Maturity ladder approach, as described in Article 359 of the CRR.
Credit Risk Capital Component	The Company has adopted the standardised approach to credit risk in accordance with Part Three, Title 2, Chapter 2 of the CRR.
Intra Group Exposures	In the absence of any intra-group waivers, exposures to RBC group entities are treated in the same manner as exposures to third-parties.
Counterparty Risk Capital Component	For repo-style transactions, OTC derivatives and other products generating counterparty credit risk in the trading books, the exposure amounts are calculated as per Part Three, Title 2, Chapter 6 of the CRR. The credit risk mitigation techniques are applied per Part Three, Title 2, Charpter 4 of the CRR. Calculation of the capital requirements is then derived by applying a risk weight depending on the counterparty and other criteria, as set out in Part Three, Title 2, Charpter 2, Section 2 of the CRR. Settlement Risk capital requirements for unsettled transactions are derived directly based on Part Three, Title 5 of the CRR.
Credit Risk Mitigation	CRM is recognised in line with the requirements of Part Three, Title 2, Chapters 4 and 6 of the CRR for the calculation of the counterparty risk capital component arising from derivatives, repurchased transactions and securities lending and borrowing, and for banking book exposures arising from Wealth Management and Corporate Investment Banking businesses.
Operational Risk	The Company has adopted the Basic Indicator Approach (BIA) to calculate its operational risk capital requirements, per Part Three, Title 3, Chapter 2 of the CRR. Under the BIA, capital for operational risk is determined by multiplying gross average positive operating and interest revenues for the past three years by a fixed percentage (15%).
Concentration Risk Capital Component	The Company monitors and, if applicable, calculates the concentration risk capital component of the credit risk capital requirement in line with Part Four of the CRR.

12.4 Appendix 4: Countercyclical Buffer Disclosure

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

As at 31 October 2018

£'000

	General Credit Exposures		Trading Book Exposures		Securitisation Exposures		Own Funds Requirements				Own Funds Requirements Weight	Countercyclical Capital Buffer Rate
	Exposure Value for SA	Exposure Value for IRB	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for internal models	Exposure Value for SA	Exposure Value for IRB	of which: General credit exposures	of which: Trading book exposures	of which: Securitisation exposures	Total		
Breakdown by Country:												
AUSTRALIA	22,712	-	3,323	-	-	-	1,817	266	-	2,083	0.68%	0.00%
AUSTRIA	22,801	-	-	-	-	-	1,828	-	-	1,828	0.60%	0.00%
BELGIUM	30,849	-	-	-	-	-	2,425	-	-	2,425	0.79%	0.00%
BERMUDA	-	-	21,121	-	-	-	-	1,690	-	1,690	0.55%	0.00%
BOTSWANA	2,364	-	-	-	-	-	66	-	-	66	0.02%	0.00%
UNITED KINGDOM	1,243,063	-	303,929	-	-	-	74,998	22,219	-	97,217	31.87%	0.50%
VIRGIN ISLANDS, BRITISH	13,422	-	-	-	-	-	900	-	-	900	0.30%	0.00%
CANADA	539,199	-	17,658	-	-	-	10,198	789	-	10,987	3.60%	0.00%
CAYMAN ISLANDS	5,355	-	325,407	-	-	-	428	26,033	-	26,461	8.67%	0.00%
CYPRUS	-	-	-	-	-	-	-	-	-	-	0.00%	0.00%
CZECH REPUBLIC	17,505	-	-	-	-	-	1,402	-	-	1,402	0.46%	0.00%
DENMARK	4,972	-	-	-	-	-	597	-	-	597	0.20%	0.00%
FINLAND	37,672	-	12,055	-	-	-	3,014	964	-	3,978	1.30%	0.00%
FRANCE	556,813	-	5,428	-	-	-	31,987	217	-	32,204	10.56%	0.00%
GERMANY	138,982	-	5,527	-	-	-	9,896	442	-	10,339	3.39%	0.00%
GUERNSEY	7,624	-	-	-	-	-	533	-	-	533	0.17%	0.00%
HUNGARY	4	-	-	-	-	-		-	-		0.00%	0.00%
INDONESIA	-	-	-	-	-	-	-	-	-	-	0.00%	0.00%
IRELAND	70,205	-	47,629	-	-	-	5,616	3,810	-	9,426	3.09%	0.00%
ISLE OF MAN	14,200	-	-	-	-	-	1,136	-	-	1,136	0.37%	0.00%
ITALY	3,940	-	1	-	-	-	237		-	237	0.08%	0.00%
COTE D'IVOIRE	-	-	81	-	-	-	-	6	-	6	0.00%	0.00%
JERSEY	159,067	-	-	-	-	-	8,001	-	-	8,001	2.62%	0.00%
KENYA	-	-	1,176	-	-	-	-	94	-	94	0.03%	0.00%
LEBANON	2,438	-	-	-	-	-	68	-	-	68	0.02%	0.00%
LUXEMBOURG	156,606	-	10,687	-	-	-	12,557	855	-	13,412	4.40%	0.00%
MALAYSIA	1,666	-	-	-	-	-	47	-	-	47	0.02%	0.00%
MALTA	-	-	1,286	-	-	-	-	103	-	103	0.03%	0.00%
MOROCCO	985	-	-	-	-	-	28	-	-	28	0.01%	0.00%
NETHERLANDS	130,811	-	123,033	-	-	-	10,042	9,843	-	19,884	6.52%	0.00%
NORWAY	278	-	-	-	-	-	22	-	-	22	0.01%	2.00%
OMAN	2,959	-	-	-	-	-	158	-	-	158	0.05%	0.00%
POLAND	8,146	-	-	-	-	-	652	-	-	652	0.21%	0.00%
PORTUGAL	-	-	63,388	-	-	-	-	5,069	-	5,069	1.66%	0.00%
ROMANIA	1	-	-	-	-	-		-	-		0.00%	0.00%
SAUDI ARABIA	77,173	-	-	-	-	-	4,807	-	-	4,807	1.58%	0.00%
SINGAPORE	5,249	-	6,166	-	-	-	420	493	-	913	0.30%	0.00%
SOUTH AFRICA	13,983	-	-	-	-	-	966	-	-	966	0.32%	0.00%
SPAIN	101,244	-	-	-	-	-	8,103	-	-	8,103	2.66%	0.00%
SWEDEN	22,349	-	32,367	-	-	-	1,788	2,589	-	4,377	1.43%	2.00%
SWITZERLAND	66,111	-	15,891	-	-	-	1,654	1,205	-	2,859	0.94%	0.00%
UNITED ARAB EMIRATES	3,338	-	-	-	-	-	119	-	-	119	0.04%	0.00%
UNITED STATES	89,886	-	219,190	-	-	-	5,771	17,539	-	23,310	7.64%	0.00%
Total	**3,580,070**	-	**1,419,169**	-	-	-	**202,566**	**102,494**	-	**305,060**	**100.00%**	

Total risk exposure amount	**7,977,954**
Institution specific countercyclical capital buffer rate	**0.1679%**
Institution specific countercyclical capital buffer requirements	**13,394**

Geographical distribution of credit exposures relevant for the calculation of the countercyclical capital buffer
As at 31 October 2017
£'000

	General Credit Exposures		**Trading Book Exposures**		**Securitisation Exposures**		**Own Funds Requirements**				**Own Funds Requirements Weight**	**Countercyclical Capital Buffer Rate**
	Exposure Value for SA	**Exposure Value for IRB**	**Sum of long and short positions of trading book exposures for SA**	**Value of trading book exposures for internal models**	**Exposure Value for SA**	**Exposure Value for IRB**	**of which: General credit exposures**	**of which: Trading book exposures**	**of which: Securitisation exposures**	**Total**		
Breakdown by Country:												
AUSTRALIA	3,762	-	3,357	-	-	-	301	269	-	570	0.21%	0.00%
AUSTRIA	32,628	-	0	-	-	-	2,610	0	-	2,610	0.97%	0.00%
BELGIUM	3,552	-	0	-	-	-	284	0	-	284	0.11%	0.00%
BERMUDA	0	-	18,521	-	-	-	0	1,482	-	1,482	0.55%	0.00%
UNITED KINGDOM	1,296,074	-	397,496	-	-	-	71,744	23,045	-	94,789	35.18%	0.00%
VIRGIN ISLANDS, BRITISH	3,336	-	0	-	-	-	93	0	-	93	0.03%	0.00%
CANADA	408,855	-	7,864	-	-	-	7,934	548	-	8,483	3.15%	0.00%
CAYMAN ISLANDS	7,806	-	102,735	-	-	-	589	8,219	-	8,808	3.27%	0.00%
CURACAO	53,557	-	0	-	-	-	2,142	0	-	2,142	0.80%	0.00%
CZECH REPUBLIC	5	-	0	-	-	-	0	0	-	0	0.00%	0.50%
DENMARK	2,709	-	0	-	-	-	217	0	-	217	0.08%	0.00%
FINLAND	21,215	-	10,684	-	-	-	1,697	855	-	2,552	0.95%	0.00%
FRANCE	457,835	-	4,254	-	-	-	25,175	179	-	25,354	9.41%	0.00%
GERMANY	183,997	-	4,605	-	-	-	12,765	368	-	13,133	4.87%	0.00%
GUERNSEY	16,931	-	0	-	-	-	1,354	0	-	1,354	0.50%	0.00%
HONG KONG	20,000	-	0	-	-	-	1,600	0	-	1,600	0.59%	1.25%
HUNGARY	105	-	0	-	-	-	8	0	-	8	0.00%	0.00%
INDIA	1,410	-	0	-	-	-	39	0	-	39	0.01%	0.00%
IRELAND	92,228	-	193,124	-	-	-	7,378	15,450	-	22,828	8.47%	0.00%
ISLE OF MAN	27,168	-	0	-	-	-	2,173	0	-	2,173	0.81%	0.00%
ITALY	44,940	-	0	-	-	-	3,517	0	-	3,517	1.31%	0.00%
JAPAN	0	-	98,203	-	-	-	0	4,011	-	4,011	1.49%	0.00%
JERSEY	53,420	-	0	-	-	-	3,618	0	-	3,618	1.34%	0.00%
JORDAN	22,904	-	0	-	-	-	1,832	0	-	1,832	0.68%	0.00%
LUXEMBOURG	146,352	-	7,919	-	-	-	11,708	634	-	12,342	4.58%	0.00%
MALTA	0	-	980	-	-	-	0	78	-	78	0.03%	0.00%
MEXICO	4,370	-	0	-	-	-	122	0	-	122	0.05%	0.00%
NETHERLANDS	109,631	-	25,806	-	-	-	8,902	2,064	-	10,967	4.07%	0.00%
NORWAY	0	-	340	-	-	-	0	27	-	27	0.01%	1.50%
OMAN	4,088	-	0	-	-	-	114	0	-	114	0.04%	0.00%
POLAND	7,937	-	0	-	-	-	635	0	-	635	0.24%	0.00%
PORTUGAL	39,821	-	0	-	-	-	3,186	0	-	3,186	1.18%	0.00%
QATAR	6,117	-	0	-	-	-	285	0	-	285	0.11%	0.00%
ROMANIA	1	-	0	-	-	-	0	0	-	0	0.00%	0.00%
SAUDI ARABIA	57,321	-	0	-	-	-	4,348	0	-	4,348	1.61%	0.00%
SINGAPORE	11,218	-	0	-	-	-	897	0	-	897	0.33%	0.00%
SOUTH AFRICA	18,467	-	0	-	-	-	1,477	0	-	1,477	0.55%	0.00%
SPAIN	111,766	-	0	-	-	-	8,941	0	-	8,941	3.32%	0.00%
SWEDEN	0	-	5,536	-	-	-	0	443	-	443	0.16%	2.00%
SWITZERLAND	76,768	-	56,537	-	-	-	2,276	4,464	-	6,740	2.50%	0.00%
UNITED ARAB EMIRATES	9,363	-	0	-	-	-	346	0	-	346	0.13%	0.00%
UNITED STATES	85,683	-	133,750	-	-	-	6,308	10,700	-	17,008	6.31%	0.00%
Total	**3,443,339**	-	**1,071,709**	-	-	-	**196,621**	**72,836**	-	**269,457**	**100.00%**	

Total risk exposure amount	**7,156,992**
Institution specific countercyclical capital buffer rate	**0.0109%**
Institution specific countercyclical capital buffer requirements	**777**