

# Aviva International Insurance Limited

Solvency and Financial Condition Report

Year ended 31 December 2019

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# Executive Summary

The purpose of the Solvency and Financial Condition Report (SFCR) is to provide information required by the Solvency II regulatory framework, in particular the capital position of Aviva International Insurance Limited (the Company) at 31 December 2019. The report sets out different aspects of the Company's business and performance, system of governance, risk profile, valuation methods used for solvency purposes and its capital management practices.

On 11 March 2020, the World Health Organization declared the outbreak of a strain of novel coronavirus disease, COVID-19, a global pandemic. Figures presented in the SFCR and the associated Quantitative Reporting Templates (QRTs) have been prepared based on conditions and best estimate assumptions at 31 December 2019 and have therefore not been adjusted for any impacts of COVID-19 including any impacts on technical provisions. On 23 March 2020 the PRA announced that COVID-19 should be treated as a "major development" as per Article 54(1) of the Solvency II Directive. Further information on the impact of COVID-19 on the relevance of information disclosed in the SFCR is contained in section F.7

## Business and performance

The Company is a limited company incorporated in the United Kingdom and is a member of the Aviva plc group of companies. The principal activity of the Company is to act as the internal reinsurance vehicle of the Aviva plc Group (the Group). The Company accepts reinsurance of different risk types across the Group in order to promote capital efficiency, improve fungibility of capital, and realise the benefits of group diversification of risk.

On 5 February 2019, the Company entered into a quota share agreement to reinsure 25% of the insurance liabilities of the seven companies comprising the general insurance business of Aviva Canada (CGI), with the agreement backdated to take effect from 1 January 2019.

The Company uses IFRS profit before tax to present and measure its performance in its financial statements. The Company's profit before tax for the 2019 financial year was £1,714 million.

Section A of this report sets out further details about the Company's business structure, key operations and financial performance over the reporting period.

## System of governance

The Company's Board is responsible for promoting the long-term success of the Company and for setting its strategy. It sets the Company's risk appetite and satisfies itself that financial controls and risk management systems are robust, whilst ensuring the business is adequately resourced. A strong system of governance aids effective decision-making and supports the achievement of the Company's objectives whilst maintaining compliance with regulations. The Board has established and delegated responsibilities to its Audit and Risk committees to assist in its oversight of risk management and the approach to internal controls. Roles and responsibilities for risk management in the Company are based around the 'three lines of defence model' where ownership for risk is taken at all levels in the Company.

The Company's system of governance has not changed materially during the year.

Section B of this report provides further detail about the Company's system of governance, the roles and responsibilities of the Board and the four key control functions (Risk Management, Actuarial, Compliance and Internal Audit), the risk management framework, internal control system, and explains how it complies with the requirements of Solvency II. It also describes the approach to the Company's Own Risk and Solvency Assessment and governance over its partial internal model, which is used to determine the Company's required Solvency II capital.

## Risk profile

The majority of the risks that the Company faces arise through the business that it has reinsured from its fellow Group subsidiaries. The types of risk to which the Company is exposed are market risk including credit risk, life underwriting, non-life underwriting and health underwriting, counterparty and operational risks. The effect of the reinsurance arrangement with CGI has been included in the calculation of the Solvency Capital Requirement. The SCR has increased during the year due to capital requirements from the writing of new business in 2019 and the signing of the CGI arrangement. This has been mostly offset by the run-off of existing business and the change to the interest rate up stress.

The primary basis used by the Company to measure risks is the SCR which is calculated as Solvency II Own Funds at risk in a 1-in-200 year loss event over a 1-year time horizon.

A summary of the Company's diversified SCR by primary risk type at 31 December 2019 is set out below:

The Company SCR by risk component	Total £m
Market risk	2,155
Counterparty risk	130
Life underwriting risk	1,620
Health underwriting risk	59
Non-life underwriting risk	806
Operational risk	454
Loss-absorbing capacity of deferred taxes	(234)
Other risks and adjustments (including rounding)	135
<b>Total undiversified components</b>	<b>5,126</b>
Diversification	(2,303)
<b>Solvency capital requirement</b>	<b>2,823</b>

Some categories of risk are not measured by holding capital, principally liquidity risk, which is instead measured through a Liquidity Coverage Ratio.

Section C of this report further describes the risks to which the Company is exposed, how the risks are assessed and mitigated, including any specific risk mitigation actions taken, risk concentrations and risk sensitivity.

## Valuation for Solvency Purposes

Assets, technical provisions and other liabilities are valued in the Company's Solvency II Balance Sheet according to Solvency II regulations. The principle that underlies the valuation methodology for Solvency II purposes is the amount for which they could be exchanged, transferred or settled by knowledgeable and willing third parties in an arm's-length transaction.

The value of technical provisions under Solvency II is equal to the sum of a best estimate liability and a risk margin. Technical provisions also include a transitional measure which allows companies to transition between the previous and current solvency regimes, and which must be amortised over 16 years from 1 January 2016.

At 31 December 2019, the Company's excess of assets over liabilities was £4,855 million on a Solvency II basis which was £952 million higher than the value under IFRS as presented in the Company's financial statements. The difference is primarily driven by the overall value of technical provisions being lower on a Solvency II basis. This is due to prudent margins held under IFRS not being required for Solvency II, and the separately required Solvency II risk margin being mostly offset by the transitional measure on technical provisions, which was £1,654 million at 31 December 2019.

Section D of this report provides further description of the bases, methods and main assumptions used in the valuation of assets, technical provisions and other liabilities for each material asset/liability class. In addition, it also provides an explanation of the material differences between the IFRS and Solvency II bases of valuation.

## Capital management

The Company's primary capital management objective is to manage the balance between return and risk, whilst maintaining economic capital in accordance with risk appetite. The Company's capital and risk management objectives are closely interlinked, and support the dividend policy, whilst also recognising the critical importance of protecting policyholder and other stakeholder interests. In managing own funds, the Company seeks to maintain sufficient financial strength in accordance with its risk appetite and to satisfy regulatory requirements, maintain strong liquidity, and allocate capital efficiently to remain within risk appetite and drive growth.

There have been no material changes to the Company's objectives, policies or processes for managing its capital during the year.

The Company's solvency position as at 31 December 2019 is shown below:

As at 31 December 2019	Total £m
Own Funds	4,855
Solvency Capital Requirement	2,823
<b>Solvency II Surplus</b>	<b>2,033</b>
Cover ratio	172%

The Company's Own Funds are equal to the excess of assets over liabilities of its Solvency II balance sheet. They are entirely represented by unrestricted tier 1 capital and are not subject to any significant restrictions.

The Company's SCR is calculated using a partial internal model, defined as using a combination of internal model and standard formula approaches to calculate solvency capital requirements for different components of the business. The partial internal model has been designed to accurately model the capital requirements of the Company's various lines of business, allowing for differing risk profiles. The partial internal model outputs are used in day-to-day risk management and business decisions in the Company.

The Minimum Capital Requirement (MCR) represents the minimum level below which the amount of financial resources of the Company should not fall. The MCR for the Company at 31 December 2019 is £1,270 million (2018: £1,236 million).

Section E of this report further describes the objectives, policies and procedures employed by the Company for managing its Own Funds. The section also covers information on structure and quality of Own Funds, calculation of the SCR, and further information about the partial internal model.

# Section A

## Business and Performance

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## Section A: Business and Performance

The 'Business and Performance' section of the report sets out the Company's business structure, key operations and financial performance over the reporting period.

### A.1 Business

Aviva International Insurance Limited (the Company) is a private limited company incorporated and domiciled in the United Kingdom (UK). The principal activity of the Company is to act as the internal reinsurance vehicle of the Aviva plc Group (the Group). The Company accepts reinsurance of different risk types across the Group in order to promote capital efficiency, improve fungibility of capital, and realise the benefits of group diversification of risk.

#### Qualifying holdings

The Company's shares and the associated voting rights are solely held by its immediate parent Aviva Group Holdings Limited (AGH), a limited company incorporated and domiciled in the UK. The ultimate parent undertaking is Aviva plc, a public limited company incorporated and domiciled in the UK.

#### Supervisor

The Company and the Group's Supervisor is the Prudential Regulatory Authority (PRA), which is part of the Bank of England. Contact details for the PRA are as follows:

Address: 20 Moorgate, London, EC2R 6DA.

Telephone number: +44 (0) 20 7601 4444

#### External auditor

The Company's external auditor is PricewaterhouseCoopers LLP. Contact details are as follows:

Address: 7 More London Riverside, London, EC2R 6DA.

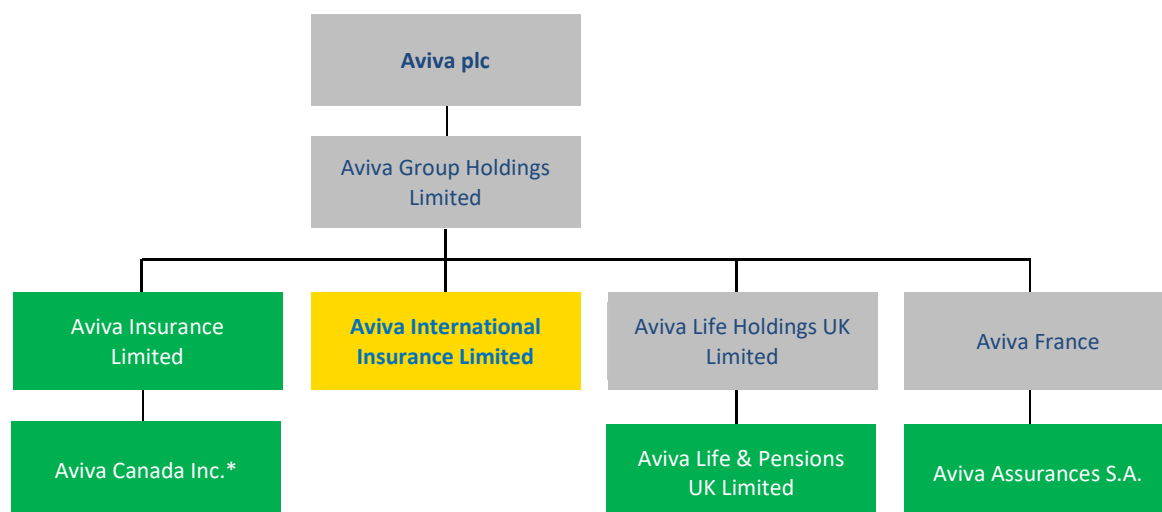
Telephone number: +44 (0) 20 7583 5000

The SFCR is presented in pound sterling rounded to the nearest million which is consistent with the presentation in the IFRS financial statements. The Quantitative Reporting Templates (QRT) are presented in pounds sterling rounded to the nearest thousand. Rounding differences of +/- one unit can occur.

#### A.1.1 Organisation

The following chart shows, in simplified form, the position of the Company within the Group's organisational structure as at 31 December 2019. Aviva plc is the ultimate holding company of the Group. Aviva International Insurance Limited is a wholly owned subsidiary of Aviva Group Holdings Limited, which is itself a wholly owned subsidiary of Aviva plc.

Fellow Group subsidiaries that have entered into reinsurance agreements with the Company are highlighted in green in the chart below. The Company has no material related undertakings.



(\*) In 2019, the Company entered into a new reinsurance agreement with the seven companies comprising the general insurance business of Aviva Canada. See section A.1.2 below for further information.

#### A1.2 Business operations and events occurring in the year

##### Business operations

At 31 December 2019, the Company's quota share reinsurance arrangements were as follows:

- An arrangement with Aviva Insurance Limited (AIL) which transacts general and health insurance business to reinsure 50% of its insurance liabilities;
- An arrangement with Aviva Life & Pensions UK Limited (UKLAP) which transacts investment and long-term insurance business, to reinsure 50% of specified parts of its non-profit business;
- A further arrangement with UKLAP to reinsure 50% of the annuity business within the ex-Aviva Annuity UK Limited (UKA) portfolio;
- An arrangement with Aviva Assurances (FGI) a Group subsidiary incorporated in France which transacts general and health insurance business, to reinsure 50% of its insurance liabilities; and
- An arrangement with Aviva Insurance Company of Canada, Aviva General Insurance Company, Traders General Insurance Company, Scottish & York Insurance Co Limited, Elite Insurance Company, S&Y Insurance Company and Pilot Insurance Company being the Group subsidiary companies transacting general insurance business in Canada (CGI), to reinsure 25% of their insurance liabilities.

The CGI arrangement was entered into on 5 February 2019, with the agreement backdated to take effect from 1 January 2019. All other reinsurance arrangements remained unchanged during 2019.

The material lines of business written by the Company, in order of the value of gross premium written during the year, as presented in QRT S.05.01.02 (Section F.2) are:

- Life reinsurance;
- Proportional reinsurance accepted in respect of;
  - Motor vehicle liability;
  - Fire and other damage to property;
  - Other motor insurance;
  - General liability; and
  - Medical expense.

The material geographical areas where the Company underwrites business in the current year are the United Kingdom, France and Canada.

### Significant business and other events

The Company aims to promote capital efficiency and realise the benefits of group diversification of risk through lower solo capital requirements in the ceding entities. The Company continues to explore opportunities to develop its capacity to provide capital benefits to the Group, with the new quota share agreement with CGI effective from 1 January 2019. Continued and proactive improvements in capital efficiency and positive cash generation have enabled the Company to pay a £190 million dividend to its parent company during the year (2018: £200 million).

Following the announcement of the UK Government on 15 July 2019 to increase the Ogden discount rate (Ogden rate), which is used by the courts to calculate lump sum compensation awards in bodily injury cases, (from minus 0.75% set in 2017 to minus 0.25% balance sheet reserves were calculated using a discount rate of minus 0.25% at 31 December 2019 (0.00% at 31 December 2018). This has resulted in a strengthening of claims reserves of £23 million. The Ogden discount rate is expected to be reviewed by the UK Government within five years.

The UK's decision to leave the European Union and the end of the transition period on 31 December 2020 does not have a significant operating impact on the business, with the Board updated on the possible financial impact scenarios. Beyond 2020 the consequence of the UK's withdrawal from the EU on future financial services regulation and the UK economy will require careful monitoring.

## A.2 Underwriting performance

### A.2.1 Measurement of underwriting performance

The Company uses IFRS profit before tax to present and measure its performance in the financial statements of the Company. The Company's profit before tax is comprised of three main components:

- Underwriting result, being the profits arising on the quota share reinsurance arrangements noted above (which are disclosed within Note 25 'Related party transactions' in the Company's IFRS financial statements);
- Investment result, being the income earned on the Company's own assets, but excluding investment income on deposits with ceding undertakings (such income being included within the profits arising on the quota share reinsurance arrangements within the underwriting result); and
- Performance of other activities, being expenses other than those incurred directly in respect of the quota share reinsurance arrangements (such expenses being included within the profits arising on the quota share reinsurance arrangements within the underwriting result).

The Company's results, split by life, non-life and material geographical area are presented below:

Reconciliation of profit before tax to underwriting result	Life	Non-Life	Total 2019	Life	Non-Life	Total 2018
	£m	£m	£m	£m	£m	£m
<b>Underwriting result</b>						
UK	978	133	1,111	664	152	816
France	—	80	80	—	14	14
Canada	—	28	28	—	—	—
<b>Total underwriting result</b>	<b>978</b>	<b>241</b>	<b>1,219</b>	<b>664</b>	<b>166</b>	<b>830</b>
Investment result			(17)			(18)
Performance of other activities			(28)			(15)
<b>Profit before tax as presented in the Company's financial statements</b>			<b>1,174</b>			<b>797</b>

#### A.2.2 Premiums, claims, and expenses presented in QRT S.05.01.02

Detailed information on premiums, claims, changes in technical provisions and expenses by Solvency II line of business is presented in QRT S.05.01.02 'Premiums, claims and expenses by line of business' within Section F.2.

#### A.2.3 Underwriting performance during the year

The underwriting result of £1,219 million includes £293 million in respect of annuitant longevity assumption changes (2018: £282 million). The increase of £389 million in the underwriting result compared to 2018 is driven by the performance of the UKA treaty, and in particular favourable economic variances resulting from decreases in long term interest rates.

### A.3 Investment performance

#### A.3.1 Measurement of investment performance

Total net investment income as disclosed in the Company's financial statements includes an element of investment income which arises on deposits with cedant undertakings, and which is already included within the underwriting result presented in Section A.2 above. The Company's own investment result reflects the net investment income earned on the Company's own managed assets.

The table below provides an analysis of total net investment income by asset class. As noted above £6,399 million (2018: £(1,459 million)) of this investment income is included within the underwriting result presented in Section A.2.

The increase in investment income on cedant deposits is due to gains on debt and equity investments held by the cedants (which are presented within investment income) reflecting returns on equity markets, falls in the long-term interest rate and a tightening of credit spreads during the year. These gains largely arise on unit-linked contracts where the reduction in asset values are substantially offset by a corresponding reduction in liabilities. The Company's net investment result in the year of £(17) million (2018: £(18) million) was driven by realised losses on over-the-counter derivatives.

Net investment income analysed by asset class	Own managed assets					Own managed assets				
	Deposits with ceding undertaking	Financial Investments	Loans receivable from Group companies	Derivatives	Total 2019	Deposits with ceding undertaking	Financial Investments	Loans receivable from Group companies	Derivatives	Total 2018
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
Interest and similar income	6,399	5	6	—	6,410	(1,459)	4	5	—	(1,450)
Net realised gains/(losses)	—	—	—	(43)	(43)	—	—	—	(31)	(31)
Net unrealised gains/(losses)	—	—	—	15	15	—	—	—	5	5
Investment expenses	—	—	—	—	—	—	(1)	—	—	(1)
<b>Total net investment income</b>	<b>6,399</b>	<b>5</b>	<b>6</b>	<b>(28)</b>	<b>6,382</b>	<b>(1,459)</b>	<b>3</b>	<b>5</b>	<b>(26)</b>	<b>(1,477)</b>
Included within underwriting result					6,399					(1,459)
<b>Investment result</b>					<b>(17)</b>					<b>(18)</b>

#### A.3.2 Gains and losses recognised directly in equity

No gains and losses have been recognised directly in equity within the year.

#### A.3.2 Investments in securitisations

As at 31 December 2019, the Company has exposure to securitisations through its deposits with ceding undertakings, and its holdings in collective investment schemes.

### A.4 Performance of other activities

The underwriting and investment results disclosed in Sections A.2 and A.3 include the income and expenses incurred in respect of the Company's quota share reinsurance arrangements and in respect of the management of its own directly held investments.

The total performance of other activities of £28 million net expense (2018: £15 million net expense) forms part of the Company's overall profit before tax, and includes the Company's own operating expenses, foreign exchange movements and changes in the Company's IFRS technical provisions in respect of its own expenses. The £13 million increase in other activities compared to 2018 is mainly driven by an increase in the Company's IFRS technical provisions in respect of its own expenses.



#### **A.4.1 Material leasing arrangements**

The Company has no material leasing arrangements.

### **A.5 Any other information**

#### **A.5.1 Additional information on the COVID-19 global pandemic**

Further information on the impact of the COVID-19 global pandemic is contained within section F.7.

# Section B

## System of Governance

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## Section B: System of governance

This section of the report sets out information regarding the 'System of Governance' in place within the Company.

Details of the structure of the Company's 'administrative, management and supervisory body' (defined as the Board and Board committees) are provided. The roles, responsibilities and governance of the Company's key functions (defined as the Risk, Compliance, Internal Audit and Actuarial functions) are also provided. Other components of the system of governance are outlined, including the risk management system and internal control system implemented across the business.

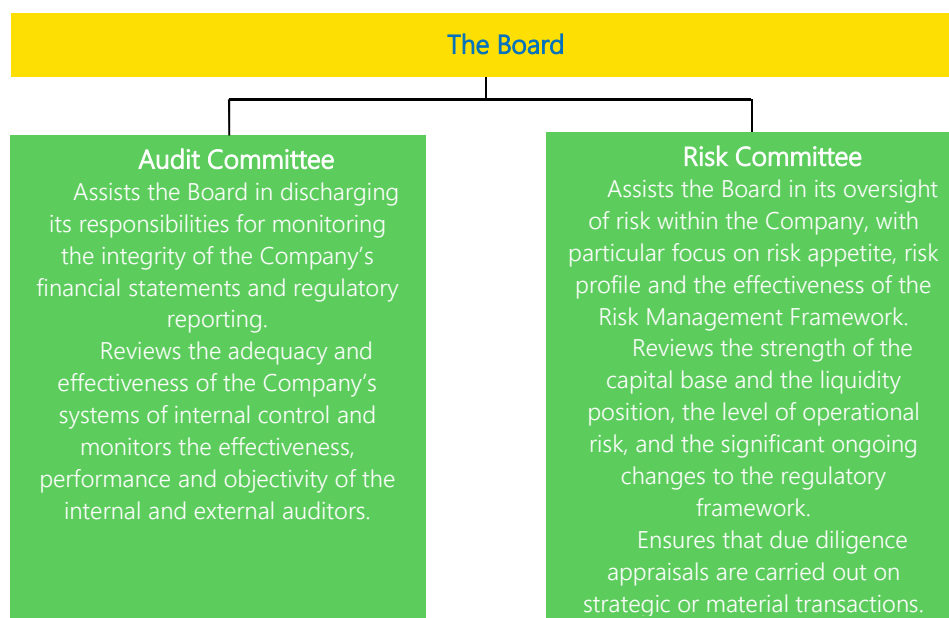
### B.1 General Information on the System of governance

#### B.1.1 Overview of the Company's system of governance

##### Role and Responsibilities of the Board

The Board is responsible for promoting the long-term success of the Company and for setting its strategy, against which management's performance is monitored. It sets the Company's risk appetite and satisfies itself that financial controls and risk management systems are robust, whilst ensuring the business is adequately resourced. A strong system of governance aids effective decision-making and supports the achievement of the Company's objectives whilst maintaining compliance with regulations. The Board has established and delegated responsibilities to its Audit and Risk committees to assist in its oversight of risk management and the approach to internal controls. There is good working practice between each committee, and they make regular reports to the Board. The duties of the Company's Board and of each of its committees are set out in terms of reference. The terms of reference lists both those items that are specifically reserved for decision by the Board and those matters that must be reported to the Board.

The diagram below shows the segregation of responsibilities between the two committees, in addition to a description of the main roles and responsibilities of each.



The Board comprises the Chairman (an independent Non-Executive Director (NED)), the Chief Executive Officer (CEO), the Chief Financial Officer (CFO) and three further independent NEDs. Consistent with the Board Terms of Reference, and separately the Senior Managers and Certification Regime (SM&CR), role profiles are in place for the Chairman and the CEO which clearly set out the duties of each role. The Chairman's priority is to lead the Board and ensure its effectiveness and the CEO's priority is the management of the Company. The Board has delegated the day-to-day running of the Company to the CEO within certain limits, above which matters must be escalated to the Board for determination.

In addition to establishing the committees above, the Board has also established frameworks for risk management and internal control using a 'three lines of defence' model outlined below.

#### The 'three lines of defence model', and roles and responsibilities of key functions

Roles and responsibilities for risk management in the Company are based around the 'three lines of defence model' where ownership for risk is taken at all levels in the Company.

##### *The first line: Management*

Management is responsible for the application of the Risk Management Framework (RMF), for implementing and monitoring the operation of the system of internal control, embedding a risk culture and for providing assurance to the Audit and Risk Committees and the Board.

##### *The second line: Risk Management, Compliance and Actuarial functions*

The Risk Management function is accountable for the quantitative and qualitative oversight and challenge of the identification, measurement, monitoring and reporting of principal risks and for developing the RMF. As the business responds to changing

market conditions and customer needs, the Risk Management function regularly monitors the appropriateness of the Company's risk policies and the RMF to ensure they remain up to date.

The Compliance function supports and advises the business on the identification, measurement and management of its regulatory, financial crime and conduct risks. It is also accountable for monitoring and reporting on the Company's compliance risk profile.

The Actuarial function is accountable for actuarial methodology, reporting to the relevant governing body on the adequacy of reserves and capital requirements, as well as on underwriting and reinsurance arrangements.

Refer to Sections B.3.2, B.4.2 and B.6 for further details on the roles, responsibilities, authority, resources, independence and reporting lines of the Company's Risk Management, Compliance and Actuarial functions respectively, and how their independence is ensured.

#### ***The third line: Internal audit***

The Internal Audit function provides independent and objective assessment on the robustness of the RMF and the appropriateness and effectiveness of internal control to the Audit and Risk Committees and to the Board. Refer to Section B.5 of this report for details on the roles, responsibilities, authority, resources, independence and reporting lines of the Company's Internal Audit function.

### **B.1.2 Assessment of adequacy of system of governance**

An assessment of the effectiveness of the Company's governance, internal control and risk management systems was conducted at the end of 2019, and led to the CEO certifying that:

- There are sound risk management and internal control systems that are effective and fit for purpose in place across the business; and
- The business operates in a manner which conforms to the minimum requirements outlined in the Company's risk policies and business standards.

The Chief Risk Officer (CRO) also provided a certificate which stated that:

- The Risk function has reviewed and challenged the process supporting the CEO's certification and is satisfied that it can provide reasonable assurance of the material accuracy and completeness of the CEO's assessment; and
- No material gaps exist in the Risk Management Framework.

Any material risks not previously identified, control weaknesses or non-compliance with the Company's risk policies and business standards or local delegations of authority are highlighted as part of this process. The results of the declaration process and details of key failings or weaknesses were reviewed by the February 2020 Audit Committee.

### **B.1.3 Material changes in the system of governance**

There have been no material changes in the system of governance during the year.

### **B.1.4 Remuneration Policy**

Aviva's reward principles and arrangements are designed to incentivise and reward employees for achieving stated business goals in a manner that is consistent with the Company's approach to sound and effective risk management. Aviva's remuneration policy is aligned to the Company's strategy, incentivises achievement of the Company's annual business plan and longer-term sustainable growth of the business, and differentiates reward outcomes based on performance and behaviour that is consistent with the Company's values.

Further details on the remuneration of directors is found in the Company's financial statements.

#### **Executive directors**

The remuneration policy provides market competitive remuneration and incentivises executive directors to achieve both the annual business plan and the longer-term strategic objectives of the Company. Significant levels of deferral, and in some cases, an aggregate shareholding requirement, align executive directors' interests with those of shareholders and aid retention of key personnel. As well as rewarding the achievement of objectives, variable remuneration can be zero if performance thresholds are not met.

Remuneration of executive directors is split between the following components:

- Basic salary: informed by individual and business performance, levels of annual pay increase for the broader UK employee population and relevant pay data.
- Variable components: refer below for further details;
- Pension;
- Benefits;
- Relocation and mobility; and
- Shareholding requirement in some cases.

#### **Variable components**

The main forms of variable remuneration for the executive directors are:

- Annual Bonus: Performance is assessed annually against a range of relevant financial, employee, customer and risk targets designed to incentivise the achievement of strategy as well as individual strategic objectives. A significant proportion of any

bonus award is deferred into shares which vest in three equal tranches. Cash and deferred awards are subject to Aviva's 'Malus and Clawback' policy; and

- Long Term Incentive Plan (LTIP): Shares are awarded which vest over a three-year period.

#### **Non-Executive Directors (NEDs)**

NEDs receive a basic annual fee in respect of their Board duties. Further fees are paid for membership and, where appropriate, chairing of Board committees. The Chairman receives a fixed annual fee. Fees are reviewed annually taking into account market data and trends and the scope of specific Board duties.

The Chairman and the NEDs do not participate in any incentive or performance plans or pension arrangements and do not receive an expense allowance. NEDs are reimbursed for reasonable expenses, and any tax arising on those expenses is settled directly by the Company. On the limited occasions when it is appropriate for a NED's spouse or partner to attend a business event, the Company will meet these costs and any tax liabilities that may arise.

#### **Other employees**

Remuneration arrangements for employees that are not executive directors take account of the seniority and nature of the role, individual performance and local market practice. The components and levels of remuneration for different employees may therefore differ from the policy for executive directors. Any such elements are reviewed against market practice and approved in line with internal guidelines and frameworks.

Variable components are discretionary and fully flexible as opposed to a contractual entitlement, and there is a possibility of zero awards being made should the performance of the Company and/or individuals require this (other than where payments are required by law). Individual awards are based on an assessment of performance of individuals allowing for differentiation.

The remuneration of employees in Risk, Compliance, Internal Audit and Actuarial functions is determined independently of the financial results of the business areas they oversee. This reinforces the independence of these functions.

Shares can be awarded to employees and vest after three years.

#### **Pension and early retirement schemes**

The Company did not operate any enhanced pension arrangements or early retirement schemes during the reporting period.

#### **B.1.5 Material transactions with shareholders and persons exercising significant influence during the period**

No material transactions have been identified during the period with shareholders, with persons who exercise a significant influence on the undertaking, or with members of the administrative, management or supervisory body.

Key management personnel of the Company may from time to time purchase insurance, savings, asset management or annuity products marketed by Group companies on equivalent terms to those available to all employees of the Group. In 2019, such transactions with key management personnel were not deemed to be significant either by size or in the context of their individual positions.

Additional information on the material transactions with the Company's shareholder is included within Note 25 – 'Related party transactions' of the Company's financial statements.

### **B.2 Fit and proper policy**

#### **B.2.1 Requirements concerning skills, knowledge and expertise of directors and key function holders**

For persons responsible for running the undertaking or responsible for key functions an assessment of fitness and propriety must consider their allocated responsibilities and skills and experience across the following areas:

- Insurance and financial markets;
- Business strategy and business models;
- System of governance;
- Financial and actuarial analysis where applicable to the role;
- Regulatory framework and requirements; and
- Any skills relevant to that role.

The Company's requirements in respect of skills, knowledge and expertise for key function holders are set following engagement with both internal and external subject matter experts in each specialism. These requirements and qualifications are captured within individual role descriptions for each key function role.

#### **B.2.2 Process for assessing fitness and propriety of directors and key function holders**

The Company has implemented processes to ensure that individuals employed within it, or acting on its behalf, are both fit and proper, in line with the PRA Fit & Proper requirements for individuals subject to the Senior Managers and Certification Regime (SM&CR) and the Financial Conduct Authority's (FCA) requirements for Approved Persons. This means that:

- Fit – an individual's career history will be assessed and validated to establish whether their skills and knowledge are appropriately matched to the role; and
- Proper – checks are in place to ensure that an individual is honest, of good reputation, has integrity and is financially sound.

The governance over the fitness and propriety of individuals includes recruitment, performance management and training. To ensure that the Company protects itself against employing individuals who potentially could threaten its people, customers, properties, facilities or reputation, the majority of its fitness and propriety processes take place at recruitment and more specifically at pre-employment screening. A minimum set of basic screening requirements has been agreed and implemented. Additional enhanced screening requirements are applied for individuals who fall within the following categories:

- Persons running the undertaking;
- Administrative, management or supervisory body; and,

- Persons responsible for key functions.

Compliance with initial and ongoing fitness and propriety minimum requirements is reported through the annual CEO declaration on the adequacy of governance.

## B.3 Risk management system including the own risk and solvency assessment

### B.3.1 Risk Management Framework

The Risk Management Framework forms an integral part of management and Board processes and the decision-making framework across the Company. The key elements are:

- Risk appetite;
- Risk governance, including risk policies and business standards, risk oversight committees and roles and responsibilities; and
- The processes used to identify, measure, manage, monitor and report (IMMMR) risks, including the use of risk models and stress and scenario testing.

For the purposes of risk identification and measurement, risks are usually grouped by risk type: credit, market, liquidity, life insurance, general insurance operational and conduct risks. Risks falling within these types may affect a number of metrics, including those relating to balance sheet strength, liquidity and profit.

To promote a consistent and rigorous approach to risk management the Company has adopted a number of risk policies and business standards which set out the risk strategy, appetite, framework and minimum requirements for its operations.

A regular top-down key risk identification and assessment process is carried out by the Risk Management function. This includes the consideration of emerging risks and is supported by deeper thematic reviews across the Group. This, together with the risk and control self-assessment ('RCSA') process, are the main processes used to IMMMR risks. The RCSA process focuses on operational risks and is run by the first line, with challenge by the Risk Management function. RCSAs ensure there is a regular review of applicable operational risks to ensure that they are appropriately managed. The risk assessment processes are run separately but are complementary. They are used to generate risk reports which are shared with the Risk Committee.

Risk models are an important tool in the measurement of risks and are used to support the monitoring and reporting of the risk profile and in the consideration of the risk management actions available. A range of stress tests (where one risk factor, such as equity returns, is assumed to vary) and scenario tests (where combinations of risk factors are assumed to vary) are undertaken to evaluate their impact on the business and the management actions available to respond to the conditions envisaged.

The Risk Management function is accountable for quantitative and qualitative oversight and challenge of the IMMMR process and for developing the Risk Management Framework. Internal Audit provides an independent assessment of the risk framework and internal control processes.

The Board has overall responsibility for determining risk appetite, which is an expression of the risk the business is willing to take. Risk appetites are set for capital, liquidity and interest rates. For those risk types managed through the holding of capital, the risk profile is measured and monitored on the basis of the Solvency II SCR. The Company's position against risk appetite is monitored and reported to the Board on a regular basis.

Board oversight of risk and risk management across the Company is maintained on a regular basis through the Risk Committee. The oversight of risk and risk management is supported by the Asset Liability Committee (ALCo) and the Operational Risk Committee (ORC), which focus on business and financial risks and on operational and reputational risks respectively.

### B.3.2 Risk Management function

The Risk Management function is responsible for the design and implementation of the Risk Management Framework, and the design, implementation and validation of economic capital models requiring regulatory approval. The Risk Management function reports to the Board on material risks identified, together with any other specific areas of risk requested by the Board, and assists the Board and management in the effective operation of the risk management system through, amongst other tools, the provision of specialist analysis and quality reviews, an aggregated view of the risk profile, and an assessment of the key risks associated with the business's strategy, major projects, strategic investments and other key decisions. Key business decisions require input from the Risk Management function.

The Risk Management function operates as part of the overall Risk function, which includes the Actuarial and Compliance functions as well as Risk Management. The CRO has direct management accountability for the Risk Management function and the Compliance function, whilst the Chief Actuary (CA) has direct responsibility for the Actuarial function (also known as the Risk Actuarial function). Appointment and removal of the CRO is a matter reserved for the Board, on the recommendation of the Risk Committee, which ensures the independence of the Risk Management function. In addition to reporting to the Company's CEO, the CRO reports to the Risk Committee and the Group CRO.

The Risk Management function has authority to review all areas of the Company and has full, free and unrestricted access to all activities, records, property and personnel necessary to complete its work.

### B.3.3 Integration of risk management into the decision-making processes

Sections B.3.1 and B.3.2 explain how risk management is integrated into the organisational structure and the decision-making process. To further support the role of risk management in decision making processes, the role of the 'first line' is critical as part of the three lines of defence model. The CEO is responsible for the implementation of strategies, plans and policies, the monitoring of operational and financial performance, the assessment and control of financial, business and operational risks and the maintenance and ongoing development of a robust control framework and environment. The ALCo and the ORC are both chaired by the CEO and these committees assist with financial and insurance risk management oversight and operational risk management respectively.

### B.3.4 Own risk and solvency assessment (ORSA)

The Company considers that its ORSA comprises all the processes and tools that underpin the consideration of risk and capital implications in key decisions, including business planning. It provides a continuous and forward-looking assessment of the short-term and long-term risks that the Company faces, or may face, reflecting the company's strategy and business plans, and ensures that its capital requirements are met at all times.

The ORSA therefore comprises a number of elements of the Risk Management Framework which are embedded in the business through the requirements of the business standards around capital allocation, strategy, planning and stress testing. These elements create an overview of the impact of risk on the business, which are taken into account by management in day-to-day decision making. In particular, using economic capital in decision making ensures risk and capital management are connected. The outcomes of the ORSA processes provide the Company's Board with insights on the key risks and current and future capital requirements.

The CEO and the CEO's direct reports are responsible for the majority of the underlying ORSA processes set out above. The Risk Management function is responsible for the design of the Risk Management Framework, including the ORSA, as well as the risk assessment process and annual ORSA reporting.

#### Review and approval of the ORSA

The output from the ORSA processes is reported to and reviewed by the Board and the Risk Committee regularly during the year. The Risk Committee sets the approach to the ORSA and on behalf of the Board oversees the ORSA processes including the identification of risk, the methodology and assumptions used in the Company's internal model (for the purpose of determining the Company's required economic capital), and the results of the internal model validation exercise (see Section B3.5). The results of the ORSA processes play a key role in supporting decision making by the Board when reviewing the Company's strategy and approving annually the Company's business and capital plan.

The ORSA report is produced annually or in the event that ORSA triggers are met (per the Company's ORSA policy). The annual ORSA report brings together and summarises a high-level description of the key components of ORSA, together with key developments and outcomes during the year. The annual ORSA report is submitted to the Board and Board Risk Committee for approval and subsequently shared with the PRA.

#### Interaction between capital management and risk management

The Board has approved that for the purpose of ORSA, capital resources and requirements are measured on the basis of Solvency II requirements for determining own funds and SCR.

Solvency II capital (as a risk-based capital measure) is embedded at the heart of the Company's risk and capital evaluation and is used as a key input to a wide range of business and strategic decisions. The Risk Management Framework, supported by risk policies and business standards, sets out the areas where the Company is expected to use Solvency II capital management information as part of its decision-making and risk management processes. This ensures that the requirements to use Solvency II capital are embedded within the relevant processes (including, but not limited to, Asset Liability Management; strategy and planning). Solvency II capital is calculated using the Company's partial internal model (PIM), which comprises business that uses an internal model (IM) and business that uses the standard formula (SF). Further detail on the calculations and use of the PIM can be found in Section E.

### B.3.5 Governance over the internal model

The Solvency II Internal Model and Solvency II Data Governance Business Standards are part of the overall Risk Management Framework. They combine to ensure that the Company operates within a controlled environment when developing methodologies or assumptions, and when running processes and systems. The appropriateness of the internal model is tested and confirmed by model validation, review and challenge, weakness and limitation management and general change control processes. In aggregate, these tests ensure there is a robust governance framework to support the use of the Internal Model in both a production environment and during model development or change.

The CRO owns the internal model on behalf of the Board. In practice the day to day responsibilities are delegated to the Company's Chief Actuary, who gives assurance to the Board that the internal model is appropriate for use on an ongoing basis; adequately reflects the Company's risk profile; takes into account new information as it becomes available; is accurate; and works effectively. This enables the Board to conclude whether the internal model is fit for purpose whilst also ensuring it is used to provide information for important strategic and business decisions, capital management, business planning, risk mitigation, investment allocation and product development.

The Risk Committee is responsible for approving any internal model changes impacting the Company before submission to the College of Supervisors. One group-wide model change application a year is anticipated. The quarterly model change reports and supporting evidence provide the required information to support Risk Committee and the College of Supervisors' approval.

The Internal Model results and any changes to the model are subject to an Internal Model Independent Validation Review (refer to the section below for further details) which helps the Board assess whether the internal model is suitably accurate and fit for purpose.

#### Validation processes

The Company's internal model is validated by testing the individual calibrations and methodologies that are input into the model and the results that are output from the model. The validation tests applied comprise both mathematically defined tests and those based on qualitative judgement, to ensure that the model and its components are both accurate and reflect management opinion. Key tests include benchmarking, back-testing and sensitivity testing. The validation tests are run, documented and assessed against criteria set by the Actuarial function, which are designed to draw conclusions on the appropriateness of the internal model. This analysis is made available to the Board and Risk Committee.

In addition, a separate and independent Internal Model Independent Validation Review is undertaken to provide an opinion to the Board that the model is appropriate for use on an ongoing basis. The Internal Model Independent Validation business



standard defines the scope and approach for each independent validation exercise. The Board reviews the findings of the exercise, alongside the conclusions of the Chief Actuary and approves whether the internal model is suitably accurate and fit for purpose.

## B.4 Internal Control System

### B.4.1 Description of the internal control system

Internal controls facilitate effective and efficient business operations, support the development of robust and reliable internal reporting, and aid compliance with laws and regulations. The Internal Control business standard sets out Aviva's required controls for effective internal control across the Group. These required controls reflect six principles:

- The business demonstrates a commitment to integrity and ethical behaviour and promotes Aviva's desired culture and values, with the CEO and Senior Management:
  - Setting the tone from the top.
  - Promoting the open reporting of negative news and establishing a culture where errors are seen as an opportunity to learn and improve.
  - Receiving and acting upon evidence confirming that employees are acting within the code of ethics.
  - Setting out their priorities, obligations and objectives clearly.
- Reduce future losses and detriment to customers arising from failures in operational risk management and controls and support reliable reporting on the operational risk and control environment at all levels of the business, to increase the confidence of the Board, Regulator and Customers in the effectiveness and efficiency of our operational processes.
- Individuals act in line with their delegation of authority and accountabilities and that there is appropriate oversight of key business decisions.
- Reasonable steps are taken to identify and reduce the likelihood of potential conflicts of interest and to segregate responsibilities.
- Employees have a good understanding of the system of internal control and their role within it.
- Board(s) are supported in complying with their fiduciary duties, specifically the requirement to have in place effective risk and control management.

### B.4.2 Compliance function

The Company's Compliance function forms part of its Risk function and is managed by its CRO.

The primary purpose of the Compliance function is to assess and manage exposure to regulatory risk. The Compliance Function is an integral part of the Risk Management Framework and constitutes a key part of the Company's corporate governance, including relationships with the FCA and the PRA, and other regulatory bodies. The function is a critical contributor to the safe and sound operation of the Company and underpins the achievement of strategic and business goals. Three key processes comprise the Company's compliance activity:

- Conduct regulatory risk management, performed by the Group Compliance function, with oversight from the CRO, and including activities such as:
  - Setting conduct and financial crime policy framework;
  - Providing advice, support, guidance and challenge on conduct and financial crime risk;
  - Managing conduct and financial crime regulatory engagement.
- Prudential regulatory risk management, performed by the Risk Management function, and including activities such as:
  - Setting prudential regulatory risk policy framework;
  - Providing advice, support, guidance and challenge on prudential regulatory risk;
  - Managing prudential regulatory engagement.
- Legal developments monitoring performed by the Legal & Company Secretarial function.

Through these processes the Compliance, Risk Management and Legal functions jointly take responsibility for reporting compliance information to the Board and its committees. The CRO has responsibility for prudential and conduct regulatory risk management, whilst the General Counsel is responsible for monitoring legal developments.

The Compliance function has authority to review all areas of the Company and has full, free and unrestricted access to all activities, records, property and personnel necessary to complete its work. The scope of Compliance activities extends to outsourcing and reinsurance arrangements where applicable. The independence of the Compliance function is derived through its membership of the wider Risk function.

## B.5 Internal Audit function

The Company's Internal Audit function is led by the Internal Audit Director who reports directly to the Group Chief Audit Officer (CAO) and to the Chair of the Company's Audit Committee.

The Internal Audit function provides regular reports to the Company's Audit Committee on the robustness of the Company's Risk Management Framework and the appropriateness and effectiveness of the system of internal control. In doing this, it considers the adequacy of the Company's system of internal control to manage its business risk and to safeguard its assets and resources. It also considers the effectiveness of any actions put in place by management to address any deficiencies that might exist in the system of internal control.

The Internal Audit function is required to investigate and report on cases of suspected financial crime, employee fraud and malpractice and undertake designated advisory projects for management.

Internal Audit is authorised to review all areas of the Company and has full, free, and unrestricted access to all activities, records, property, and personnel necessary to complete their work. The scope of Internal Audit's activities extends to outsourcing



and reinsurance arrangements. The Internal Audit Director proposes a budget which ensures that the Internal Audit function has sufficient skills and resources to discharge its responsibilities.

#### **Independence and objectivity**

The Internal Audit function maintains its independence and objectivity by reporting directly to the Group Chief Audit Officer and the Chair of the Company's Audit Committee. The Audit Committee has a duty to recommend the appointment or dismissal of the Internal Audit Director to the Board and to participate, jointly with the Chief Audit Officer or designee, in the determination of the objectives of the Internal Audit Director and the evaluation of their levels of achievement, including consultation with the CEO.

Internal Audit function staff have no direct responsibility for any operational activities. There is a formal policy of rotating staff to ensure that independence is maintained. There is also a restriction on the audits that staff who have previously worked elsewhere in the Company can perform. The Internal Audit function cannot perform any projects for management that will threaten its actual or perceived independence and objectivity.

An annual declaration of independence is signed by all members of the Internal Audit function's staff.

### **B.6 Actuarial function**

The Actuarial function is led by the Company's Chief Actuary (CA), who reports to the CRO.

The Actuarial function is accountable for actuarial methodologies and calibrations. It also considers the appropriateness of the internal model, supports the internal model validation exercises and maintains the internal model change log. The Actuarial function produces an annual report to the Board providing information necessary for the Board to form their own opinion on the adequacy of technical provisions and capital requirements, and on underwriting and reinsurance arrangements.

The Actuarial function has the authority to review all areas of the Company and has full, free and unrestricted access to all activities, records, property and personnel necessary to complete its work. The independence of the Actuarial function is derived through its membership of the wider Risk function. The CA ensures that those persons employed by the Actuarial function in a defined actuarial role are subject to the Fit and Proper policy requirements to ensure they have the requisite skills and knowledge to complete their responsibilities.

### **B.7 Outsourcing**

The Company's outsourcing policy is detailed in a Procurement and Outsourcing business standard, which sets out the responsibilities, objectives, processes and monitoring to be applied to outsourcing arrangements. The standard applies to any externally or internally (intragroup) outsourced activity, and to all staff involved in supplier related activities. The standard is benchmarked against relevant regulatory expectations.

The objective of this standard is to ensure that minimum control objectives and controls for supplier related activities are followed, to ensure that supply risk is managed effectively, customers are being treated fairly and continue to receive good outcomes, as well as mitigating potential financial, operational, contractual, and brand damage caused by inadequate management. It explains the definition of outsourcing, including where activity is delegated to an intermediary, and whether a function or activity outsourced is assessed as critical or important.

The control objectives and controls in the standard cover the following areas:

- Supply governance – business oversight of operational performance for sourcing and supply management activities;
- Sourcing – how a service provider of suitable quality is selected;
- Supplier contracting and approvals – financial, commercial and legal approval of contracts;
- Supplier management and business continuity – risk-based approach to management of supply contracts; and
- Business contingency and exit plans – a means to safely exit the arrangement without material harm to the business.

Critical or important outsourced functions and activities attract the highest level of rigour, including regulatory notification, performance and relationship reviews, regulatory compliance review and risk and control assessments.

#### **Critical or important outsourced functions and activities**

The Company does not have any critical or important external outsourcing arrangements. The critical and important outsourcing arrangements that it does have are intragroup and located in the UK only, and include investment management, IT services, risk, tax, actuarial and audit services.

### **B.8 Any other material information**

#### **B.8.1 Additional information on the COVID-19 global pandemic**

Further information on the impact of the COVID-19 global pandemic is contained within section F.7.

# Section C

## Risk Profile

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## Section C: Risk Profile

This section of the report provides an overview of the key risks to which the Company is exposed. These risks primarily arise through the Company's quota share reinsurance arrangements with fellow Group subsidiaries.

As described in Section A.1.2, on 5 February 2019 the Company entered into a quota share agreement with CGI to reinsure 25% of all of CGI's insurance business, with the agreement backdated to take effect from 1 January 2019. However, given the relative size of CGI compared to that of the Company's other cedants, this did not significantly affect the Company's risk profile.

The primary basis used by the Company to measure risks is the Solvency II SCR which is calculated as Solvency II own funds at risk in a 1 in 200 year loss event over a 1-year time horizon. At 31 December 2019, the Company's SCR amounted to £2.8 billion (2018: £2.7 billion). This is summarised in the table below with the respective risks discussed in the following subsections. Note that for the purposes of the below table, the market risk line includes credit risk as described in Section C.3, following the Solvency II Standard Formula convention.

The Company SCR by risk component (£m)	Total
Market risk	2,155
Counterparty risk	130
Life underwriting risk	1,620
Health underwriting risk	59
Non-life underwriting risk	806
Operational risk	454
Loss-absorbing capacity of deferred taxes	(234)
Other risks and adjustments (including rounding)	135
<b>Total undiversified components</b>	<b>5,126</b>
Diversification	(2,303)
<b>Solvency capital requirement</b>	<b>2,823</b>

Some categories of risk are not measured by holding capital, principally liquidity risk, which is instead measured through a Liquidity Coverage Ratio (see Section C.4.1 for details).

Operational risks (see Section C.5) have the potential to significantly impact the Company's reputation compared to other risk types which are relatively more significant measured on the basis of Solvency II SCR.

The Company also measures and assesses risk in terms of its total gross exposure and sum at risk, as well as monitoring risk indicators that might indicate changes in risk exposure and act as a trigger for management action. These are generally risk type specific and are considered in Sections C.1 to C.6.

### C.1 Underwriting Risk

Underwriting risk is the risk of loss on underwriting activity caused by an adverse change in the value of liabilities arising from inappropriate insurance pricing, inadequate claims reserving assumptions, as well as unforeseen fluctuations in the timing, frequency and severity of insured events relative to the expectations at the time of underwriting. The risk excludes operational risk arising from internal processes in the writing of insurance business or settling of claims. The risk arises from a number of underlying life insurance, health insurance and general insurance risks, which are separately discussed below.

#### C.1.1 Underwriting risk – life insurance (including health similar to life)

##### C.1.1.1 Exposure

The principal underwriting risks related to life insurance (including health similar to life) are described below:

- **Longevity risk:** The risk that annuitants may live longer than expected;
- **Mortality risk:** The risk that more policyholders die than expected, either due to general trends or due to pandemics or other specific events e.g. terrorism. This risk impacts claims on life insurance products;
- **Morbidity risk:** The risk that either more customers fall sick than expected, or customers recover at a slower rate than expected. This risk impacts claims on critical illness and income protection products;
- **Persistency risk:** The risk of adverse financial impact arising from changes in the level, trend, other changes to the term structure or volatility (i.e. variability due to population size) of the rates of policy lapses, terminations, renewals and surrenders (including partial surrenders, reduction in premiums and paying up premiums); and
- **Expense risk:** The risk that the future costs of managing and administering customer policies are higher than expected.

The Company is exposed to the risk of changes in policyholder behaviour due to the exercise of options, guarantees and other product features embedded in its cedants' long-term savings products. These product features offer policyholders varying degrees of guaranteed benefits at maturity or on early surrender, along with options to convert their benefits into different products on pre-agreed terms.

The Company measures and assesses its exposure to life insurance (including health similar to life) risks in terms of Solvency II SCR. At 31 December 2019, the Company's life insurance risk undiversified SCR amounted to £1.6 billion (2018: £1.5 billion). Exposures to this risk are also monitored as part of stress and scenario testing.

The main change in underwriting risk profile during 2019 is:

- An increase in longevity risk exposure as a consequence of lower interest rates

##### C.1.1.2 Risk management and mitigation

The management of life and health insurance risks is governed by group-wide risk policies and business standards covering underwriting, pricing, product design and management, in-force management, claims handling and reinsurance. The individual life and health insurance risks are managed as follows:

- Mortality and morbidity risks are mitigated by use of reinsurance. Reinsurers are selected from those approved by the Group, based on local factors. In addition, Group retains oversight of the overall exposures and monitors that the aggregation of risk ceded is within credit risk appetite;
- Longevity risk and internal experience analysis thereon are monitored against the latest external industry data and emerging trends by the Company and its cedants. The Company's cedants use reinsurance solutions to reduce the risks from longevity and continually monitor and evaluate emerging market solutions to mitigate this risk further. The Company monitors its exposure to this risk and any associated capital implications;
- Persistency risk is managed at a cedant level, with oversight from the Company, through frequent monitoring of Company experience, and benchmarked against local market information. Generally, persistency risk arises from customers lapsing their policies earlier than has been assumed. Where possible the financial impact of lapses is reduced through appropriate product design; and
- Expense risk is primarily managed by the cedants, with oversight from the Company, through the regular assessment of profitability and frequent monitoring of expense levels.

Implementation of risk mitigation techniques are discussed and then approved via the Risk Committee and ongoing effectiveness is monitored as part of 'business as usual' management information in the Company, the attestation process of group-wide risk policies and business standards in the Company and periodic Internal Audit reviews, significant findings from which are reported to the Audit Committee.

In addition to mitigation activity undertaken by the cedants, the Company can implement risk transfer solutions for its reinsured business, for example, if:

- The Company has a different appetite to its exposures to its reinsured business than that of its cedants; or
- Its own risk concentration profile on an aggregate basis differs from that of its cedants as a result of accumulating exposures across the Company's quota share reinsurance arrangements.

#### **C.1.1.3 Risk concentration**

The Company mitigates its risk concentration through scale, geographic spread of business and diversity of product lines within its quota share reinsurance arrangements. Controls are in place to ensure accumulations of risk can be evaluated properly. Counterparty concentration as a result of underwriting activities and reinsurance arrangements and their management and monitoring are considered in Section C.3.3.

### **C.1.2 Underwriting risk – general insurance (including health similar to non-life)**

#### **C.1.2.1 Exposure**

The principal underwriting risks related to general insurance (including health similar to non-life) are described below:

- Inadequate claims reserving assumptions;
- Unforeseen fluctuations in the timing, frequency and severity of claims and claim settlements relative to expectations;
- Unexpected claims arising from a single source or cause;
- Inaccurate pricing of risks or inappropriate underwriting of risks when underwritten; and
- Inadequate reinsurance protection or other risk transfer techniques.

The Company measures and assesses its exposure to general insurance (including health similar to non-life) risks in terms of Solvency II SCR. At 31 December 2019, the Company's general insurance risk undiversified SCR amounted to £0.9 billion (2018: £0.8 billion). Exposures to this risk are also monitored as part of stress and scenario testing.

Since the arrangement with Canada GI became effective on 1 January 2019, the Company's underlying exposure to underwriting risk has remained relatively stable and consistent with new business written in the year.

Following the announcement of the UK Government on 15 July 2019 to increase the Ogden rate, which is used by the courts to calculate lump sum compensation awards in bodily injury cases, (from minus 0.75% set in 2017 to minus 0.25% balance sheet reserves were calculated using a discount rate of minus 0.25% at 31 December 2019 (0.00% at 31 December 2018)). The July 2019 announcement is considered to reduce uncertainty within the shorter term, however uncertainty does remain in the medium to longer term as the Lord Chancellor will review the Ogden discount rate at least every five years and has also asked for further review on the advantages and disadvantages of a dual rate regime. Any change in the Ogden rate would impact underwriting risk exposure because it affects the amount of awards for lump sum bodily injury claims and therefore also the tendency for claimants to settle on a lump sum basis rather than as a periodic payment order (PPO).

#### **C.1.2.2 Risk management and mitigation**

The vast majority of the general insurance business which the Company reinsures is managed and priced in the same country as the domicile of the customer.

The Company manages and mitigates its exposure to general insurance risks through the application of controls and control objectives documented in relevant group-wide risk policies and business standards. These controls and mitigating actions can be grouped into the following areas:

- Claims reserving that is undertaken by actuaries and is also subject to periodic external review;
- Risk appetites set to limit exposures to key general insurance risks;
- Extensive use of data, financial models and analysis to improve pricing and risk selection;
- Underwriting limits linked to delegations of authority that govern underwriting decisions;
- Product development is managed within a framework that ensures products and propositions meet customer needs;

- Product limits and exclusions;
- Governance of outsourced functions writing products on behalf of the Company;
- Documented claims management philosophies and procedures; and
- Use of reinsurance to reduce the financial impact of a catastrophe and manage earnings volatility. (See below for further detail on the use of reinsurance as a risk mitigation technique for general insurance risks).

The Company's reinsured businesses hold third-party external excess of loss and aggregate excess of loss reinsurance to mitigate general insurance risk and ensure exposures remain within risk appetite. Significant reinsurance purchases are reviewed annually at cedant and Group level to verify that the levels of protection being bought reflect any developments in exposure and the risk appetite of the cedants, the Company and the Group. The basis of these purchases is underpinned by analysis of Solvency II capital, earnings and capital volatility, cash flow and liquidity and franchise value.

Implementation of risk mitigation techniques are discussed and then approved via the Risk Committee and ongoing effectiveness is monitored as part of 'business as usual' management information in the Company, the attestation process of group-wide risk policies and business standards in the Company and periodic Internal Audit reviews, significant findings from which are reported to the Audit Committee.

In addition to mitigation activity undertaken by the cedants, the Company can implement risk transfer solutions for its reinsured business, for example, if:

- The Company has a different appetite to its exposures to its reinsured business than that of its cedants; or
- Its own risk concentration profile on an aggregate basis differs from that of its cedants as a result of accumulating exposures across the Company's quota share reinsurance arrangements.

### C.1.2.3 Risk concentration

The Company mitigates its risk concentration through scale, geographic spread of business and diversity of product lines within its quota share reinsurance arrangements. Controls are in place to ensure accumulations of risk can be evaluated properly. Counterparty concentration as a result of underwriting activities and reinsurance arrangements and their management and monitoring are considered in the Section C.3.3.

## C.2 Market risk

### C.2.1 Exposure

Market risk is the risk of adverse financial impact resulting, directly or indirectly, from fluctuations in interest rates, foreign currency exchange rates, equity indices and property prices. Market risk arises due to fluctuations in both the value of liabilities and the value of investments held. The Company is primarily exposed to market risk through the valuation of its technical provisions and deposits with ceding undertakings, whereby, through a funds withheld structure, it is exposed to the underlying valuations of the cedants' asset portfolios. Principal market risk types are described below:

- **Equity price risk:** The Company is subject to equity price risk arising from changes in the market values of cedants' equity securities portfolios. The Company's most material exposures are to policyholder unit-linked funds, which are exposed to a fall in the value of the fund thereby reducing the fees earned on those funds;
- **Interest rate risk:** Interest rate risk arises primarily from investments in long-term debt and fixed income securities and their movement relative to the value placed on the insurance liabilities;
- **Property price risk:** Property price risk arises primarily from holdings of investment properties in UK and France and indirectly through investments in mortgages and mortgage-backed securities;
- **Inflation risk:** Inflation risk arises primarily from the Company's exposure to inflation on general insurance claims and the UK annuity portfolio in addition to expense inflation. Increases in long-term inflation expectations are closely linked to long-term interest rates and so are frequently considered with interest rate risk;
- **Foreign currency exchange rate risk:** The Company has minimal exposure to currency risk from financial instruments held by cedants in currencies other than their functional currencies, as nearly all such holdings are backing either unit-linked contract liabilities or hedging. The Company's cedants operate internationally and as a result the Company is exposed to foreign currency exchange risk arising from fluctuations in exchange rates;
- **Derivatives risk:** The Company is exposed to market risk through its derivative portfolio. Derivatives are used by the Company and its cedants, primarily for efficient investment management and risk hedging purposes; and
- **Correlation risk:** The Company recognises that lapse behaviour and potential increases in consumer expectations are sensitive to, and interdependent with, market movements and interest rates. These interdependencies are taken into consideration in the SCR and in scenario analysis.

The Company measures and assesses its market risk exposure in terms of Solvency II SCR. At 31 December 2019, the Company's market risk undiversified SCR amounted to £2.2 billion (2018: £2.3 billion). Exposures to this risk are also monitored as part of stress and scenario testing.

The main changes in market risk profile during 2019 are:

- A decrease in interest rate risk exposure due to sale of surplus assets; and
- A decrease in interest rate risk following a reassessment of the SCR interest rate stress.

### C.2.2. Risk management and mitigation

Exposures by individual market risk types are monitored through Solvency II capital modelling, sensitivity testing and stress and scenario testing. Derivative investment activity is overseen by the Company's Asset Liability Management (ALM) team. In addition, Risk teams in the Company and Group monitor exposure levels and approve large or complex transactions.

The management of market risk is undertaken using the group-wide market risk policies and business standards within local regulatory constraints. The Company's Capital and ALM teams are responsible for managing the Company's market risk. Market risk is managed in line with agreed risk corridors. Assets and liabilities are matched to limit the impact of mismatches due to market movements.

In addition, where the Company has reinsured insurance and investment products where the majority of investment risks are borne by their policyholders, these risks are managed in line with local regulations and marketing literature, in order to satisfy the policyholders' risk and reward objectives. The Company's exposure to market risk on this business is limited to the extent that income arising from asset management charges is based on the value of assets in the fund.

The Company's principal risk management and mitigation actions are set out below by principal market risk type, in line with the Group market risk framework:

- **Equity price risk:** Direct equity exposure is limited in line with risk preferences. At a cedant level, investment limits and local investment regulations require that cedants hold diversified portfolios of assets thereby reducing exposure to individual equities. The Company does not have material holdings of unquoted equity securities. Equity risk is also managed using derivative instruments;
- **Interest rate risk:** Interest rate risk is typically managed by investing in fixed interest securities which closely match the interest rate sensitivity of the liabilities where such investments are available. In particular, a key objective is to at least match the duration of assets with the duration of annuity liabilities, and in some cases where appropriate cash flow matching has been used. These assets include government and corporate bonds, residential mortgages and commercial mortgages. Should they default before maturity, the Company's cedants can reinvest in assets of a similar risk and return profile, subject to market conditions. Interest rate risk is also managed through derivative instruments, including swaps;
- **Property price risk:** Investment in property is subject to investment limits, liquidity requirements and the expectations of policyholders. The financial impact from changes in property values is examined through stress and scenario analysis. Exposure to property risk on equity release mortgages from sustained underperformance in house price inflation is mitigated by capping loan-to-value ratios on origination at low levels and regularly monitoring the performance of the mortgage portfolio;
- **Inflation risk:** Inflation risk is typically managed through the investment strategy and, in particular, by investing in inflation-linked securities and through inflation-linked swaps;
- **Foreign currency exchange rate risk:** The Company does not directly hold any assets denominated in foreign currencies. Cedants aim to maintain sufficient assets in local currency to meet local currency liabilities. Currency risk in cedants is also managed using derivatives instruments and
- **Derivatives risk:** The Company and its cedants follow strict Group-mandated administration and valuation processes and follow a control framework that is consistent with market and industry practice for the activity that is undertaken.

The Company's ALM team oversees all material financial risk mitigation undertaken in the Company's cedants as required under the Financial Risk Mitigation business standard and Group Derivative Escalation framework.

Both the Company and its cedants, as required under the Financial Risk Mitigation business standard, assess and document the effectiveness of arrangements in place to mitigate market and credit risks (financial risks). This assessment is initially undertaken prior to execution when structuring and deciding whether or not to enter into an arrangement, and should consider its impact on key metrics including:

- Measures of risk, primarily Solvency II capital (internal model or standard formula basis); and
- Financial measures, including cash flow, IFRS profit and expenses.

Where the initial assessment indicates that the impact on key metrics is material, further assessments will be carried out at appropriate regular intervals throughout the life of the arrangement. These assessments typically include stress testing and sensitivity analysis, and transactions aimed at mitigating the same risk may be considered in aggregate (e.g. interest rate or FX hedging programmes).

### C.2.3 Risk concentration

The Company monitors investment exposures in aggregate across all classes of financial instruments (debt securities, equities, derivatives and other investments) and to individual issuers, geographies, sectors, and asset classes to ensure the Company is not individually exposed to significant risk concentrations. Where information is available, this includes underlying investments held within investment funds. Further information on how the Company manages, monitors and limits investment exposures is included in Section C.3.2.

The Company's biggest foreign currency exposures are to the euro and Canadian dollar, mostly via its reinsurance of the French and Canadian non-life insurance business (FGI and CGI respectively). FGI and CGI assets each represent 2% of the Company's total assets although these assets back liabilities denominated in the same currencies, so do not give rise to material currency risk.

## C.3 Credit risk

### C.3.1 Exposure

Credit risk is the risk of financial loss as a result of the default or failure of third parties to meet their payment obligations to the Company, or variations in market values as a result of changes in expectations related to these risks. The Company accepts credit risk within its risk appetite. In general, the Company prefers to take credit risk over equity and property risks, due to the better expected risk adjusted return, its credit risk analysis capability and the structural investment advantages conferred to insurers with long-dated, relatively illiquid liabilities.



The principal credit risk categories that the Company is exposed to are as follows:

- **Spread risk** is the risk that credit spreads over risk-free interest rates change. Credit concerns (improving or worsening) with respect to the issuer and market factors such as risk appetite and liquidity within the market can give rise to spread risk;
- **Default risk** is the risk that a counterparty is unable or unwilling to meet its financial obligations when they fall due; and
- **Rating migration risk** is the risk that a change in the credit rating of a counterparty adversely impacts the Company.

The Company's credit risks arise principally through the following exposures:

- **Debt securities:** Includes investments in sovereign and corporate bonds.
- **Loans:** The loan portfolio principally comprises:
  - Policy loans;
  - Loans and advances to banks;
  - Healthcare, infrastructure and Private Finance Initiative (PFI) loans; and
  - Mortgage loans.
- **Reinsurance assets:** Where the Company's cedants have reinsurance arrangements in place, credit risk arises in relation to the reinsurance counterparties.
- **Other investment assets:** Credit risk arises in relation to other assets, including structured investments, bank deposits and derivative counterparties.
- **Intra-group debt:** In 2013, the Company provided a loan to its immediate parent, Aviva Group Holdings Limited (AGH), secured on the net assets of Aviva Insurance Limited (AIL), a fellow group subsidiary. As at 31 December 2019, the loan had an outstanding balance of £200 million. The agreement for the secured loan provided by the Company to AGH contains a number of trigger levels in terms of the adequacy of collateral provided, requiring action to be taken. These triggers are monitored by the Company's management. Due to the nature of the intra-group loan, and the fact that it is not traded, the Company is not exposed to the risk of changes to the market value caused by changing perceptions of the credit worthiness of AGH.

The following factors are used both by the Company and its cedants when measuring and assessing credit risk exposure:

- **Maximum exposure:** The maximum exposure to credit risk of financial assets and reinsurance assets, without taking collateral or hedges into account, is represented by the carrying value of the financial assets and reinsurance assets recognised in the Solvency II balance sheet. These comprise debt securities, reinsurance assets, derivative assets, loans and receivables;
- **Credit ratings:** Credit ratings (external, internal and market adjusted) are used as indicators of credit risk to help determine risk management actions and investment decisions and asset allocation, as well as credit risk capital requirement and
- **Loan-specific factors:** The loan exposures for the Company's reinsured UK life business are calculated on a discounted cash flow basis and include a risk adjustment through the use of Credit Risk Adjusted Value. In addition, the Company considers a range of factors in assessing credit risk arising on mortgage portfolios, including loan to value ratios, interest and debt service cover, and diversity and quality of the tenant base metrics.

The Company measures and assesses its exposure to credit risk in terms of Solvency II SCR. The majority of credit risk relates to that arising from corporate and government bond holdings, which is reported within market risk SCR. In addition to this, at 31 December 2019, the counterparty default risk element of the Company's credit risk undiversified SCR amounted to £0.1 billion (2018: £0.1 billion).

There have been no material changes in credit risk profile during the year.

### C.3.2 Risk management and mitigation

The Company's principal methods of mitigating credit risk exposure are the purchase of derivatives for hedging purposes and the holding of collateral and other forms of security.

#### Credit risk hedging

The Company holds a series of macro credit hedges to reduce the overall credit risk exposure. The Company's portfolio of macro credit hedges uses credit tranches to reduce the Company's credit risk in a cost-effective manner. The tranches are based on standardised credit indices and standardised tranche attachment and detachment points to maximise the liquidity and price transparency of the positions held.

Some of the Company's cedants hold single name Credit Default Swaps and credit tranches; these are vanilla products with multiple market makers and standardised terms.

#### Specific credit risk mitigation techniques – loans

In respect of the Company's loan portfolio credit risk is mitigated by holding the following securities:

- Policy loans are generally collateralised by a lien or charge over the underlying policy;
- Loans and advances to banks, which primarily relate to loans of cash collateral received in stock lending transactions, are fully collateralised by other securities;
- Healthcare, infrastructure and Private Finance Initiative (PFI) loans are secured against healthcare, education, social housing and emergency services related premises; and
- Mortgage loans are collateralised by property assets.

#### Specific credit risk mitigation techniques – other credit risks

The Company is exposed to counterparty credit risk through derivative trades. This risk is generally mitigated through holding collateral for most trades. Residual exposures are managed via the credit management framework.

In unit-linked business, to which the Company is exposed through reinsurance of the UKLAP business, the policyholder bears the direct market risk and credit risk on investment assets in the unit funds and the Company's exposure to credit risk is limited to the extent of the income arising from asset management charges based on the value of assets in the fund.

The Company's UK cedants have significant securities financing operations. The risks within this activity are mitigated by collateralisation and minimum counterparty credit quality requirements.

### C.3.3 Risk concentration

The Company holds a diversified portfolio of assets subject to credit risk due to the application of the group-wide credit risk policies, business standards and limits framework, which limit investments in individual assets and asset classes. Credit concentrations in the Company are monitored as part of the regular credit monitoring process and are reported to the Company's ALCo and Risk Committee.

The Company's most significant investment asset exposures are to cash and cash equivalents, through its holdings of liquidity funds. At 31 December 2019, the Aviva GBP Government Liquidity Fund was the only investment with shareholder exposure greater than £200 million.

## C.4 Liquidity risk

### C.4.1 Exposure

Liquidity risk is the risk of not being able to make payments as they become due because there are insufficient assets in cash form. Liquidity issues may arise from uncertainty in the value and timing of liabilities as well as uncertainty in the ability to realise assets as cash to meet certain obligations, for example:

- In the short term, the Company's liquidity position is sensitive to changes in market and credit conditions which lead to collateral calls on its directly owned derivatives. Changes in market and credit conditions impact the market value of the Company's directly owned assets which are sources of liquidity; and
- In the longer term, the Company's liquidity position is sensitive to changes in underwriting risks which, combined with changes to the market and credit conditions, can lead to reinsurance claims being made by the Company's cedants.

The design of the Company's reinsurance arrangements ensures that the liquidity needed for cash and short-term liquidity will be less than the long-term liquidity requirements. Liquidity risk appetite is expressed and measured through both absolute level targets and a bespoke Liquidity Coverage Ratio which measure the extent to which liquid assets held and stressed inflows are sufficient to meet liquidity requirements over a specified time horizon. Over 2019, the Company has continued having sufficient liquidity sources to meet its stressed liquidity needs in line with its liquidity risk appetite.

Liquidity risk exposure is also analysed via stress and scenario testing, including reverse stress tests, undertaken for the purpose of recovery planning and to test the resilience of the business plan. This testing considers specific impacts on the Company's liquidity position. Refer to Section C.7.1 for further details of this testing.

### C.4.2 Risk management and mitigation

The Company manages and mitigates its exposure to liquidity risk by setting liquidity risk appetite levels as described above. The Company monitors the effectiveness of liquidity risk mitigation techniques as follows:

- Provision of management information to compare actual position to risk appetite;
- Assurance work (e.g. testing) to ensure that controls that enable effective liquidity risk management are in place and working effectively; and
- Continual monitoring of actual and projected liquid resources, cash inflows and outflows, in both normal and stressed scenarios, by the Company's ALCo.

### C.4.3 Risk concentration

Concentration of liquidity risk can occur if the Company's assets are invested in a limited number of issuers, asset classes and sectors, and in the event of an external shock market liquidity for these investments disappears and the Company is unable to realise them for cash. The measures taken to avoid such risk concentrations are set out in Section C.3.3.

If there is a loss event or a series of loss events in at least one of the Company's cedants, the Company may receive reinsurance claim requests; the Company considers this risk as part of its risk appetite setting. Certain scenarios may be more likely to lead to reinsurance claim requests across multiple cedants; the Company considers this as part of its stress and scenario testing analyses.

## C.5. Operational risk

### C.5.1 Exposure

Operational risk is the risk of direct or indirect loss, arising from inadequate or failed internal processes, people and systems, or external events including changes in the regulatory environment. The Company has limited appetite for operational risks and aims to reduce these risks as far as commercially sensible.

Conduct risk, which is an element of operational risk, is the risk of positive customer outcomes not being achieved. The Company is individually exposed to conduct risk through its reinsured business where it is treated as a key priority across the whole lifecycle of the products and throughout the end to end customer journey.

The Company also seeks to manage its exposure to reputational risk. Examples of factors, regardless of whether authenticated or not, which could damage the Company's reputation include litigation, employee misconduct, operational failures, the outcome of regulatory investigations, media speculation and negative publicity, disclosure of confidential client information or inadequate services.



Operational risks are initially assessed through the risk and control self-assessment (RCSA) process, in which the Company identifies operational risks arising from inadequate or failed internal processes, people and systems. Following an assessment of inherent operational risks and of the design adequacy and operating effectiveness of the controls implemented, a residual risk impact and probability assessment is performed. Residual impact is quantitatively assessed on the basis of financial loss and misstatement and qualitatively for reputational and conduct considerations. The nature of operational risks (e.g. interruption of service to customers or loss of customer data) means that the reputational and conduct impacts are often more significant than the financial impact. The residual impact is compared to pre-defined operational risk tolerances to identify where management action is required. Operational risks outside tolerance require prioritised management action to reduce the residual risk within the pre-defined level of tolerance. Notwithstanding this, the Company will also seek to reduce residual operational risk exposures for those operational risks within tolerance where it is cost effective to do so.

To the extent that operational risks cannot be fully mitigated and in recognition of the risk of control failure (i.e. due to ineffectiveness in design or performance), the Company holds Solvency II capital to cover these risks calculated on the basis of Solvency II SCR. The bulk of the Company's operational risk calibration for internally modelled businesses consists of a scenario based approach, which covers potential loss events (drawing on the risks identified through the RCSA process) that are low frequency/high impact. At 31 December 2019, the Company's operational risk undiversified SCR amounted to £0.5 billion (2018: £0.5 billion).

There were no material changes to the Company's operational risk profile during 2019.

### C.5.2 Risk management and mitigation

The Company seeks to ensure that all material risks falling outside its risk tolerances are being mitigated, monitored and reported to an appropriate level. Any risks with a high potential impact are monitored on a regular basis. The Company uses key indicator data to help monitor the status of the risk and control environment. The Company also identifies and captures loss events, taking appropriate action to address actual control breakdowns and promote internal learning.

The group-wide risk policies and business standards set out the minimum control objectives and controls that each business area is expected to have in place. Operational risk tolerances act as quantitative boundaries that constrain specific risk-taking activities at an operational level.

The Company records and analyses operational risk events arising from inadequate or failed processes, people or systems or external events to ensure remedial action is taken and lessons are learned. This includes risk events which do not give rise to a financial loss, such as near misses or fortuitous gains. The lessons learned enable the Company to highlight areas for improvement, implement corrective actions to avoid recurrence, and improve the Company's risk assessment and understanding of operational risk, feeding into the risk and control self-assessment process.

The Company's three lines of defence all monitor the effectiveness of the controls that are in place to manage and mitigate operational risks. Further details on the three lines of defence are included in Section B.1.1, including the specific roles and responsibilities of each line.

Operational risk is overseen by the ORC, which is a senior management committee, and the Board's Risk Committee.

### C.5.3 Risk concentration

Concentrations of operational risk arise when there is dependency on a single supplier (internal to the Company as well as external) to provide a product or service supporting a business critical function. The Company has identified business critical functions and has exit and termination plans and business continuity and disaster recovery plans in the event of supplier failure. These plans are reviewed at least annually.

## C.6 Other material risks

The Company does not have any material risks other than those detailed in Sections C.1 to C.5.

## C.7 Any other information

### C.7.1 Stress and scenario testing and sensitivity analyses

The Company performs stress and scenario testing (including reverse stress testing) and sensitivity analysis to understand the impact of changes on the Company's capital and liquidity risk profile, used to help inform decision making.

Stress and scenario testing is a key element of the Company's Risk Management Framework and business planning process, helping it to identify and analyse the risks and evaluate ways of mitigating or managing those risks. At least annually, a broad range of Company risk specific stress and scenario tests are defined; the events tested range from those that are considered likely to arise, to extreme events with the potential to cause business model failure that would require recovery action. A range of assumptions are made in the identification of risk and measurement of resilience; these assumptions are defined by suitable experts and, where applicable, by regulators. The Company maintains a Recovery Plan with a set of plausible recovery actions that it can execute in a timely manner, and which will enable the Company to survive a range of severe stresses, caused by either Company specific or market-wide issues.

The SCR is the primary basis used by the Company to measure and assess its risks. Sensitivity analyses performed by the Company include consideration of the sensitivity of its SCR cover ratio (own funds divided by SCR) to increases and decreases in economic and non-economic assumptions as detailed in the table below.

The sensitivity allows for any consequential impact on the assets and liability valuations. All other assumptions remain unchanged for each sensitivity, except where these are directly affected by the revised economic conditions or where a management action that is allowed for in the SCR calculation is applicable for that sensitivity.

Transitional measures on technical provisions are assumed to be recalculated in all sensitivities where their impact would be material.

Sensitivities (net of tax), as at 31 December 2019		Change in Solvency II SCR cover ratio
Changes in economic assumptions	25 bps increase in interest rate	2.6%
	50 bps increase in interest rate	5.3%
	100 bps increase in interest rate	10.8%
	25 bps decrease in interest rate	(3.3)%
	50 bps decrease in interest rate	(6.9)%
	50 bps increase in Corporate Bond spread	(1.2)%
	100 bps increase in Corporate Bond spread	(3.1)%
	50 bps decrease in Corporate Bond spread	1.9%
	Credit downgrade on annuity portfolio	(4.0)%
	10% increase in market value of equity	1.3%
	25% increase in market value of equity	3.4%
	10% decrease in market value of equity	(1.4)%
	25% decrease in market value of equity	(3.5)%
	20% increase in value of commercial property	7.3%
	20% decrease in value of commercial property	(10.4)%
	20% increase in value of residential property	6.4%
	20% decrease in value of residential property	(9.1)%
	10% increase in maintenance expenses and investment expenses	(3.2)%
	10% increase in lapse rates	(1.5)%
Changes in non-economic assumptions	5% increase in mortality/morbidity rates - Life assurance	(1.1)%
	5% decrease in mortality rates - annuity business	(17.9)%

### Limitations of sensitivity analysis

The table above demonstrates the effect of a change in a key assumption while other assumptions remain unchanged. In reality, there is a correlation between the assumptions and other factors. It should also be noted that these sensitivities are non-linear, and larger or smaller impacts should not be interpolated or extrapolated from these results.

The sensitivity analysis does not take into consideration that the assets and liabilities of the Company's cedants are actively managed. Additionally, the Solvency II position of the Company may vary at the time that any actual market movement occurs. For example, the Company's financial risk management strategy aims to manage the exposure to market fluctuations.

As investment markets move past various trigger levels, management actions could include selling investments, changing investment portfolio allocation, adjusting bonuses credited to policyholders, and taking other protective action. Other limitations in the above sensitivity analysis include the use of hypothetical market movements to demonstrate potential risk that only represent the Company's view of possible near-term market changes that cannot be predicted with any certainty, and the assumption that all interest rates move in identical fashion.

### C.7.2 Prudent Person Principle

The Company ensures that its assets are invested in accordance with the prudent person principle as set out in the Solvency II regulatory framework through the collective application of group-wide risk policies and business standards. These ensure that the Company invests in assets whose risks it can properly identify, measure, monitor, manage, control and report, and appropriately take into account in the assessment of overall solvency needs. The Asset Liability Management business standard and certain provisions of the Investment Management business standard contain mandatory controls to ensure that the Company takes into account the risks associated with its investments without relying only on the risk being adequately captured by the capital requirements. Risk appetites by risk type are also set and monitored by the Company.

Other relevant mandated controls are captured across a number of other business standards covering areas such as the quality of investment assets (including setting risk limits to control the market and credit risk within a portfolio), matching of assets to liabilities, diversification of invested assets, use of derivatives, assets not admitted for trading and the consistency of investment mandates with the way the investment proposition is described and marketed to customers of unit-linked contracts.

### C.7.3 Exposure to insurance special purpose vehicles

As at 31 December 2019, the Company has no insurance special purpose vehicles as defined in the Solvency II regulatory framework.

### C.7.4 Expected Profit included in Future Premiums

The Company's Expected Profit included in Future Premiums (EPIFP), defined in Section E.6, was £0.2 billion as at 31 December 2019 (2018: £0.2 billion).

### C.7.5 Additional information on the COVID-19 global pandemic

Further information on the impact of the COVID-19 global pandemic is contained within section F.7.

# Section D

## Valuation for Solvency Purposes

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## Section D: Valuation for Solvency Purposes

This section of the report provides a description of the bases, methods and main assumptions used in the valuation of assets, technical provisions and other liabilities for each material asset and liability class. It also provides an explanation of the material differences between the IFRS and Solvency II bases of valuation.

The following table sets out a summarised balance sheet as at 31 December 2019. The Company's Solvency II balance sheet (column (d)) is detailed in the balance sheet QRT 5.02.01.02 in Section F.2. Its IFRS balance sheet (column (a)) has been reclassified from the presentation used under IFRS in the financial statements to the categories used in the balance sheet QRT.

### Balance Sheet – IFRS and Solvency II

As at 31 December 2019	Accounting policy and note(s) from financial statements	IFRS balance sheet (a) £m	Reclassification (c-a) £m	IFRS Reclassified (c) £m	Solvency II balance sheet (d) £m	Valuation difference (d-c) £m
Assets						
Deferred acquisition costs	Q & 12	461	-	461	-	(461)
Participations	n/a	-	-	-	-	-
Loans and Mortgages	M & 11	200	-	200	200	-
Cash and cash equivalents	R & 22(b)	1,058	-	1,058	1,058	-
Deposits with ceding undertakings	M & 11	61,388	-	61,388	61,398	10
Receivables (insurance, reinsurance and intermediaries)	M & 11	228	-	228	228	-
Other assets (including prepayments and accrued income)	M & 12	1	-	1	1	-
<b>Total assets</b>		<b>63,336</b>	<b>-</b>	<b>63,336</b>	<b>62,885</b>	<b>(451)</b>
Liabilities						
Technical provisions	J & 16	58,861	-	58,861	57,264	(1,597)
Current tax liabilities	T & 13	360	-	360	360	-
Deferred tax liabilities	n/a	-	-	-	195	195
Payables & other financial liabilities	N & 19	210	-	210	210	-
Other liabilities	N & 20	2	-	2	1	(1)
<b>Total liabilities</b>		<b>59,433</b>	<b>-</b>	<b>59,433</b>	<b>58,029</b>	<b>(1,404)</b>
Excess of assets over liabilities		3,903	-	3,903	4,855	952

Reclassification differences occur where the presentation of the balance sheet in the financial statements and the Solvency II balance sheet differ. These have no net asset impact and therefore no impact on Solvency II measurement.

The material differences between the IFRS and Solvency II valuation are covered in sections D.1 Assets, D.2 Technical provisions and D.3 Other liabilities below.

### D.1 Assets

This section details the Solvency II valuation basis of each material class of asset and any material differences between that and the valuation used in the financial statements.

There were no material changes made to the recognition and valuation bases used or to estimation methods during the reporting period.

#### D.1.1 Valuation of material assets

Assets have been valued according to the requirements of the Solvency II Directive and related guidance, at the amount for which they could be exchanged between knowledgeable willing parties in an arm's length transaction. The Company applies a hierarchy of preferred valuation approaches:

- Quoted market prices in active markets for the same assets or liabilities;
- Quoted market prices in active markets for similar assets and liabilities (with adjustments to reflect differences where necessary); and
- Alternative valuation methods.

The criteria to determine whether a market is active are consistent with IFRS 13 'Fair Value Measurement'. An 'Active market' under IFRS is defined as a market in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis. The assets, classified as Level 1 and Level 2 under IFRS 13, are deemed as market consistent under Solvency II. The assets classified as Level 3, for which there is no active market, are considered to use alternative valuation methods under Solvency II. Where alternative valuation methods have been used these are detailed in Section D.4.

The bases, methods and main assumptions used to value each class of assets for IFRS can be found under the relevant accounting policy and note in the Company's financial statements, as listed in the above table.

#### D.1.2 Material differences between the Solvency II and IFRS valuation bases

Deferred acquisition costs valued at £461 million for IFRS purposes are set to nil in the Solvency II balance sheet and instead the associated cash flows are included in the measurement of Solvency II technical provisions.

There are no other material differences.

### D.2 Technical provisions

This section details the Solvency II definition of the technical provisions and includes a description of the methods and assumptions used in their valuation, by material line of business, together with a description of the level of uncertainty associated

with their value. An explanation of any material differences between the Solvency II valuation and the valuation used in financial statements is included.

#### D.2.1 Definition of technical provisions

Technical provisions comprise best estimate liabilities and a risk margin and are detailed in the QRT S.12.01.02 'Life Technical Provisions' and S.17.01.02 'Non-life Technical Provisions' in Section F.2.

The best estimate liability is defined as the probability-weighted average of the present value of future cash flows on a market consistent basis, using the relevant risk-free interest rate term structure after making allowance for credit risk and the volatility adjustment (VA) or matching adjustment (MA) as required.

The risk margin (*unaudited*) is an allowance for the amount, in addition to the best estimate liability, that a third party (buyer) would expect to receive in order to take over the insurance obligations of an existing entity. It is calculated as the present value of a cost of capital each year in respect of non-hedgeable risks.

Technical provisions also include the transitional measure on technical provisions (TMTP) (*unaudited*) which allows firms to transition from the Solvency I Pillar II liabilities to the Solvency II technical provisions over a period of 16 years for business written prior to the Solvency II implementation date of 1 January 2016. This is described in more detail in section D.2.5.4.

The following general principles apply to technical provisions valuation:

- The calculation of technical provisions is performed on a going concern basis. This means a proportion of expected future costs (such as general overheads) will be covered by future new business;
- A policy is recognised as an existing contract once the reinsured business becomes party to the contract where this is earlier than the date of inception (more common for general insurance business); and
- The definition of a 'best estimate' assumption is one that represents the expected outcome from the range of possible outcomes for future experience of that assumption and is reasonable and realistic with no margins for prudence included.

#### D.2.2 Methodology and assumptions for best estimate liabilities

##### D.2.2.1 Methodology and non-economic assumptions for life business

###### a) Valuation methodology

The valuation methodologies and assumptions for the Company's technical provisions are initially derived from the underlying methodologies and assumptions of its reinsured cedant businesses. While these assumptions and methodologies are initially set at a cedant level, the Company separately considers and approves the appropriateness of these assumptions and methodologies in the context of its total technical provisions

In what follows therefore references to 'contracts' and 'policies' refer to contracts between the cedants and their policyholders which are within the scope of the quota share reinsurance arrangements, rather than the reinsurance arrangements between the Company and the cedants.

###### **Cash flow modelling**

A deterministic valuation approach producing point estimates, based on best estimate assumptions and all relevant future cash flows required to settle the life insurance liabilities, is used for most of the business. The exception is for contracts with embedded options and guarantees, where a more sophisticated stochastic approach based on the average of a number of scenarios is used.

UKLAP has continued to implement a new actuarial modelling system for non-profit business. During the year ended 31 December 2019 the following business was moved to the new modelling system: Individual Income Protection, Term Assurance and Whole of Life. The implementation of the new system will continue into the financial year ending 31 December 2020.

Future investment returns are also projected in order to determine the value of such items as annual management charges, investment expenses and the value of investment guarantees.

###### **Policy grouping**

The cash flow projections used in the calculation of the best estimate liability for life insurance business are made separately for each policy.

###### **Minimum technical provision per policy**

Technical provisions for insurance contracts are allowed to be negative where future cash inflows are expected to exceed future cash outflows.

The technical provisions of an insurance contract may be lower than the surrender value available to the policyholder. This means that if the sum of the best estimate liability and the risk margin of a contract is lower than the surrender value of that contract, then the value of insurance liabilities is not increased to the surrender value of the contract.

###### **Contract Boundaries**

The calculation of the best estimate liability allows for any boundaries of the insurance contract. A boundary exists where the insurance undertaking has a unilateral right to: terminate the contract; reject premiums payable under the contract; or amend the premiums or benefits payable under the contract at a future date in such a way that the premiums fully reflect the risks. Any obligations which relate to cover which may be provided after that date do not belong to the contract, unless the undertaking can compel the policyholder to pay the premium for those obligations.

An immediate contract boundary also applies to unit-linked regular premium savings and pensions policies which do not have material risk benefits or guarantees.

UK unit-linked policies invested in charge-capped funds are treated as having an extended contract boundary which includes expected future premiums. As a consequence, auto-enrolment default funds, stakeholder pensions and products with explicit charge caps promised to policyholders (set at a similar level to stakeholder pensions) are considered to have an extended contract boundary.

Where contract boundaries are applied, these contracts are treated as paid-up at the valuation date. The expense and lapse assumptions are reviewed to ensure that they are appropriate to the restricted contract boundary.

#### ***Financial options and guarantees***

Where options and guarantees are contract features, a stochastic approach to valuation is used, unless the risk is immaterial or there is insufficient data to calibrate the model. There are a small number of guarantees not modelled within the stochastic model for which the expected cost of guarantees is based on the results for similar products where guarantees are modelled. For some relatively small blocks of business with guaranteed annuity options that are not modelled stochastically, it is assumed that a high proportion of the guarantee is taken up.

Where policy guarantees (e.g. unit-linked Guaranteed Fund investment guarantees) mean that persistency is likely to be higher, a lower assumed lapse rate is used to reflect this, and an additional reserve is determined stochastically to reflect the time value of the investment guarantee. A small additional reserve is held to cover options to renew/convert existing protection policies at normal premium rates.

#### ***Basis, methods and assumptions applicable to particular classes of business***

##### ***Unit-linked and index-linked business***

Unit-linked business is valued as the face value of the units at market bid price, together with allowance for non-unit cash flows, including mortality and other claim benefits, future expenses and policy charges. Allowances are included where appropriate for loyalty bonus and for waiver of premium benefits, permanent health benefits, permanent total disability benefits and guaranteed insurability options.

Non-unit reserves are calculated by projecting cash flows on a monthly basis for each month that the policy is expected to remain in force. Explicit allowance is made for future commission where appropriate. Allowance is also made for the promise that the Company made to policyholders that the charges on certain pensions policies will not exceed 1% p.a. in any future year.

A non-unit reserve is determined along similar lines for unitised with-profits business where the investment liability arises in the with-profits fund, but other policy benefits, charges and expenses arise in the non-profit funds.

On 7 December 2017 the PRA issued feedback to life insurers expressing a preference for unit liabilities included within technical provisions to be reported within technical provisions as a whole on the Solvency II Balance Sheet. This was not a mandated approach and has no impact on the measurement of own funds or of technical provisions. The Company has continued to present the unit liabilities within best estimate liabilities in line with the approach adopted in previous years.

The Company has no material volumes of index-linked business.

##### ***Group life contracts***

For group life contracts, the total best estimate liability consists of an unearned premium reserve, an outstanding claims reserve (consisting of 'incurred but not reported' and 'reported but not paid' reserves) and a premium deficiency reserve.

The unearned premium reserve is that portion of the policy premium that has not yet been 'earned' by the Company because the policy still has some time to run before the renewal date.

The incurred but not reported reserve is the claims that have been incurred at the reporting date but have not yet been reported to the insurer. The size of this reserve is estimated based on the past history of claim reporting delays in the portfolio.

The reported but not paid reserve is the claims that have been reported at the reporting date but not yet been paid by the insurer.

A premium deficiency reserve is recognised when the unearned premium reserve is insufficient to cover the risks associated with the unexpired policies.

##### ***Income Protection***

Individual income protection contracts are valued as follows:

- Future claim benefits are valued on the inception/annuity actuarial methodology. This involves combining sickness inception rates with the value of a disability annuity for the expected length of sickness.
- Contracts with waiver of premium are valued by treating the premium waiver as an extra benefit.
- The liability for current income protection claims in payment is the discounted value of future claim payments, with any benefit escalation explicitly allowed for. In addition, claim expenses are valued explicitly for all contracts where the policyholder is currently claiming a benefit.
- An additional disputed claims reserve is held as well as a notified outstanding claims reserve in respect of claims reported but not yet authorised.

For group income protection contracts, the total best estimate liability consists of an outstanding claims reserve (consisting of 'incurred but not reported', 'reported but not paid' and disputed claims reserves) and a premium deficiency reserve.

The liability for current income protection claims in payment is the discounted value of future claim payments, with any benefit escalation explicitly allowed for. In addition, claim expenses are valued explicitly for all contracts where the policyholder is currently claiming a benefit.

## (b) Valuation components and material non-economic assumptions

### *Cash flows in scope*

For life reinsurance obligations (lines of business 35-36), all cash flows (including any charges related to embedded options) required to settle the insurance liabilities over their lifetime are taken into account.

The table below summarises the main cash flows that are modelled:

Cash in-flows	Cash out-flows
Future premiums (gross of commissions and policyholder tax) Annual management (and other) charges in unit-linked business Recoveries from external reinsurers in respect of claims/benefit payments	Benefits including: - Claims payments; - Maturity benefits; - Death and critical illness benefits; - Disability benefits; - Surrender benefits; - Annuity payments.  Expenses including: - Administrative expenses; - Investment management expenses; - Claims management expenses (direct and indirect).  Future premiums to external reinsurers

### *Future premiums*

Future premiums are projected using persistency assumptions appropriate to each class of business. Premium levels will also reflect the impact of other decrements such as mortality. Persistency assumptions are set as the best estimate view of future experience. They are determined at a business unit level through frequent monitoring of company experience and benchmarked against local market information.

Assumptions for surrender and paid-up rates are set by product and vary based on expected experience, which may vary by duration, age and size of policy. Lapse rate assumptions for unit-linked pensions combine transfers and early retirements and vary by customer age and product.

### *Expenses*

The best estimate liability for future expenses is a combination of the following elements:

- Administrative expenses;
- Claims management expenses / handling expenses;
- Acquisition expenses, but only to the extent that they are incurred on existing business after the valuation date;
- Commissions which are expected to be incurred in the future;
- Reserves for exceptional and project costs;
- Investment management expenses, which are expressed as a percentage of funds under management; and
- Future expense inflation over the lifetime of each contract and is assumed to be in line with RPI, and with external agreements for business administered externally.

These allowances cover all expenses arising within cedants and from the cedant management services companies, and also in respect of the outsourcing agreements on certain business between the management services companies and the outsourcing companies, and the investment management agreements with Aviva Investors. An allowance is also made for additional head office expenses.

Where a defined charge is specified in the Management Services Agreement between the Company and the service company or the outsourcer, it is generally assumed that this charge will continue on an ongoing basis. Where no defined charge is specified, it is assumed that the full cost incurred by the service companies in managing the policies will be charged to the Company, so the best estimate expenses are based on an estimate of the underlying costs to the service companies.

### *Death and other claim benefits*

Death and other claims benefits are projected using decrements appropriate to each class of business, including persistency, mortality and morbidity.

For deferred annuity products, the value of any benefit payable on death during the deferred period is added to the value of the deferred annuity. For deferred annuities continued beyond the normal pension age, the cash available at the normal pension age is accumulated in line with policy conditions.

For contracts which have fixed benefit increases the valuation provides for these increases within the discounted cash flow method.

The primary source of data for setting base assumptions is analysis of the Company's own experience. Publicly available data from the Continuous Mortality Investigation ("CMI") on mortality experience across the industry is also considered.

The base tables used are typically the industry standard Txx08 tables for life protection policies, ACxx08 tables for critical illness protection policies, ELT15 tables for funeral plans and Axx00 tables for savings policies. Different tables apply to males and females and to smokers and non-smokers for products where the smoker status is known.

### *Annuity payments*

Most individual annuities in payment are expressed as a percentage of PMA08 High Age Mortality Working Party (HAMWP) adjusted and PFA08 HAMWP adjusted. The percentage of these tables applied is based on analyses of recent experience for each of the main cohorts of business originally sold through different companies. The tables are based on the versions published in

2017 that incorporate the adjustments proposed by the CMI HAMWP. Further adjustments are made at old ages to remove distortions to the shape of the tables that arise from applying historic CMI improvements i.e. to better reflect the shape of actual improvements from 2008 to the valuation date. For the pension's annuity business in the Company, a further adjustment is applied at below age 70 to improve the fit of the table relative to experience and the resultant tables are referred to as PMA08\_HG and PFA08\_HG. The conventional immediate and deferred annuity business is valued by discounting future benefit payments with an allowance for mortality, including future improvements in mortality.

For the pension annuity business in the Company, the underlying mortality assumptions for males are 107.5% of PMA08\_HG (2018: 108.0% of PMA08 HAMWP adjusted) with base year 2008; for females the underlying mortality assumptions are 101.5% of PFA08\_HG (2018: 101.0% of PFA08 HAMWP adjusted) with base year 2008.

Improvements are based on 'CMI\_2018 (Sk=7.25) Advanced with adjustments' (2018: 'CMI\_2017 (Sk=7.5) Advanced with adjustments') with a long-term improvement rate of 1.75% (2017: 1.75%) for males and 1.5% (2017: 1.5%) for females. The CMI\_2018 tables have been adjusted by adding 0.25% and 0.35% to the initial rate of mortality improvements for males and females respectively (to allow for greater mortality improvements in the annuitant population relative to the general population on which CMI\_2018 is based), and uses the advanced parameters to taper the long-term improvement rates to zero between ages 90 and 115 (unchanged from 2018) (the 'core' parameters taper the long-term improvement rates to zero between ages 85 and 110).

Year-specific adjustments are made to allow for potential selection effects due to the development of the Enhanced Annuity market and covering possible selection effects from pension freedom reforms.

For BPA business, the mortality assumptions are derived from internally generated tables produced from 'Club Vita 3' data. The 'Club Vita3' data covers a wide variety of occupational pension schemes in the public and private sector. The assumptions include adjustments to the base tables for factors such as financial usage, council tax band, region, size of pension and early retirement factors.

#### **Other assumptions**

##### *Income Protection*

Income protection is modelled using claim inception and termination rates based on CIDA 85 tables and CMIR 12 tables respectively, with adjustments based on the historical experience of the portfolio for appropriate rating factors.

##### *Events not in data (ENIDs)*

The term ENIDs refers to any events not deemed to be captured by the data, which need to be allowed within the best estimate calculation to allow for the uncertainty in the future cash flows. ENIDs are considered both at line of business level, and at portfolio level with allocations to lines of business, depending on the scenario being considered.

The Company considers ENIDs through either adjusting the best estimate assumptions to ensure the likely impact of the event is included or using a scenario approach where they are expected to be material. Expert judgement is applied to determine the expected impact on future experience.

#### **D.2.2.2 Methodology and non-economic assumptions for non-life business**

##### **Valuation methodology**

The valuation methodologies and assumptions for the Company's technical provisions are initially derived from the underlying methodologies and assumptions of its reinsured cedant businesses. While these assumptions and methodologies are initially set at a cedant level, the Company separately considers and approves the appropriateness of these assumptions and methodologies in the context of its total technical provisions.

In what follows therefore references to 'contracts' and 'policies' refer to contracts between the cedants and their policyholders which are within the scope of the quota share reinsurance arrangements, rather than the reinsurance arrangements between the Company and the cedants.

##### **Contract boundaries**

The circumstances for when a contract boundary exists are the same as described above for Life business in D.2.2.1.

The Company's share of business written by intermediaries of the cedants on a delegated authority basis has been included on a "look-through" basis, including policies where a legal obligation has been created by the intermediary.

It is assumed that cedants renew outwards reinsurance, in accordance with Level 3 guidelines. This is done using the "principle of correspondence", whereby a proportion of the full premium and recoveries are recognised to reflect the fact that the renewed reinsurance treaty will also cover primary policies which are not yet within the contract boundary. For reinsurance purchased or renewed by the cedants before the valuation date, including pre-inception contracts, the Company uses the principle of legal obligations and allows for its share of the full cost of the reinsurance unless the cedants are legally entitled to a refund if no further exposure is written.

##### **Cash flows**

The Company's best estimate liabilities are valued based on the present value of future cash flows discounted using relevant risk-free interest rates at the valuation date. The cash flows that are considered when calculating the best estimate liabilities derive from:

- In-force and expired contracts;
- Contracts that have not yet inception but that the Company has an obligation to enter into at the valuation date (pre-inception contracts); and
- Future cancellations or endorsements by the policyholder.

Best estimate liabilities comprise a claims provision and a premiums provision. The claims provision includes cash flows relating to events that occurred before the valuation date, whether reported or not. The cash flows include premiums, net claims costs and



expenses. The premium provision includes cash flows relating to future claim events that have not yet occurred, but that are covered by existing contracts and legally binding pre-inception contracts. The cash flows include premiums, net claims and expenses, in respect of future claim events. Where future premium cash flows are expected to exceed projected future claim and expense cash flows, the premium provision is negative.

When modelling these cash flows the inflows are considered separately from the outflows. Claims costs take into account recoveries from salvage and subrogation. Expenses include administrative, investment management, loss adjustment and acquisition expenses including commissions and premium taxes.

#### **Claims costs (excluding PPOs)**

The ultimate cost of outstanding claims is estimated using a range of standard actuarial claims projection techniques. The main assumption underlying these techniques is that the cedants' past claims experience can be used as a basis to project future claims. Therefore, these methods extrapolate the development of paid and incurred losses, average costs per claim and claim numbers based on the observed development of earlier years. The estimation of ultimate claims costs is done at the level of homogeneous risk groups. These groups are mapped to Solvency II lines of business.

Certain lines of business are also further analysed by claim type or type of coverage. For example, latent claims require specialist actuarial techniques appropriate for the nature of the underlying liabilities. Given the long delay between writing the insurance policy and the claim arising, the techniques used for latent claims typically group claims data by the year claims are reported and project the future number and average cost of claims for homogeneous latent claim types based on a combination of own Company experience and industry-wide data. The Company participates on cross-industry working groups to help inform some of the projection assumptions for latent claims.

Qualitative judgement is used to reflect changes in external factors such as public attitudes to claiming, economic conditions, levels of claims inflation, judicial decisions and legislation, as well as internal factors such as portfolio mix, policy conditions and claims handling procedures.

#### **Premium provisions**

Premium provisions are estimated by selecting an exposure measure and using that to establish the unearned and pre-inception exposure. Claims cost projections are set for each future period using trends in historic claims data adjusted for known anomalies in the data that are not expected to be repeated in the future, changes in mix and volume of business and to allow for the impact of projected claims inflation. These cost projections are then applied to the predicted exposure to determine the cash flows.

#### **Expenses**

Expenses are adjusted for expense and claims inflation and allocated between the claims and premium provisions. They are analysed by homogeneous risk group or at a minimum by Solvency II line of business. Future administrative costs and commission payments are projected using best estimate expense forecasts. Investment expenses are modelled as a percentage of technical provisions. Future unallocated loss adjustment expense provisions are set in relation to expected claims levels.

#### **Events Not in Data (ENIDs)**

ENIDs are events not deemed to be captured by the data which need to be separately allowed for within the best estimate calculations to take appropriate account of uncertainty. Two types of ENIDs are considered: 'known unknowns', which are possible future scenarios that can be anticipated and 'unknown unknowns', which are future scenarios that are completely unexpected. No allowance is made for 'unknown unknowns', as by definition, they cannot be known or quantified.

Allowances for 'known unknowns' are made using scenario analysis to cover any foreseeable event with a potentially material impact. A core list of events is specified which are considered as the starting point for the analysis. Impacts are estimated gross of reinsurance, with recoveries estimated separately. ENIDs are considered both at Solvency II line of business level and at portfolio level with allocations to Solvency II lines of business, depending on the scenario being considered.

#### **Periodic Payment Orders (PPOs)**

The cash flows that are considered when calculating the Best Estimate Liabilities for PPOs derive from:

- Payment of claims benefits: with the majority of PPOs providing payments relating to care needs of the claimant, with a smaller number providing loss of earnings payments; and
- Expenses: there are relatively small (compared to the size of claims benefits) administrative costs in relation to each PPO.

PPO best estimate liabilities use life insurance actuarial methods and techniques to estimate appropriate assumptions for each individual claimant.

Assumptions are made in relation to future longevity. These assumptions are updated annually and are based on the latest general mortality assumptions for the population as a whole (including future expected changes in mortality), as well as any impairment to life expectancy on individual PPOs based on independent medical opinions.

PPO payments escalate based on indices specified at the time of settlement of the PPO. The majority of PPO claims in the UK escalate based on an Annual Survey of Hours and Earnings index (ASHE) with a smaller number escalating in line with the Retail Prices Index (RPI). Assumptions are therefore required for the future escalation of these indices. In the UK, it is assumed that, over the longer term, the future escalation of the ASHE indices will be linked to RPI within the UK economy and uses market consistent views of future RPI inflation as the basis to project future ASHE inflation. Adjustments are then made to allow for any expected differences between future ASHE inflation and future RPI inflation.

### D.2.2.3 Economic assumptions

The economic assumptions for all lines of business are set out in the sections below. The basic risk-free rate curves used to value the technical provisions reflect the curves, credit risk adjustment, volatility adjustment and fundamental spread for the matching adjustment published by EIOPA.

For details of the matching and volatility adjustments please refer to Section D.2.5

#### Risk free discount rates

The GBP, EUR and CAD risk-free spot rates at key durations, used to value the technical provisions at full year 2019 are stated in the table below. The figures shown below allow for a credit risk adjustment.

Risk-free rates	1 year	5 years	10 years	15 years	20 years	40 years
GBP	0.7%	0.8%	0.9%	1.0%	1.0%	1.0%
EUR	(0.4)%	(0.2)%	0.1%	0.4%	0.5%	1.8%
CAD	1.9%	1.9%	2.0%	2.2%	2.2%	2.4%

Where swaps do not exist or are not sufficiently liquid or reliable from a certain point, the basic risk-free interest rate is extrapolated in a smooth progression. EIOPA has prescribed by currency the entry points for extrapolation, the duration to convergence and the ultimate forward rate (UFR), as can be seen in the table below.

Currency	Entry point for extrapolation of risk-free rates	Duration to convergence to ultimate forward rate	Ultimate forward rate
GBP	50	40	3.90%
EUR	20	40	3.90%
CAD	30	40	3.90%

#### Tax

The tax assumptions used at 31 December 2019 are shown in the table below.

Parameter	31 December 2019
Corporation tax (current year)	19%
Corporation tax (future profits)	17%

### D.2.3 Risk margin methodology (unaudited)

The risk margin is calculated using a cost of capital (CoC) approach allowing for diversification between lines of business.

The CoC rate is the cost in excess of the risk-free rate, to a third party taking over the liabilities, of raising and holding capital to support the non-hedgeable risks over the lifetime of the business. The same CoC rate is used for all insurance companies and is prescribed by EIOPA at 6% per annum.

The risk margin is underpinned by the non-hedgeable SCR (nhSCR). As the nhSCR takes into account non-hedgeable risks only, the rate used to discount the projected nhSCR is the basic risk-free rate (including credit risk adjustment), with no allowance for volatility or matching adjustments.

The nhSCR in the risk margin calculation takes the following risks into account:

- Life underwriting risk;
- Health underwriting risk;
- Non-life underwriting risk;
- Market risk where it is material (except all forms of interest rate risk including interest rate interactions with non-hedgeable risks)
- Counterparty default risk with respect to reinsurance contracts, arrangements with special purpose vehicles, debtors, and any other material exposures which are closely related to the insurance obligations; and
- Operational risk.

#### Projection of the SCR

In order to project the nhSCR, a hierarchy of projection simplifications are necessary to ensure that the risk margin calculation remains proportionate to the nature, scale and complexity of the business.

The Company adopts a mix of approaches to non-hedgeable risk projections. For some risks the projected run-off is exact and no approximation is made. For others the Company makes use of risk carriers, where a suitable statistic is chosen which can be readily projected and used as a proxy.

The projected risks are then aggregated using a correlation matrix approach at each future time period to derive the nhSCR. Adjustments are made to reflect the differences between the correlation matrix approach and the Internal Model.

#### Diversification

The risk margin allows for diversification as follows:

- Diversification is taken into account between life business accepted from different reinsured business;
- Diversification is taken into account between non-life business accepted from different reinsured business;
- No diversification is taken between life and non-life business;
- For life business, diversification between the matching adjustment portfolio and the rest of the life business in the entity is permitted.

Note that in the calculation of the risk margin, non-hedgeable risk on vested periodic payment orders is included within non-hedgeable risks for life business, regardless of which cedant has reinsured the risk to the Company.

#### **Diversification between non-life business ceded by internal model and standard formula cedants**

Some of the non-life business ceded to the Company (primarily ceded by Aviva Assurances SA) is modelled on a standard formula basis. The Company's non-life diversified risk margin is calculated as a combination of the risk margin on internal model and standard formula cedants, less an allowance for geographical diversification.

#### **Loss absorbency**

The loss absorbing capacity of technical provisions assumed in the calculation of the nhSCR is consistent with the loss absorbing capacity of technical provisions assumed in the calculation of the SCR. No allowance for the loss absorbency of deferred taxes is included in the risk margin.

#### **D.2.4 Simplified methods (unaudited unless relating to best estimate liabilities)**

In order to project the non-hedgeable SCR which underpins the risk margin for both life and non-life business, a hierarchy of projection simplifications is necessary to ensure that the risk margin calculation remains proportionate to the nature, scale and complexity of the business (see section D.2.3 above for further details).

Simplified methods employed to calculate the best estimate liabilities are detailed below.

#### **Life business**

For smaller blocks of business that are not included in the main models on materiality grounds, an approximate approach is used to calculate the best estimate liability. Manual adjustments to the results calculated by the main valuation systems are made to produce the required technical provisions, for example where a best estimate is set to the equivalent accounting liability. Such manual adjustments are applied in a proportionate manner.

For options and guarantees that are immaterial, alternative methods such as closed-form approaches or a series of deterministic projections are used to calculate the liability. This is based on the results for similar products where guarantees are modelled stochastically and is a proportionate approach given materiality considerations.

There are no other material simplifications.

#### **Non-life business**

In some areas of the calculation of the Solvency II best estimate liabilities, simplified methods have been used. The methods chosen range from average cost per claim method to a simple percentage of claims provisions. The selected method depends on the nature of the business, for example, whether it is long-tailed or short-tailed; or whether it exhibits ENID characteristics.

Where simplified methods are used, these are documented and justified in our reserving reports.

#### **D.2.5 Other reliefs**

The impact of the transitional measures, volatility adjustment and matching adjustment described below can be found in QRT S.22.01.21, which is included within Section F.2.

##### **D.2.5.1 Transitional deduction (unaudited)**

The transitional measure on technical provisions (TMTP), as set out in Article 308d of Directive 2009/138/EC, allows firms to transition from the Solvency I liabilities to the Solvency II technical provisions over a period of 16 years for business written prior to the Solvency II implementation date of 1 January 2016.

The TMTP is recalculated at least every 2 years, and has been recalculated at 31 December 2019. A recalculation may also be undertaken if a company's risk profile materially changes. The transitional measure on technical provisions decreases linearly over 16 years from 1 January 2016 to 31 December 2031. If the transitional is recalculated, the recalculated amount is decreased linearly over the remaining period till 31 December 2031.

#### **PRA Approval**

The PRA has approved the application for the transitional measure to be applied in the Company.

#### **Business Included**

The unrestricted TMTP is based on the difference between the following two amounts, for business ceded under the arrangements with UKLAP:

- The technical provisions on a Solvency II basis, including the impact of the matching adjustment (MA) and volatility adjustment (VA) where applicable, and after deduction of amounts recoverable from reinsurance at the valuation date; and
- The Solvency I position, which in the UK is the greater of the Pillar 1 and Pillar 2 (ICA) technical provisions, after deduction of the amounts recoverable from reinsurance and allowing for any relevant individual capital guidance (ICG) at the valuation date.

#### **Financial restrictions test**

If necessary, the TMTP is restricted to ensure that at Company level the Solvency II financial resources (defined as the sum of the Solvency II technical provisions after application of transitional relief, other liabilities, and the solvency capital requirement) are no lower than the most onerous of the Solvency I Pillar 1 financial resources and Solvency 1 Pillar 2 financial resources (defined as the sum of the ICA technical provisions, other liabilities, capital requirements plus ICG). The Financial restrictions test includes new business written since the effective date of Solvency II. The restriction does not apply at 31 December 2019.

### Application of TMTP

Within technical provisions, the TMTP is applied to the risk margin first. Where the total TMTP exceeds the total risk margin, the excess is allocated to the best estimate liability in proportion to the contribution of each line of business to the total deduction. At 31 December 2019, the reduction to the best estimate liabilities from the transitional measure on technical provisions was £181m (unaudited).

### Impact of not applying TMTP

The impact of long-term guarantees and transitional measures is disclosed in QRT S.22.01.21 (Section F.2) using a step-by-step approach.

The impact of removing the TMTP is set out below:

31 December 2019 £m	Including TMTP (A)	Setting TMTP to zero (B)	Impact of removing TMTP (C) = (B) – (A)
Technical provisions	57,264	58,917	1,654
Eligible own funds to meet SCR <sup>1</sup>	4,855	3,382	(1,473)
SCR	2,823	3,004	181
MCR	1,270	1,352	81

<sup>1</sup> Eligible own funds to meet the SCR is equal to the Company's basic own funds and its eligible own funds to meet the MCR.

The impact from the TMTP on SCR arises because the TMTP is treated as a reduction in liabilities, which generates a corresponding deferred tax liability. The SCR represents a 1-in-200 loss scenario and may be reduced by the deferred tax asset created by the loss to the extent that there are sufficient liabilities to offset the loss. The TMTP deferred tax liability can increase the tax relief on the SCR, and therefore removal of the TMTP may increase the SCR.

### D.2.5.2 Transitional risk-free interest rate

No transitional measure is applied under Article 308c of Directive 2009/138/EC.

### D.2.5.3 Volatility adjustment

The volatility adjustment (VA) is intended to reflect temporary distortions in spreads caused by illiquidity in the market or extreme widening of credit spreads. The VA reduces technical provisions by increasing the discount rate used to calculate the best estimate liability. VAs are prescribed by EIOPA on a currency and country basis.

### PRA Approval

The PRA has approved the application for the VA to be applied in the Company.

### Business included

The VA is applied to all those liabilities where a matching adjustment is not applied with the exception of unit-linked business where, in line with the approved applications, no allowance for the VA is made.

### Volatility adjustment

The GBP, EUR and CAD VAs used at 31 December 2019 are shown in the table below.

Volatility adjustment (bps)	31 December 2019
GBP	15bps
EUR	7bps
CAD	33bps

### Impact of not applying volatility adjustment

The impact of long-term guarantees and transitional measures is disclosed in QRT S.22.01.21 (Section F.2) using a step-by-step approach. Note that the quantification of the impact of setting the volatility adjustment to zero is after the removal of transitionals. In practice the impact may be lower as the removal of the volatility adjustment would result in an increase in the transitional relief on technical provisions.

The impact of removing the volatility adjustment is set out below:

31 December 2019 £m	Including VA (A)	Setting VA to zero (B)	Impact of removing VA (C) = (B) – (A)
Technical provisions (unaudited)	58,917	58,949	32
Eligible own funds to meet SCR <sup>1</sup>	3,382	3,351	(32)
SCR (unaudited)	3,004	3,010	6
MCR	1,352	1,354	3

<sup>1</sup> Eligible own funds to meet the SCR is equal to the Company's basic own funds and its eligible own funds to meet the MCR.

### D.2.5.4 Matching adjustment

The matching adjustment (MA) is an increase applied to the risk-free rate used to value insurance liabilities where the cash flows are relatively fixed (e.g. no future premiums or surrender risk) and are well matched to assets that are intended to be held to maturity and have cash flows that are also relatively fixed. The intention is that, if held to maturity, the business can earn the additional yield on these assets that relates to illiquidity risk.

### PRA Approval

The PRA has approved the application for the MA to be applied in the Company.

### Business included in MA portfolio

The MA is applied in the Company to all the business it accepts under the ex-UKA quota share reinsurance arrangement. No other business is included in the matching adjustment portfolio. The effect is that for liabilities ceded to the Company under the arrangement, the Company has the same MA as UKLAP.

### Assets eligible for inclusion

Assets eligible for inclusion represent part of the deposit with UKLAP:

- Government bonds, corporate bonds, fixed rate commercial mortgages and project finance infrastructure, internally rated private placements, callable bonds, interest and inflation swaps, and credit default swaps (including named credit default swaps and pair-trades) all meet the eligibility criteria for inclusion; and
- Equity release assets meet the criteria for inclusion when equity release mortgage assets are securitised into an internal Special Purpose Vehicle (SPV) which issues a fixed coupon note secured by those assets. Prior to such restructuring equity release assets do not meet the criteria. However, on the Solvency II balance sheet the equity release assets are measured, unlike for the purposes of determining the MA, assuming the above-mentioned securitisation has not occurred as the required asset de-recognition conditions are not met.

### Derivation of matching adjustment

The matching adjustment is derived from the spread over risk-free on the assigned portfolio of assets, net of an allowance for default and downgrade (known as the fundamental spread). The fundamental spreads applied are prescribed by EIOPA.

Assets that do not have an external rating such as commercial mortgages and equity release assets eligible for inclusion within the MA are assigned a fundamental spread based on an internal rating by the Company's asset managers, in accordance with an internal rating methodology framework.

The MA used at 31 December 2019 is shown in the table below.

Matching adjustment (bps)	31 December 2019
GBP	109bps

### Impact of not applying matching adjustment

The impact of long-term guarantees and transitional measures is disclosed in QRT S.22.01.21 (Section F.2) using a step-by-step approach. Note that the quantification of the impact of setting the matching adjustment to zero is after the removal of transitionals and the volatility adjustment. In practice the impact may be lower as the removal of the matching adjustment would result in an increase in the transitional relief on technical provisions.

The impact of removing the matching adjustment is set out below:

31 December 2019 £m	Including MA (A)	Setting MA to zero (B)	Impact of removing MA (C) = (B) – (A)
Technical provisions ( <i>unaudited</i> )	58,949	61,854	2,905
Eligible own funds to meet SCR <sup>1</sup>	3,351	446	(2,905)
SCR ( <i>unaudited</i> )	3,010	5,622	2,612
MCR	1,354	1,704	349

<sup>1</sup> Eligible own funds to meet the SCR is equal to the Company's basic own funds and its eligible own funds to meet the MCR.

### D.2.6 Material changes in assumptions

This section highlights the most material changes to assumptions made in the calculation of technical provisions compared to the previous reporting period.

#### Annuitant mortality

The mortality assumptions for annuities within the ex-UKA arrangement have been updated, reflecting recent experience data, as described in section D2.2.1. These changes reduced the best estimate liability by a total of £296m, before allowing for transitional measures on technical provisions. Future improvements contribute £184m, base table changes contribute £97m and the remaining £15m is due to other longevity assumption changes.

#### Non-life assumptions

There were no material changes in the relevant assumptions made in the calculation of technical provisions compared to the previous reporting period, other than in relation to the Ogden rate, see section D.2.7.

### D.2.7 Level of uncertainty in value (*unaudited unless relating to best estimate liabilities*)

Set out below are the main areas of uncertainty over the calculation of liabilities. Given the mix of business written by the Company the most material areas of uncertainty in technical provisions will be driven by the life business (non-life technical provisions comprise 9% of the total technical provisions).

The sensitivity of the Company's Solvency II cover ratio to key assumptions used in the calculation of technical provisions is disclosed in section C.7.1 (unaudited). It should be noted that these impacts include the mitigating effects of the change in the value of financial assets and reinsurance assets as well as the impact on tax and the solvency capital requirement.

### Life technical provisions

The best estimate liability corresponds to the probability-weighted average of future cash flows, taking account of the time value of money using the relevant risk-free interest rate term structure. They reflect estimates of how markets and the business might behave in the future given policyholder data, cash flow models and a set of assumptions.

All estimates are based on management's knowledge of current facts and circumstances; assumptions based on that knowledge; and their predictions of future events and actions. Actual results may differ from those estimates, possibly significantly. The list below sets out the estimates and assumptions that are considered particularly susceptible to valuation uncertainty:

- Fluctuation in the amount and/or timing of claims events, e.g. when estimating the length of time for which an annuity will be paid. This requires a projection of annuitant mortality rates in excess of 20 years into the future which cannot be done with certainty;
- Changes in the value of an index/market values used to determine claims amounts, e.g. estimating future inflation for benefits linked to RPI or CPI; and
- Uncertainty in policyholder behaviour, e.g. for estimating lapse rates for different policy types and for different durations of a policy.

The best estimate liability assumptions are governed by a rigorous process, underpinned by actuarial judgement and peer review. The scope of assumption review papers includes documenting the degree of uncertainty inherent in the assumptions being reviewed.

Data governance and model governance standards are in place, which help to ensure that the cash flow models used to calculate technical provisions, and the data which is used within that calculation, are fit for purpose and are managed under appropriate change control processes.

The cash flow projection models which are used to determine the best estimate liability are subject to a model base-lining exercise, which undertakes to reproduce the model's results from first principles, taking into account any information obtained from policy documents and operational procedures.

### Non-life technical provisions

The actual cost of settling insurance obligations may differ from the best estimate liabilities because experience may be different than assumed or future claims inflation may differ from that expected. There are a number of potential developments that would have a material adverse impact on the value of the technical provisions due to the inherent uncertainty in the underlying best estimate liabilities, including:

- Catastrophic weather events;
- New types of latent claims;
- Unanticipated legislative changes; and
- Unanticipated inflation.

Specific areas of uncertainty are:

- In conducting its insurance business, the Company receives general insurance liability claims, and becomes involved in actual or threatened related litigation arising therefrom, including claims in respect of pollution and other environmental hazards. Amongst these are claims in respect of asbestos production and handling. Given the significant delays that are experienced in the notification of these claims, the potential number of incidents which they cover and the uncertainties associated with establishing liability, the ultimate cost cannot be determined with certainty;
- PPOs represent a material part of best estimate liabilities. They also represent one of the most uncertain elements of the Company's technical provisions due to their long-tailed nature and the sensitivity to changes in economic-related assumptions. Additional uncertainty arises due to potential differences in the life expectancy of claimants compared to that expected, as well as the potential uncertainty in the propensity for non-life large injury claims to settle as PPOs as opposed to lump sum awards;
- On 15 July 2019 the Lord Chancellor announced the outcome of his review of the Ogden discount rate. The review resulted in a 0.5% increase in the rate from -0.75% to -0.25%. The July 2019 announcement is considered to reduce uncertainty within the shorter term, however uncertainty does remain in the medium to longer term as the Lord Chancellor will review the Ogden discount rate at least every five years and has also asked for further review on the advantages and disadvantages of a dual rate regime; and
- The UK's decision to exit the EU increases the uncertainty within the valuation process, mainly in relation to future claims ratio forecasts. This is driven by increased uncertainty around the economic outlook for the UK – including inflation expectations, economic activity, unemployment levels and the future strength of sterling against other currencies. There's also uncertainty regarding whether the UK is now more likely to introduce legislative changes which have the potential to impact claims costs. Most lines of business have the potential to be impacted.

On the basis of current information and having regard to the substantial external reinsurance cover in place within the cedants, any additional costs arising from these areas of uncertainty are unlikely to have a material impact on the value of the Company's non-life technical provisions.

### D.2.8 Comparison between the Solvency II and IFRS valuation bases

The following table summarises the Company's gross technical provisions split by Solvency II line of business (with a number of smaller lines of business combined on the grounds of materiality). The non-life lines of business are all in respect of proportional reinsurance accepted, unless otherwise stated. Minor lines of business have been combined in the table below.

The Solvency II technical provisions are shown gross of reinsurance and include the impact of any transitional measures.

Insurance liabilities	Best Estimate Liabilities (BEL) <sup>1</sup> £m	Risk Margin (RM) <sup>2</sup> £m	Solvency II BEL + RM <sup>3</sup> £m	IFRS Technical Provisions <sup>3</sup> £m	Difference £m
<b>31 December 2019</b>					
Total non-life obligations	4,827	205	5,033	5,492	(460)
Health reinsurance	163	0	163	269	(106)
Life reinsurance	52,067	1	52,068	53,100	(1,031)
Total life obligations	52,230	1	52,231	53,368	(1,137)
<b>Total</b>	<b>57,057</b>	<b>207</b>	<b>57,264</b>	<b>58,861</b>	<b>(1,597)</b>

<sup>1</sup> The reduction in best estimate liabilities relating to TMTP as set out in D2.5.1 is unaudited

<sup>2</sup> Risk margin is unaudited

<sup>3</sup> Liabilities of £120m in respect of PPOs and similar structured settlements ceded by UK&I GI and FGI are included within life obligations above, but within outstanding claims provisions for general insurance and health within the financial statements.

Key areas of difference between the methods used to calculate Solvency II technical provisions and the methods used to calculate IFRS technical provisions are:

#### (a) Life technical provisions

##### *IFRS margins*

IFRS technical provisions contain margins for prudence on mortality, persistency, and expense assumptions which are not included in Solvency II best estimate liabilities. This results in Solvency II best estimate liabilities being lower than IFRS technical provisions and affects all life reinsurance lines of business. In addition, the IFRS technical provisions for certain annuity reinsurance business include a margin for prudence on data quality, which is not included in the Solvency II best estimate liabilities for this line of business.

##### *Risk margin (net of transitional measures) (unaudited)*

In addition to the best estimate liabilities, Solvency II technical provisions include a risk margin (net of transitional measures) to cover the cost of capital (CoC) held each year in respect of non-hedgeable risks. This is in contrast to the additional margins held under IFRS to cover risk and uncertainty.

##### *Treatment of unit-linked business*

Under IFRS, the technical provisions for unit-linked business are based on current unit value, plus an allowance for non unit cash flows, but only where this would increase the technical provisions. Under Solvency II, the technical provisions are lower than the unit value reflecting the profits expected to emerge in respect of future management charges expected to be earned from existing business. This results in a decrease in Solvency II best estimate liabilities relative to IFRS technical provisions.

##### *Discount Rates*

The Solvency II best estimate liability is valued using a risk-free rate curve with an allowance for credit risk and a matching adjustment or volatility adjustment where applicable.

IFRS technical provisions are valued using a flat valuation interest rate which reflects the yields available on the underlying assets, with an allowance for credit risk based on internal analysis and an additional margin for adverse deviation.

#### (b) Non-life technical provisions

##### *IFRS margins*

IFRS technical provisions contain explicit margins for prudence which are not included in Solvency II best estimate liabilities. This reduces Solvency II best estimate liabilities compared to IFRS technical provisions and affects all non-life lines of business.

##### *Risk margin (unaudited)*

In addition to the best estimate liabilities, Solvency II technical provisions include a risk margin to cover the CoC held each year in respect of non-hedgeable risks. This is in contrast to the additional margins held under IFRS to cover risk and uncertainty.

##### *Pre-inception business*

The cash flows relating to pre-inception business are included in Solvency II best estimate liabilities. Pre-inception business refers to all liabilities arising from policies that the business units are contractually obliged to write at the valuation date but that have not yet incepted. This affects all non-life lines of business with the exception of annuities stemming from non-life insurance contracts. IFRS is not subject to the same requirement. This results in Solvency II best estimate liabilities being higher than IFRS technical provisions.

##### *Treatment of unearned premium reserve*

The unearned premium reserve established under IFRS for all non-life lines of business is replaced with a best estimate reserve which is typically lower, but the impact of this is offset by the release of deferred acquisition costs (see Section D.1.2).

### **Discount Rates**

The Solvency II best estimate liability is valued using a risk-free rate curve with an allowance for credit risk and a volatility adjustment where applicable.

Only long-tailed claims reserves (predominantly latent claims within general liability insurance and PPOs) are discounted under IFRS.

Considered in isolation, the difference in discount rates leads to higher liabilities under IFRS.

## **D.3 Other liabilities**

This section details the Solvency II valuation basis of each material class of liability (excluding technical provisions), and any material differences between that and the IFRS valuation. The table at the beginning of Section D details the Solvency II and IFRS value of each material class of liability.

### **D.3.1 Valuation of material other liabilities**

Other liabilities are valued at the amount for which they could be transferred or settled between knowledgeable willing parties, in an arms length transaction.

There were no material changes made to the valuation and recognition bases used or on estimation methods during the period.

### **D.3.2 Material differences between the Solvency II and IFRS valuation bases**

#### **Deferred Tax**

Deferred tax for Solvency II valuation purposes is determined in accordance with IAS 12 principles on 'temporary differences' between the economic value of assets or liabilities on the Solvency II balance sheet and their tax base. Deferred tax assets may be recognised separately on the Solvency II balance sheet in the cases where there are net deferred tax assets after offset against corresponding deferred tax liabilities, or where deferred tax assets cannot be so offset. This is subject to the deferred tax assets meeting the criteria for recognition, in accordance with IAS 12 principles. At 31 December 2019 the Company had no net deferred tax assets.

Deferred tax balances in the Solvency II balance sheet differ from those recognised in the IFRS balance sheet as a result of:

- Differences between the IFRS and Solvency II balance sheet valuation basis and consequential impact on recognition of deferred tax assets and liabilities; and
- IFRS assets and liabilities with an associated deferred tax balance treated as having no economic value under Solvency II.

#### **Other material differences**

There are no other material differences between the Solvency II and IFRS valuation bases.

## **D.4 Alternative methods of valuation**

### **D.4.1 Company approach to valuation**

The Company applies the Group Asset Valuation Business Standard to the valuation of its assets and liabilities. This sets out a control framework in respect of valuation, including assets and liabilities valued under alternative methods of valuation. This standard defines the following control objectives:

- Primary valuation – Parties responsible for primary valuations must ensure that appropriate valuation techniques are selected and justified;
- Independent price verification – A party independent of the primary valuation process must have sufficient controls in place to ensure valuations of all asset classes are reasonable. Controls should be commensurate with the materiality of the assets.
- Valuation uncertainty – The extent of uncertainty within valuations must be understood, quantified where possible and reported to senior management;
- Reporting bases – Where appropriate the valuation must be performed consistently across reporting bases. Where a consistent basis is not used, then a reconciliation of differences should be understood, documented and reported; and
- Client supplied prices – Client supplied prices should be identified, and sufficient independent price verification (IPV) controls exercised to provide assurance over the quality of the valuation.

### **D.4.2 Assets and liabilities to which an alternative valuation approach applies**

For the financial year ending 2019, the Company's primary exposure to valuation under alternative valuation methods was in respect of its deposits with the cedant undertaking UKLAP, where the valuation of the deposits is based on a proportionate share of the Solvency II net assets within scope of the reinsurance arrangements.

The Company also has a loan with its immediate parent AGH, for which an alternative valuation approach applies.

### **D.4.3 Justification for use of an alternative valuation approach**

The majority of the Company's assets and liabilities, and those of its cedants, are measured at fair value based on quoted market information or observable active market data. Where quoted market information or observable market data is not available, an alternative valuation method is used. This occurs when either:

- The individual nature of the asset means that there is no quoted price available (for example, investment property).
- The asset is not actively traded in a market (such as holdings in unlisted private equity funds).

Alternative valuation methods include the use of estimates and assumptions that are not market observable. Where estimates and assumptions are used by the Company, or its cedants, in valuing its assets and liabilities, they are based on a combination of independent third-party evidence and internally developed models, calibrated to market observable data where possible.



#### D.4.4 Assumptions underlying the valuation approach and assessment of valuation uncertainty

The Company performs an annual exercise to assess valuation uncertainty across its asset portfolio. The main assumptions underlying the valuation approach and assessment of valuation uncertainty for the key categories of assets are described below. The Company continues to keep under review the allowance in our assumptions for future property prices and rental income in relation to our commercial and equity release mortgages, for the possible adverse impact including but not limited to the ultimate arrangements regarding the UK's exit from the European Union. At 31 December 2019, this allowance has been determined in line with previous periods and is estimated at £0.2 billion (2018: £0.2 billion). As more clarity is provided on the terms of the UK's exit from the European Union, the Company will look to establish core property assumptions without an explicit allowance for Brexit uncertainty.

##### **Commercial mortgages and healthcare mortgages**

The mortgages are valued using a model that calculates a credit risk adjusted value for each mortgage. The credit risk adjusted contractual future cash flows are calculated by stochastically forecasting how the future loan repayments are impacted by a large number of inputs. The key inputs feeding into the credit risk calculation are changes in property value, probability of tenant defaults, expected rental growth and property growth and likelihood of the borrower continuing to service the loan if the tenant defaults. The credit risk adjusted cash flows are then discounted at a risk-free rate plus a liquidity premium calibrated to lending on new loans.

Valuation uncertainty arises from variation in the expected range of the key inputs feeding into the credit risk calculation and the liquidity premium. Valuation uncertainty has been assessed as significant for this asset class.

A small portion of the commercial real estate mortgages are managed by an external asset manager. These mortgages are valued using a discounted cash flow approach, where credit spreads depend on the rating of the mortgage and are inferred from market observations. Valuation uncertainty has been assessed as moderate for these assets.

##### **Equity release mortgages**

Equity release mortgage loans are valued using an internal model, with fair value initially being equal to the transaction price. The value of these loans is dependent on the expected term of the mortgage and the forecast property value at the end of the term and is calculated by adjusting future cash flows for credit risk and discounting using a yield curve plus an allowance for illiquidity. At 31 December 2019 the illiquidity premium used in the discount rate was 160 bps.

The mortgages have a no negative equity guarantee (NNEG) such that the cost of any potential shortfall between the value of the loan and the realised value of the property, at the end of the term, is recognised by a deduction to the value of the loan. Property valuations at the reporting date are obtained by taking the most recent valuation for the property and indexing using market observable regional house price indices.

NNEG is calculated using base property growth rates reduced for the cost of potential dilapidations, using a stochastic model. In addition, a cost of capital charge is applied to reflect the variability in these cash flows. The base property growth rate assumption is RPI +0.75% which equates to a long-term growth rate of 4.0% pa. After applying the cost of capital charge, dilapidations and the stochastic distribution, the effective long-term growth rate equates to 0.5% pa.

##### **Investment property and property partnerships**

Investment property is valued either quarterly or monthly by external chartered surveyors in accordance with guidance issued by The Royal Institution of Chartered Surveyors (RICS). Valuations are performed by surveyors in accordance with methodologies described in the RICS "red book". A property gross value is calculated by dividing the expected rental cash flows by an appropriate rental yield. Future cash flows are calculated based on the surveyor's expectation of rental receipts during and after the current tenancy ends, typically based on an assessment of rents charged on comparable properties.

The extent of uncertainty systemic within the valuation of investment properties has been assessed based on ranges of expected rental yields provided by independent surveyors and with reference to research assessing differences between property valuations and subsequent sales prices. Back testing analysis is also performed on the Company's portfolio to understand the extent of valuation uncertainty for this asset class. Valuation uncertainty has been assessed as significant for this asset class.

##### **Over-the-counter (OTC) derivatives**

Although valued using established and accepted valuation methodologies, OTC derivatives are not quoted in an active market and an element of valuation uncertainty may exist in arriving at a fair value. The extent of valuation uncertainty is assessed by comparing valuations against counterparty statements. Valuation uncertainty has been assessed as moderate for this asset class.

##### **PFI and infrastructure loans**

PFI and infrastructure loans are valued using either a model that calculates a credit risk adjusted value for each loan or using a discounted cash flow model, depending on the nature of the loan.

Loans valued using credit risk adjusted contractual future cash flows are calculated by stochastically forecasting how the future loan repayments are impacted by a large number of inputs. The key inputs feeding into the credit risk calculation are changes in property value, probability of tenant defaults, expected rental growth and property growth and likelihood of the borrower continuing to service the loan if the tenant defaults. The credit risk adjusted cash flows are then discounted at a risk-free rate plus a liquidity premium calibrated to lending on new loans.

Infrastructure loans valued using a discounted cash flow model add spreads for credit and illiquidity to a risk-free discount rate. Credit spreads are updated quarterly using an internally developed methodology which depends on the credit rating of each loan, credit spreads on publicly traded bonds and an adjustment to reflect the estimated recovery rate in the event of the loan defaulting.

Valuation uncertainty arises from variation in the expected range of the key inputs feeding into the credit risk calculation and the liquidity premium. Valuation uncertainty has been assessed as moderate for this asset class.

#### **Privately placed debt securities**

Privately placed notes are valued using a discounted cash flow model. The discounted cash flow model uses discount factors based on swap curves, plus credit spreads inferred from comparable, publicly traded bonds as well as an incremental spread to reflect the illiquidity of the notes.

Valuation uncertainty arises on the private placement portfolio in the choice of spreads for credit and liquidity. Valuation uncertainty has been assessed as moderate for this asset class.

#### **Private equity funds**

Fair values for unlisted private equity funds are based on net asset value statements provided by fund administrators. The valuation of underlying equities is compliant with guidelines published by the British Venture Capital Association, the European Private Equity and Venture Capital association and other international bodies.

The extent of valuation uncertainty is estimated with reference to back testing analysis which involves comparing sale proceeds for portfolio businesses against lagged valuations. Valuation uncertainty has been assessed as significant for this asset class.

#### **Collateralised lending with banks**

Collateralised lending with banks comprises loans to banking counterparties that have been collateralised with illiquid securities. Fair values are calculated using valuation models which incorporate a number of assumptions, including probability of counterparty default and expected loss in the event of counterparty default. Expected loss in the event of counterparty default is driven by assumptions describing the expected liquidation period of the collateral, the volatility of the collateral during this liquidation period and the extent to which we believe there is a correlation between the collateral value and counterparty default probability.

Valuation uncertainty arises from variation in the expected range of a number of the key assumptions described above. Valuation uncertainty has been assessed as moderate for this asset class.

#### **Collateralised loan obligations**

There is an illiquid senior note issued by an SPV which is backed by a series of loans to PFI counterparties. The valuation of this position incorporates assumptions regarding credit spreads on the underlying PFI loans, expected recoveries in the event of PFI default and joint default probabilities. Valuation uncertainty has been assessed as moderate for this asset.

#### **Uncollateralised interest rate and inflation swaps**

There are a number of interest rate and inflation swaps with PFI counterparties which are not collateralised, meaning the Company is exposed to counterparty credit risk. The valuation of these swaps therefore includes a credit valuation adjustment (CVA), to reflect counterparty default risk. The CVA is calculated with reference to a number of assumptions including likelihood of counterparty default, recovery in event of default and exposure to counterparty at time of default. Valuation uncertainty has been assessed as moderate for this asset class.

#### **Loan with AGH**

The Company's loan with AGH is valued using an income approach, which reflects the present value of cash flows the loan is expected to generate calibrated as far as possible to market observable parameters. The loan accrues interest at 12-month LIBOR plus a credit risk margin. The 12-month Libor rate is reset annually with the next reset due on 31 December 2020. The credit margin is reset every five years based on a fair value assessment of the credit risk of AGH and the terms and conditions of the loan agreement. The credit margin was reset on 31 December 2017 and the next reset of the credit margin is due 31 December 2022.

The 12-month Libor reset means the value of the loan is insensitive to the level of risk-free interest rates. In the absence of relevant market observable credit risk parameters, changes in credit risk are assessed according to any observable changes in the sufficiency of available collateral supporting the loans.

The loan can be repaid early at any time, at the option of AGH, and so the value of the loan is restricted to be no more than the nominal amount plus any accrued interest. Valuation uncertainty has been assessed as immaterial for this asset.

#### **D.4.5 Adequacy of the valuation compared to experience**

The Company operates independent price verification (IPV) controls across all assets. For asset types where a secondary source is available (such as OTC derivatives and bonds marked to market), this involves comparing the primary valuation to a secondary independent source, investigating material differences and making valuation adjustments where the Company believes it is appropriate to do so.

For illiquid debt securities which are marked to model the IPV process includes a review of the valuation methodology, periodic assessment of both observable and judgemental model inputs as well as reviewing any secondary trading activity in the asset to understand whether anything can be learnt regarding the appropriateness of the valuation methodology.

For asset classes where a secondary source is not available and there is no secondary trading activity (such as investment property and private equity), the Company relies on the implementation of accepted valuation standards by parties independent of the Group as described above (e.g. valuation of investment property in line with the methodologies described in the RICS "red book"). These are asset classes with considerable valuation uncertainty and to assess the reasonableness of the valuations back testing analysis is performed on an annual basis for any assets sold during the year. Results of these back-testing analyses are presented in the Company's valuation uncertainty assessments.

### **D.5 Any Other Material Information**

#### **D.5.1 Additional information on the COVID-19 global pandemic (unaudited)**

Further information on the impact of the COVID-19 global pandemic is contained within section F.7.

# Section E

## Capital Management

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## Section E: Capital Management

This section of the report provides information on the Company's own funds and SCR and includes a description of the internal model.

### E.1 Own funds

#### E.1.1 Management of own funds

The primary objective of capital management is to manage the balance between return and risk, whilst maintaining economic capital in accordance with risk appetite. The Company's capital and risk management objectives are closely interlinked, and support the dividend policy, whilst also recognising the critical importance of protecting policyholder and other stakeholder interests.

In managing own funds, the Company seeks to, on a consistent basis:

- Maintain sufficient, but not excessive, financial strength in accordance with risk appetite, to satisfy the requirements of regulators and other stakeholders;
- Retain financial flexibility by maintaining strong liquidity; and
- Allocate capital efficiently to remain within risk appetite and drive value adding growth.

The Company uses a number of sensitivity tests to understand the volatility of earnings, the volatility of its capital requirements, and to manage its capital efficiently. Sensitivities to economic and operating experience are regularly produced on the Company's key financial performance metrics to inform decision making and planning processes over a five-year planning horizon, and as part of the framework for identifying and quantifying the risks to which the Company is exposed.

There have been no material changes to the objectives, policies or processes with respect to the management of own funds during the year.

#### E.1.2 Eligible own funds

The Company's own funds comprise unrestricted Tier 1 capital which consists of its ordinary share capital and retained earnings. Retained earnings are not separately disclosed in own funds but are notionally included in the Reconciliation Reserve, which reconciles the total excess of assets over liabilities with identifiable capital investments included in own funds.

Own funds by tier is presented in QRT S.23.01.01 'Own Funds' within Section F.2. The table below sets out a summary of the Company's own funds by tier for the year ended 31 December 2019:

	2019		2018	
	Total £m	Tier 1 unrestricted £m	Total £m	Tier 1 unrestricted £m
Ordinary share capital	780	780	780	780
Reconciliation reserve	4,075	4,075	3,546	3,546
<b>Total eligible Own Funds to meet the SCR / MCR</b>	<b>4,855</b>	<b>4,855</b>	<b>4,326</b>	<b>4,326</b>

As at 31 December 2019, the Reconciliation Reserve is comprised entirely of the Company's retained earnings.

Tier 1 capital is of the highest quality and permanent. As the Company's Articles of Association do not contain any restriction on the right of the Company to cancel dividends or other distributions at any time before they are paid, the Company's share capital and retained earnings is classified as Tier 1.

The Company's own funds are not subject to capital fungibility restrictions and are therefore available to absorb losses in their entirety.

The Company has no ring-fenced funds and has no eligibility restrictions in respect of ring-fenced funds or matching adjustment portfolios.

The Company's matching adjustment portfolio (MAP) does not have a surplus in excess of its notional SCR and, as a consequence, no restriction to own funds has been applied.

As all own funds are unrestricted Tier 1, there are no eligibility restrictions due to the application of quantitative limits, therefore the entire amount of the Company's own funds is available to cover the SCR and MCR.

The Company has no ancillary own funds.

#### E.1.3 Significant changes in own funds during the reporting period

Own funds increased by £530 million from £4,326 million to £4,855 million over the reporting period. The main reasons for the increase were new business written during the year, the entry into the new CGI arrangement (contributing £70 million to own funds) and the change to annuitant mortality assumptions described in section D2.

### E.1.4 Material differences between equity as shown in the financial statements and own funds

The table below lists the material differences between equity as shown in the financial statements and the excess of assets over liabilities as calculated under Solvency II:

As at 31 December 2019	Total £m
<b>Total equity on an IFRS basis</b>	<b>3,903</b>
Elimination of deferred acquisition costs	(461)
Insurance liability valuation differences (net of transitional deductions)	1,804
Inclusion of risk margin (net of transitional deductions)	(207)
Net deferred tax adjustments <sup>1</sup>	(195)
Other adjustments (including fair value adjustments)	10
<b>Solvency II Own Funds</b>	<b>4,855</b>
<b>Difference between IFRS equity and Solvency II Own Funds</b>	<b>952</b>

<sup>1</sup> Net deferred tax includes the tax effect of all other reconciling items in the table above which are shown gross of tax.

The material components of the above difference are explained in Sections D1.2, D2.8, and D3.2 (in respect of differences in assets, technical provisions, and other liabilities respectively).

### E.1.5 Transitional arrangements

The Company does not hold qualifying subordinated liabilities subject to the transitional arrangements referred to in Articles 308b(9) and 308b(10) of the Solvency II Directive.

### E.1.6 Restrictions on the availability and transferability of own funds

There are no significant restrictions on the availability and transferability of own funds.

Under the quota share reinsurance arrangements, the Company has the ability to withdraw the excess of its deposit with ceding undertakings over the respective Solvency II best estimate liabilities.

To support the local regulatory requirements in CGI, in 2019 the Company has taken out Letters of Credit (LoCs), that allows CGI to demonstrate that the Company has provided assets to fully cover the local regulatory reserves and associated margins. This ensures that in the event the Company withdrew its deposit, CGI continues to meet its local regulator's asset coverage requirements, therefore not restricting the availability or transferability of the Company's own funds.

## E.2 Solvency Capital Requirement (SCR) and Minimum Capital Requirement (MCR)

### E.2.1 Solvency Capital Requirement (SCR) (unaudited)

The Company's SCR at 31 December 2019 was £2.8 billion (2018: £2.7 billion). This section contains a breakdown of the Company's SCR by risk, and the benefit of diversification. The final amount of the Company's SCR is subject to supervisory assessment and does not include any regulator imposed capital add-ons.

The Company uses a partial internal model (PIM) which is made up of reinsured business from entities that use an internal model (IM) and reinsured business from entities that use the standard formula (SF).

A detailed breakdown of the Company's SCR by risk component is shown below, including the split of each component between IM and SF. Each risk component includes the impact of diversification within that component, and the diversification line includes diversification between risk components and the diversification between IM and SF entities (known as PIM diversification). The loss-absorbing capacity of deferred taxes (LACDT) risk component represents the loss-absorbency amounts not embedded within other risk components. The 'Other risks and adjustments' component includes adjustments to the SCR for expected changes to own funds over the next year. Note that for the purposes of the below table, the market risk line includes credit risk as described in Section C.3, following the Solvency II Standard Formula convention.

SCR by risk component (£m)	IM	SF	Total
Market risk	2,052	103	2,155
Counterparty risk	89	42	130
Life underwriting risk	1,616	3	1,620
Health underwriting risk	-	59	59
Non-life underwriting risk	564	242	806
Operational risk	427	28	454
Loss-absorbing capacity of deferred taxes	(229)	(4)	(234)
Other risks and adjustments (including rounding)	141	(6)	135
<b>Total undiversified components</b>	<b>4,659</b>	<b>467</b>	<b>5,126</b>
Diversification			(2,303)
<b>Solvency capital requirement</b>			<b>2,823</b>

The Company performs an analysis of the diversification benefit by risk and by reinsurance treaty to provide assurance that the level of diversification applied is reasonable given the Company's structure, mixture of risks and underlying risk calibrations and correlations. The Company's reported diversification benefit is £2.3 billion (2018: £2.2 billion) on an undiversified SCR of £5.1 billion (2018: £5.0 billion), which is a ratio of 45% (2018: 45%). This figure includes diversification between risk components and PIM diversification, but does not include diversification within each risk component.

### E.2.2 Minimum Capital Requirement (MCR)

The MCR represents the minimum level below which the amount of financial resources of a firm should not fall.

The MCR is calculated using a linear formula that applies prescribed factors to capital-at-risk, the best estimate liability (net of reinsurance) and written premiums. The factors applied to the best estimate liability and written premium vary by type. The risk margin is not allowed for in the MCR technical provisions. The MCR is subject to a floor, equal to 25% of the SCR, and a cap, equal to 45% of the SCR. There is an absolute floor of €3.7 million.

The MCR for the Company at 31 December 2019 is £1,270 million, which is equivalent to the '45% of SCR' cap (2018: £1,236 million).

### E.2.3 Material changes over the reporting period (unaudited)

The Company's SCR has increased slightly during 2019. The SCR has increased due to capital requirements from the writing of new business in 2019 and the signing of the CGI arrangement. This has been mostly offset by the run-off of existing business and the change to the interest rate up stress.

### E.2.4 Standard Formula simplifications (unaudited)

Where the SCR is calculated using the SF, the Solvency II regulations specify simplified calculations that may be used across all of the SF risk modules except operational risk. The use of these simplifications is disclosed in QRT S.25.02.21, where applicable. The Company has not used any of these simplified calculations in the calculation of its SCR.

### E.2.5 Standard Formula Undertaking Specific Parameters (USPs) (unaudited)

Where the SCR is calculated using the SF, Solvency II regulations specify certain USPs that may be used in place of the standard parameters, subject to regulatory approval. These are available for life and health revision risks, and non-life (including some health) premium and reserve risks. The use of these USPs is disclosed in QRT S.25.02.21, where applicable. The Company has not used any USPs in the calculation of its SCR.

### E.2.6 Disclosure of capital add-ons and USPs

Regulators may impose capital add-ons to the SCR or to require the use of certain USPs in the SF if there are significant deficiencies in a firm's IM or PIM. The Company does not have any capital add-ons or use of USPs imposed on it by regulators.

## E.3 Use of the duration-based equity risk sub-module in the calculation of the SCR (unaudited)

Insurance firms that have particular types of retirement provision business managed on a ring-fenced basis, for which the SCR is calculated using the SF, are entitled to calculate the equity risk capital requirement using a specified duration-based approach. The Company does not use the duration-based equity risk sub-module in the calculation of the SCR.

## E.4 Differences between the standard formula and any internal model used (unaudited)

This section provides information on the Company's IM, including its use, calculation methodology and a comparison to SF. It explains the PIM integration methodology.

### E.4.1 Use of the internal model in the Company's business

The IM provides input to a number of key business processes and activities. Therefore, the IM outputs are used in day-to-day risk management and business decisions in the Company.

'Use' does not imply that the model is used to directly run the business, but rather that the outputs of the IM and the model itself are used to support decision-making, whilst acknowledging its limitations and balancing against other elements of the risk management framework.

The primary purpose of the internal model is to calculate the capital metrics required for regulatory reporting under Solvency II for the Company. The outputs of the model are used internally and externally in risk-based performance reporting and risk and financial strength reporting to the senior management, the Board, the shareholder and rating agencies.

The granular metrics produced by the IM are also used to set the Company's strategy and support a series of other activities, including:

- Strategy & business planning: measuring risk-adjusted return and setting risk appetites as part of the business planning cycle;
- Transactions: assessing the appropriateness of potential new reinsurance treaties or business investments through the impact on surplus capital;
- Reinsurance: identifying the need for targeted reinsurance contracts to mitigate undesirable risk exposures, through modelling potential adverse scenarios; and
- Asset and liability management: measuring the impact of market changes on assets and liabilities to drive investment strategy

### E.4.2 Undertakings in scope of the internal model

The IM is used to calculate the SCR for all the Company's reinsured business (and all risk categories within them) with the exception of the UK private medical insurance business and the French non-life business.

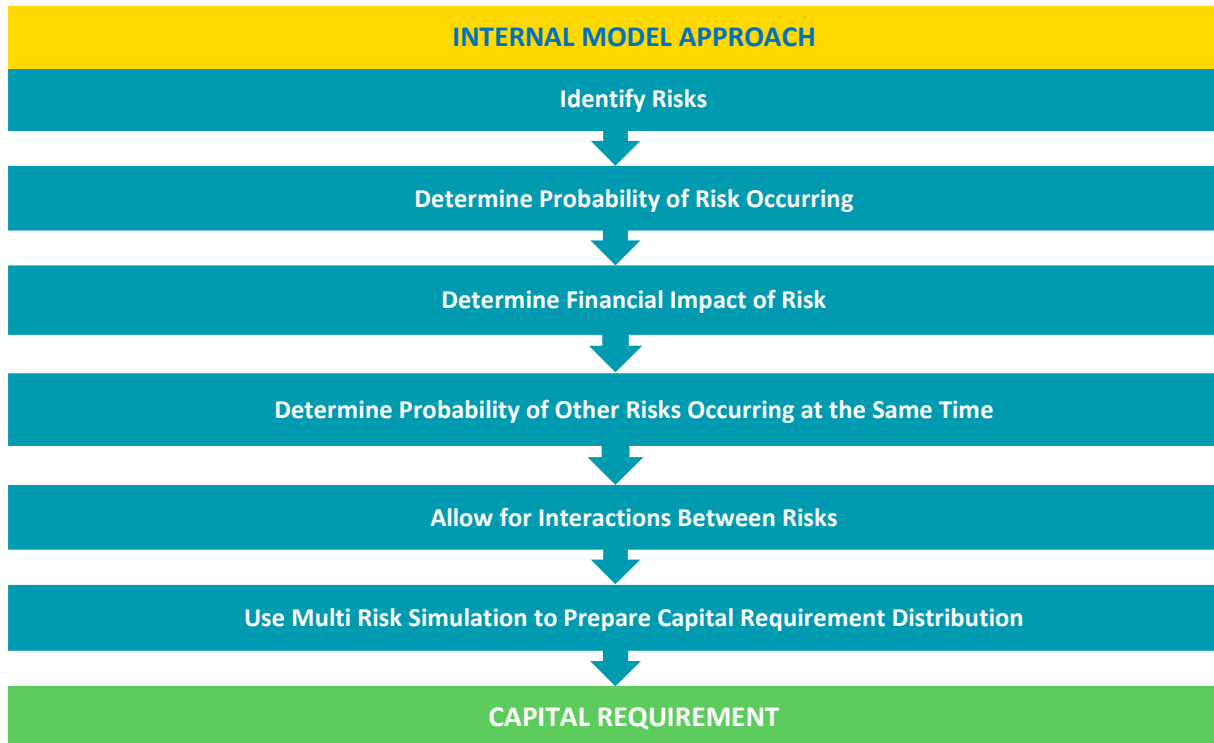
The IM has been designed to produce capital figures at a range of levels and granularities, from legal entity to treaty level (and in some cases to a product or asset level), allowing for diversification between risk types at each of those levels. Producing and understanding the capital requirements at different levels of granularity is crucial to ensure that the model outputs can be effectively used in the day-to-day running of the business.

### E.4.3 Calculation of the internal model

#### E.4.3.1 Methods used

The purpose of the IM is to identify the risks to which the Company is exposed, model these risks using suitably calibrated inputs and aggregate them to compute the SCR. The model produces an aggregate distribution of the change in basic own funds over a one year time horizon from which the SCR can be directly derived (i.e. the SCR is the 99.5<sup>th</sup> percentile) in line with Article 101 of the Solvency II Delegated Regulations.

An overview of the Company's approach is shown below.



The capital aggregation approach allows us flexibility in determining which statistical distributions to use to represent risk factors (such as mortality, interest rates or credit risk) including those with heavy tails and empirical distributions<sup>1</sup>. The Company is not limited to assuming risks follow normal (or similar) distributions, as is implicit in the SF, and the Company uses this flexibility to ensure that it accurately models the behaviour of the most important risks.

For the majority of risk factors the Company uses standard statistical distributions fitted via its standard risk factor calibration process. However, for some risk types the Company uses distributions derived from further modelling processes. The Company does this based both on the materiality of these risk types and the desire to achieve greater flexibility and granularity to ensure accurate reflection of the risk's behaviour. These risks include general insurance liability risks, credit risk, and operational risk.

Throughout the modelling process, the Company has used a wide range of testing and review processes to ensure that the calibrations are appropriate and the IM outputs are sound. These range from bottom-up reviews of the material assumptions used in the modelling process and testing of the calibrations and loss functions (i.e. the mathematical formulae used as a proxy for the calculations in the asset and liability management models for the valuation of the assets and liabilities on the balance sheet), to top-down stress and scenario testing, as well as profit and loss attribution exercises.

The Company has chosen to implement a PIM, defined as using a combination of IM and SF approaches to calculate solvency capital requirements for different components of the business. These components are distinct blocks of business, rather than risks. In order to integrate the IM capital calculations with the SF calculations the Company uses PIM Technique 2 as described in Annex XVIII of Directive 2009/138/EC.

#### E.4.3.2 Data used in the internal model

The key data used in the IM is:

- Accounting Data (IFRS) – this is used, for example, in the valuation of certain assets and liabilities;
- Policy Data – this includes claims as well as policies in force and past policies;
- Operational Risk Data – the Company uses an external database of information with regards to industry Operational Risk losses which is provide by ORIC (Operational Risk Insurance Consortium);
- Financial Market Data– the calibration process for market and credit risks often uses external financial market asset data (e.g. FTSE index returns);
- Internal Asset Data – the valuation of the base Solvency II Balance Sheet relies on the market valuation of assets. The data used is taken from the accounting process and, therefore, most data will be included under the element 'accounting data'; and

<sup>1</sup> An empirical distribution is associated with the empirical measurement of the underlying sample, i.e. it is a discrete distribution made up of the same number of data points as are in the sample



- Other Data – data that does not fall under the above five categories. This may include all data (including asset data) used for the calculation of the required economic capital under the Solvency II regime and the technical provisions including numerical, census or classification information, but not qualitative information.

The Group's Solvency II Data Governance business standard establishes the control environment and the criteria to be used to assess the quality of the data in terms of appropriateness, completeness, accuracy and consistency before using it for SCR calculation. The data used in 2019 was considered to be appropriate in the calculation of the Company's SCR.

#### **E.4.3.3 Impact on Risk Profile**

It is a key requirement for the use of an IM that the model should reflect the actual risks that are faced by the business. The IM was assessed as being appropriate when the Company was granted supervisory permission to use it in the calculation of its solvency capital requirements.

The Company assesses the model's ongoing appropriateness using various techniques, including a large number of tests that form part of the validation framework referred to in Section B.3.5. These tests include comparisons of the IM results both with management views and with historic experience. Where a significant difference is noted, consideration is given as to whether this difference merits holding additional capital.

In the Company's work on the Year End 2019 results, the IM was considered to appropriately reflect the risk profile of the company's IM business, and hence no additional capital was considered necessary. An assessment was performed confirming that the SF was appropriate given the risk profile of the company's SF business.

#### **E.4.3.4 Integration of Standard Formula into the Partial Internal Model**

As noted above, the Company has chosen to implement a PIM, using Integration Technique 2, as detailed in Annex XVIII of the Delegated Regulations, to combine the results of the IM and SF calculations.

Using this technique requires the Company to specify upper and lower bounds for correlations between the entire IM block and each of the SF risk modules. A correlation matrix is then constructed with correlations between these bounds such that it maximises the basic solvency capital requirement.

Given the multiple lines of business of varying sizes, the PIM has been designed to accurately model the capital requirements. This allows for risk profiles of a nature, scale, or complexity that is distinct from that allowed for in the SF calculation.

#### **E.4.4 Differences between standard formula and internal model methodologies and underlying assumptions**

The key difference between the SF and IM methodology is that the methodology and assumptions for IM risks are tailored to the Company's risk profile, whereas the SF is a standardised approach.

The SF prescribes formulae to calculate the capital required driven by exposure to various risks: for the IM the Company calibrates a distribution of losses for each risk and uses these, along with a set of correlations between these risks, to derive a joint distribution of losses for the business. The capital requirement is derived from this joint distribution to ensure the Company holds sufficient capital with 99.5% confidence. Calibrating risks for the IM therefore requires detailed data analysis and use of statistical models to derive the most appropriate distribution.

The calculation of loss absorbing capacity of tax differs between the two approaches as this is specified by the SF calculation.

One key difference in the aggregation approach for IM and SF results from the different modelling approaches:

- For the IM, the Company determines an aggregate distribution of losses by combining marginal risk distributions for each risk using a Gaussian Copula and applying loss functions.
- The SF uses a hierarchical correlations approach, where explicit correlation matrices are used to combine sub-module losses within each risk module, and then to combine the calculated losses of the different risk modules.

A key feature of the Company's approach compared to the SF is that it can capture fat tailed risks (i.e. risks where the probability of extreme values is higher than using the normal distribution) and non-linear loss profiles. In addition, the Company is able to model diversification more granularly and, in particular, capture important features such as geographical diversification. Another key difference is that the IM reflects all material quantifiable risks to which the Company is exposed, whereas the SF only considers a subset of risks.

Material differences between the SF and IM methodologies and assumptions are set out below:

##### **Market Risks module**

- The IM considers changes in market volatility, which is not explicitly modelled in the SF. Equity volatility risks are particularly important for business with guarantees.
- Credit risk – the Company's model includes sovereign bonds, which are not currently modelled under SF; the model also explicitly considers default migration and spread risks including some allowance for diversification between various credit exposures.
- Interest rates are modelled using three principal components, not just the change in the level of interest rates as under the SF.
- Inflation risk – the Company explicitly models inflation risk, whereas there is no inflation risk in the SF.
- Equity risk – only exposure to asset price falls is reflected in the SF, whereas the Company models the full distribution of equity returns, allowing the Company to capture exposure to equity values rising or falling;
- Currency risk – the Company models currency translation risk reflecting that exposure to this risk varies with the impact of the other risks, and that there is diversification between currencies, whereas these factors are ignored in the standard formula

##### **Health Risk module**

- Health business written under the life treaties is separately modelled. Currently, health business written under the non-life treaties is assessed using the SF.



#### Counterparty Default module

- The SF considers all counterparty default risk under one module – whereas for the IM, the Company tailors the modelling to the type of the counterparty and the nature of the exposure.

#### Life Insurance module

- The SF assumes standard portfolios, whereas the Company's calibrations are tailored to the specific portfolios.

#### Non-Life Insurance module

- Latent claims and periodic payment orders (PPOs), which are not explicitly included under SF, are included in the Company's IM.
- The IM allows the Company to model the specific risks and exposures of the non-life insurance business. Inflation risk is explicitly included in the IM whereas there is no inflation risk in SF beyond that implicitly captured in the calibrations of the premium and reserve risks.
- In addition, the Company distinguishes between commercial and personal lines, whereas the SF does not reflect this level of granularity.

#### Operational Risk

- The Company models operational risks using a scenario based approach. The SF uses a formulaic approach.

### E.5 Non-compliance with the MCR and non-compliance with the SCR *(unaudited unless relating to MCR)*

The Company complied with the SCR and MCR at all times during 2019.

### E.6 Any other material information

#### E.6.1 Expected Profits In Future Premiums (EPIFP)

EPIFP is the expected present value of future cash flows which result from the inclusion in technical provisions of premiums relating to existing insurance and reinsurance contracts that are expected to be received in the future, but that may not be received for any reason, other than because the insured event has occurred, regardless of the legal or contractual rights of the policyholder to discontinue the policy. EPIFP is presented in QRT S.23.01.01 'Own Funds' within Section F.2.

EPIFP is calculated for each homogeneous risk group as the difference between:

- The technical provision (excluding risk margin) of the contract.
- An alternative scenario for the contract under which no future premiums are paid. Excluding the premiums is likely to have an impact on the benefit to be paid. Relevant benefit and expense cash flows are therefore assumed to be on a paid-up or lapse basis. Where 'unearned' commission could be clawed back on a paid-up basis, this is also allowed. However, any penalties on the contract associated with the policyholder making the policy paid up are not taken into account.

When calculating the EPIFP for a contract, its contract boundary is taken into account. In non-life operations, future premiums include, as a minimum, premiums from legally obliged business, premiums due from policies with instalment premium payment terms and policyholder debtor balances (for example, overdue premiums).

#### E.6.2 Additional information on the COVID-19 global pandemic (unaudited)

Further information on the impact of the COVID-19 global pandemic is contained within section F.7.

# Section F

## Additional Information

### [In this section](#)

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## F.1 Cautionary statement

This announcement contains, and we may make other verbal or written 'forward-looking statements' with respect to certain of the Company's plans and current goals and expectations relating to future financial condition, performance, results, strategic initiatives and objectives. Statements containing the words 'believes', 'intends', 'expects', 'projects', 'plans', 'will', 'seeks', 'aims', 'may', 'could', 'outlook', 'likely', 'target', 'goal', 'guidance', 'trends', 'future', 'estimates', 'potential' and 'anticipates', and words of similar meaning, are forward-looking. By their nature, all forward-looking statements involve risk and uncertainty. Accordingly, there are or will be important factors that could cause actual results to differ materially from those indicated in these statements. The Company believes factors that could cause actual results to differ materially from those indicated in forward-looking statements in the announcement include, but are not limited to: the impact of ongoing difficult conditions in the global financial markets and the economy generally; the impact of simplifying our operating structure and activities; the impact of various local and international political, regulatory and economic conditions; market developments and government actions (including those arising from the outcome of the negotiations on the future economic relationship between the UK and the EU); the effect of losses due to defaults by counterparties, including potential sovereign debt defaults or restructurings, on the value of our investments; changes in interest rates that may reduce the value of our portfolio; the impact of changes in short or long-term inflation; the impact of changes in equity or property prices on our investment portfolio; fluctuations in currency exchange rates; the effect of market fluctuations on the value of the assets backing reserves; the amount of allowances and impairments taken on our investments; the effect of adverse capital and credit market conditions on our ability to meet liquidity needs and our access to capital; changes in, or restrictions on, our ability to initiate capital management initiatives; changes in or inaccuracy of assumptions in pricing and reserving for insurance business (particularly with regard to policy renewal rates); a cyclical downturn of the insurance industry; the impact of natural and man-made catastrophic events (including the impact of COVID-19) on our business activities and results of operations; our reliance on information and technology and third-party service providers for our operations and systems; the inability of reinsurers to meet obligations or unavailability of reinsurance coverage; increased competition in the UK and in other countries where we have significant operations; the impact of actual experience differing from estimates used in valuing and amortising deferred acquisition costs (DAC); the impact of recognising an impairment of our goodwill or intangibles with indefinite lives; changes in valuation methodologies, estimates and assumptions used in the valuation of investment securities; the effect of legal proceedings and regulatory investigations; the impact of operational risks, including inadequate or failed internal and external processes, systems and human error or from external events (including cyber attack); risks associated with arrangements with third parties; our reliance on third-party distribution channels to deliver our products; funding risks associated with our participation in defined benefit staff pension schemes; the failure to attract or retain the necessary key personnel; the effect of fluctuations in share price as a result of general market conditions or otherwise; the effect of simplifying our operating structure and activities; the effect of a decline in any of our ratings by rating agencies on our standing among customers, broker-dealers, agents, wholesalers and other distributors of our products and services; changes to our brand and reputation; changes in government regulations or tax laws in jurisdictions where we conduct business; the inability to protect our intellectual property; the policies, decisions and actions of government or regulatory authorities in the UK, the EU, the US or elsewhere, including the implementation of key legislation and regulation. For a more detailed description of these risks, uncertainties and other factors, please see the Aviva plc Annual report and accounts section of the strategic report.

The Company undertakes no obligation to update the forward looking statements in this announcement or any other forward-looking statements we may make. Forward-looking statements in this report are current only as of the date on which such statements are made.

This Solvency and Financial Condition Report has been published for information only, it is based on our understanding as at 8 April 2020 and does not provide financial or legal advice. Other than as set out in section F.5 (Directors Certificate), the Company, its directors, employees, agents or advisers do not accept or assume responsibility to any person to whom this document is shown or into whose hands it may come, and any such responsibility or liability is expressly disclaimed.

This Solvency and Financial Condition Report has been prepared for, and only for, the members of the Company, as a body, and no other persons. The Company, its directors, employees, agents or advisers do not accept or assume responsibility to any other person to whom this document is shown or into whose hands it may come, and any such responsibility or liability is expressly disclaimed.

## F.2 Public disclosure templates

The following pages contain the Company's public disclosure templates, as listed below:

- S.02.01.02 Balance Sheet
- S.05.01.02 Premiums, claims and expenses by line of business
- S.12.01.02 Life and health SLT technical provisions
- S.17.01.02 Non-life technical provisions
- S.19.01.21 Non-life insurance claims
- S.22.01.21 Impact of long term guarantees and transitional measures
- S.23.01.01 Own Funds
- S.25.02.21 SCR – for undertakings using the standard formula and partial internal model
- S.28.01.01 MCR

**Annex I**  
**S.02.01.02**  
**Balance Sheet**  
Amounts in 000s

		Solvency II Value
		C0010
<b>Assets</b>		
Intangible assets	R0030	
Deferred tax assets	R0040	
Pension benefit surplus	R0050	
Property, plant & equipment held for own use	R0060	
Investments (other than assets held for index-linked and unit-linked contracts)	R0070	1,058,000
Property (other than for own use)	R0080	
Holdings in related undertakings, including participations	R0090	
Equities	R0100	
- Equities - Listed	R0110	
- Equities - Unlisted	R0120	
Bonds	R0130	
- Government Bonds	R0140	
- Corporate Bonds	R0150	
- Structured Notes	R0160	
- Collateralised securities	R0170	
Collective Investments Undertakings	R0180	1,058,000
Derivatives	R0190	
Deposits other than cash equivalents	R0200	
Other investments	R0210	
Assets held for index-linked and unit-linked contracts	R0220	
Loans & mortgages	R0230	200,000
- Loans on policies	R0240	
- Loans & mortgages to individuals	R0250	
- Other loans & mortgages	R0260	200,000
Reinsurance recoverables from:	R0270	5
- Reinsurance recoverables - Non-life and health similar to non-life	R0280	5
- Reinsurance recoverables - Non-life excluding health	R0290	5
- Reinsurance recoverables - Health similar to non-life	R0300	
- Reinsurance recoverables - Life and health similar to life, excluding health and index-linked and unit-linked	R0310	
- Reinsurance recoverables - Health similar to life	R0320	
- Reinsurance recoverables - Life excluding health and index-linked and unit-linked	R0330	
- Reinsurance recoverables - Life index-linked and unit-linked	R0340	
Deposits to cedants	R0350	61,397,705
Insurance & intermediaries receivables	R0360	
Reinsurance receivables	R0370	
Receivables (trade, not insurance)	R0380	228,253
Own Shares (held directly)	R0390	
Amounts due in respect of own fund items or initial fund called up but not yet paid in	R0400	
Cash and cash equivalents	R0410	242
Any other assets, not elsewhere shown	R0420	515
<b>Total assets</b>	R0500	62,884,720
<b>Liabilities</b>		
Technical provisions - Non-life	R0510	5,032,585
- Technical provisions - Non-life (excluding health)	R0520	4,850,819
- TP calculated as a whole - Non-life (excluding health)	R0530	
- Best Estimate - Non-life (excluding health)	R0540	4,651,120
- Risk margin - Non-life (excluding health)	R0550	199,699
- Technical provisions - Health (similar to non-life)	R0560	181,766
- TP calculated as a whole - Health (similar to non-life)	R0570	
- Best Estimate - Health (similar to non-life)	R0580	176,048
- Risk margin - Health (similar to non-life)	R0590	5,717
Technical provisions - Life (excluding index-linked and unit linked)	R0600	20,998,057
- Technical provisions - Health (similar to life)	R0610	162,697
- TP calculated as a whole - Health (similar to life)	R0620	
- Best Estimate - Health (similar to life)	R0630	162,690
- Risk margin - Health (similar to life)	R0640	7
- Technical provisions - Life (excluding health and index-linked and unit-linked)	R0650	20,835,361
- TP calculated as a whole - Life (excl health, index-linked and unit-linked)	R0660	
- Best Estimate - Life (excl health, index-linked and unit-linked)	R0670	20,834,174
- Risk margin - Life (excl health, index-linked and unit-linked)	R0680	1,187
Technical provisions - Index-linked and unit-linked	R0690	31,233,054
- TP calculated as a whole - Index-linked and unit-linked	R0700	
- Best Estimate - Index-linked and unit-linked	R0710	31,233,054
- Risk margin - Index-linked and unit-linked	R0720	
Contingent liabilities	R0740	
Provisions other than technical provisions	R0750	
Pension benefit obligations	R0760	
Deposits from reinsurers	R0770	
Deferred tax liabilities	R0780	194,748
Derivatives	R0790	209,699
Debts owed to credit institutions	R0800	
Financial liabilities other than debts owed to credit institutions	R0810	
Insurance & intermediaries payables	R0820	
Reinsurance payables	R0830	
Payables (trade, not insurance)	R0840	361,227
Subordinated liabilities	R0850	
- Subordinated liabilities not in BOF	R0860	
- Subordinated liabilities in BOF	R0870	
Any other liabilities, not elsewhere shown	R0880	
<b>Total liabilities</b>	R0900	58,029,370
<b>Excess of assets over liabilities</b>	R1000	4,855,350

		Line of Business for: life insurance obligations					Life reinsurance obligations				
		Health [accepted non-proportional reinsurance]	Insurance with profit participation	Unit-linked or index-linked insurance	Other life insurance	Annuities stemming from non-life insurance contracts and relating to health insurance obligations	Annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance	Health reinsurance	Life reinsurance	Total	
		C0210	C0220	C0230	C0240	C0250	C0260	C0270	C0280	C0300	
Premiums written											
Gross - Direct Business	R1410							85,333	5,349,779	5,435,111	
Reinsurers' share	R1420										
Net	R1500							85,333	5,349,779	5,435,111	
Premiums earned											
Gross - Direct Business	R1510							85,333	5,349,779	5,435,111	
Reinsurers' share	R1520										
Net	R1600							85,333	5,349,779	5,435,111	
Claims incurred											
Gross - Direct Business	R1610							35,328	3,709,455	3,744,784	
Reinsurers' share	R1620										
Net	R1700							35,328	3,709,455	3,744,784	
Changes in other technical provisions											
Gross - Direct Business	R1710							-23,395	-6,132,358	-6,155,754	
Reinsurers' share	R1720										
Net	R1800							-23,395	-6,132,358	-6,155,754	
Expenses incurred	R1900							11,839	739,879	751,718	
Other expenses	R2500										
Total expenses	R2600										751,718

Annex I  
S.05.01.02  
Premiums, claims and expenses by line of business  
Amounts in 000s

Line of Business for: non-life insurance and reinsurance obligations (direct business and accepted proportional reinsurance)												
Medical expense insurance [direct business]	Income protection insurance [direct business]	Workers' compensation insurance [direct business]	Motor vehicle liability insurance [direct business]	Other motor insurance [direct business]	Marine, aviation and transport insurance [direct business]	Fire and other damage to property insurance [direct business]	General liability insurance [direct business]	Credit and suretyship insurance [direct business]	Legal expenses insurance [direct business]	Assistance [direct business]	Miscellaneous financial loss [direct business]	
C0010	C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100	C0110	C0120	
391,499	42,340		1,999,153	603,341	31,156	1,681,643	542,823	41,822	27,339	29,696	19,189	
391,499	42,340		1,999,153	603,341	31,156	1,681,643	542,823	41,822	27,339	29,696	19,189	
389,971	41,232		1,874,122	535,627	29,211	1,496,939	499,657	31,455	27,078	29,673	20,125	
389,971	41,232		1,874,122	535,627	29,211	1,496,939	499,657	31,455	27,078	29,673	20,125	
267,504	19,918		1,590,239	427,926	20,978	850,275	368,321	13,875	11,525	20,845	9,852	
267,504	19,918		1,590,239	427,926	20,978	850,275	368,321	13,875	11,525	20,845	9,852	
	252										252	
	252										252	
100,113	16,425		296,553	112,015	10,044	620,800	140,214	9,184	7,827	8,355	11,515	

Line of Business for: accepted non proportional reinsurance				
Non-proportional health reinsurance	Non-proportional casualty reinsurance	Non-proportional marine, aviation and transport reinsurance	Non-proportional property reinsurance	Total
C0130	C0140	C0150	C0160	C0200
Premiums written				
Gross - Direct Business	R0110			
Gross - Proportional reinsurance accepted	R0120			5,410,000
Gross - Non-proportional reinsurance accepted	R0130			
Reinsurers' share	R0140			
Net	R0200			5,410,000
Premiums earned				
Gross - Direct Business	R0210			
Gross - Proportional reinsurance accepted	R0220			4,975,091
Gross - Non-proportional reinsurance accepted	R0230			
Reinsurers' share	R0240			
Net	R0300			4,975,091
Claims incurred				
Gross - Direct Business	R0310			
Gross - Proportional reinsurance accepted	R0320			3,601,259
Gross - Non-proportional reinsurance accepted	R0330			
Reinsurers' share	R0340			
Net	R0400			3,601,259
Changes in other technical provisions				
Gross - Direct Business	R0410			
Gross - Proportional reinsurance accepted	R0420			505
Gross - Non-proportional reinsurance accepted	R0430			
Reinsurers' share	R0440			
Net	R0500			505
Expenses incurred	R0550			1,333,046
Other expenses	R1200			32,549
Total expenses	R1300			1,365,595

**Annex I**
**S.05.02.01**
**Premiums, claims and expenses by Country**

Amounts in 000s

		Home Country	Top 5 countries (by amount of gross premium written) - life obligations					Total Top 5 and home country
		C0150	C0160	C0170	C0180	C0190	C0200	C0210
	R1400		FR					
		C0220	C0230	C0240	C0250	C0260	C0270	C0280
<b>Premiums written</b>								
Gross	R1410	5,435,111						5,435,111
Reinsurers' share	R1420							
Net	R1500	5,435,111						5,435,111
<b>Premiums earned</b>								
Gross	R1510	5,435,111						5,435,111
Reinsurers' share	R1520							
Net	R1600	5,435,111						5,435,111
<b>Claims incurred</b>								
Gross	R1610	3,730,277	14,507					3,744,784
Reinsurers' share	R1620							
Net	R1700	3,730,277	14,507					3,744,784
<b>Changes in other technical provisions</b>								
Gross	R1710	-6,155,754						-6,155,754
Reinsurers' share	R1720							
Net	R1800	-6,155,754						-6,155,754
Expenses incurred	R1900	751,718						751,718
Other expenses	R2500							
<b>Total expenses</b>	R2600							751,718



**Annex I**  
**S.05.02.01**  
**Premiums, claims and expenses by Country**  
Amounts in 000s

	Home Country	Top 5 countries (by amount of gross premium written) - non-life obligations					Total Top 5 and home country
	C0010	C0020	C0030	C0040	C0050	C0060	C0070
R0010	CA	FR					
	C0080	C0090	C0100	C0110	C0120	C0130	C0080
<b>Premiums written</b>							
Gross - Direct Business	R0110						
Gross - Proportional reinsurance accepted	R0120	2,821,142	1,901,941	686,917			5,410,000
Gross - Non-proportional reinsurance accepted	R0130						
Reinsurers' share	R0140						
Net	R0200	2,821,142	1,901,941	686,917			5,410,000
<b>Premiums earned</b>							
Gross - Direct Business	R0210						
Gross - Proportional reinsurance accepted	R0220	2,807,826	1,494,353	672,912			4,975,091
Gross - Non-proportional reinsurance accepted	R0230						
Reinsurers' share	R0240						
Net	R0300	2,807,826	1,494,353	672,912			4,975,091
<b>Claims incurred</b>							
Gross - Direct Business	R0310						
Gross - Proportional reinsurance accepted	R0320	1,834,684	1,278,353	488,222			3,601,259
Gross - Non-proportional reinsurance accepted	R0330						
Reinsurers' share	R0340						
Net	R0400	1,834,684	1,278,353	488,222			3,601,259
<b>Changes in other technical provisions</b>							
Gross - Direct Business	R0410						
Gross - Proportional reinsurance accepted	R0420	505					505
Gross - Non-proportional reinsurance accepted	R0430						
Reinsurers' share	R0440						
Net	R0500	505					505
<b>Expenses incurred</b>	R0550	938,239	231,118	163,689			1,333,046
<b>Other expenses</b>	R1200						32,549
<b>Total expenses</b>	R1300						1,365,595

Annex I

S.12.01.02

Life and Health SLT Technical Provisions

Amounts in 000s

Technical provisions calculated as a whole

Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole

Technical provisions calculated as a sum of BE and RM

Best Estimate

Gross Best Estimate

Total Recoverables from reinsurance and SPV after the adjustment for expected losses due to counterparty default

Best estimate minus recoverables from reinsurance and SPV - Total

Risk Margin

Amount of the transitional on Technical Provisions

Technical Provisions calculated as a whole

Best estimate

Risk margin

Technical provisions - Total

	Insurance with profit participation	Unit-linked or index-linked insurance		Other life insurance			Annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance obligations	Accepted reinsurance	Total (Life other than health insurance, incl. Unit-Linked)	
		Contracts without options and guarantees	Contracts with options or guarantees	Contracts without options and guarantees	Contracts with options or guarantees					
	C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100	C0150
R0010										
R0020										
R0030									52,248,658	52,248,658
R0080										
R0090									52,248,658	52,248,658
R0100									1,469,032	1,469,032
R0110										
R0120									-181,430	-181,430
R0130									-1,467,845	-1,467,845
R0200									52,068,414	52,068,414

	Health [accepted non-proportional reinsurance]	Annuities stemming from non-life insurance contracts and relating to health insurance obligations	Health reinsurance	Total (Health similar to life insurance)	
	Contracts without options and guarantees				Contracts with options or guarantees
C0160	C0170	C0180	C0190	C0200	C0210

Technical provisions calculated as a whole

Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole

Technical provisions calculated as a sum of BE and RM

Best Estimate

Gross Best Estimate

Total Recoverables from reinsurance and SPV after the adjustment for expected losses due to counterparty default

Best estimate minus recoverables from reinsurance and SPV - Total

Risk Margin

Amount of the transitional on Technical Provisions

Technical Provisions calculated as a whole

Best estimate

Risk margin

Technical provisions - Total

Technical provisions calculated as a whole

Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole

Technical provisions calculated as a sum of BE and RM

Best estimate

Premium provisions

Gross

Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default

Net Best Estimate of Premium Provisions

Claims provisions

Gross

Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default

Net Best Estimate of Claims Provisions

Total Best estimate - Gross

Total Best estimate - Net

Risk margin

Amount of the transitional on Technical Provisions

Technical Provisions calculated as a whole

Best estimate

Risk margin

Technical provisions - Total

Technical provisions - Total

Recoverable from reinsurance contract/SPV and Finite Re after the adjustment for expected losses due to counterparty default - Total

Technical provisions minus recoverables from reinsurance/SPV and Finite Re - Total

	Direct business and accepted proportional reinsurance											
	Medical expense insurance [direct business]	Income protection insurance [direct business]	Workers' compensation insurance [direct business]	Motor vehicle liability insurance [direct business]	Other motor insurance [direct business]	Marine, aviation and transport insurance [direct business]	Fire and other damage to property insurance [direct business]	General liability insurance [direct business]	Credit and suretyship insurance [direct business]	Legal expenses insurance [direct business]	Assistance [direct business]	Miscellaneous financial loss [direct business]
	C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100	C0110	C0120	C0130
R0010												
R0050												
R0060	113,049	9,856		380,461	242,497	10,670	480,028	110,604	10,831	277	3,926	21,070
R0140												
R0150	113,049	9,856		380,461	242,497	10,670	480,028	110,604	10,831	277	3,926	21,070
R0160	34,578	18,566		1,777,387	69,056	20,858	537,136	931,372	13,062	15,913	11,885	11,963
R0240												
R0250	34,578	18,566		1,777,387	69,056	20,858	537,136	931,372	13,062	15,913	11,885	11,963
R0260	147,627	28,421		2,157,848	311,553	31,529	1,017,165	1,041,976	23,893	16,190	15,812	33,034
R0270	147,627	28,421		2,157,848	311,553	31,529	1,017,165	1,041,976	23,893	16,190	15,812	33,034
R0280	5,482	235		79,968	4,874	322	22,862	90,100	574	622	179	122
R0290												
R0300												
R0310												
R0320	153,109	28,657		2,237,816	316,427	31,851	1,040,026	1,132,075	24,466	16,812	15,990	33,156
R0330												
R0340	153,109	28,657		2,237,816	316,427	31,851	1,040,026	1,132,075	24,466	16,812	15,990	33,156

Accepted non-proportional reinsurance		Marine, aviation, transport [accepted non-proportional reinsurance]		Property [accepted non-proportional reinsurance]		Total Non-Life obligation
Health [accepted non-proportional reinsurance]	Casualty [accepted non-proportional reinsurance]					
C0140	C0150	C0160	C0170	C0180		

Technical provisions calculated as a whole

Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole

Technical provisions calculated as a sum of BE and RM

Best estimate

Premium provisions

Gross

Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default

Net Best Estimate of Premium Provisions

Claims provisions

Gross

Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default

Net Best Estimate of Claims Provisions

Total Best estimate - Gross

Total Best estimate - Net

Risk margin

Amount of the transitional on Technical Provisions

Technical Provisions calculated as a whole

Best estimate

Risk margin

Technical provisions - Total

Technical provisions - Total

Recoverable from reinsurance contract/SPV and Finite Re after the adjustment for expected losses due to counterparty default - Total

Technical provisions minus recoverables from reinsurance/SPV and Finite Re - Total

R0060					1,383,270
R0140					
R0150					1,383,270
R0160	423	1	1,698	3,443,898	
R0240	5			5	
R0250	418	1	1,698	3,443,893	
R0260	423	1	1,698	4,827,168	
R0270	418	1	1,698	4,827,163	
R0280			78	205,417	
R0290					
R0300					
R0310					
R0320	423	1	1,776	5,032,585	
R0330	5			5	
R0340	418	1	1,776	5,032,580	

Total Non-Life Business

Accident year / Underwriting year	20020	AY
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Gross Claims Paid (non-cumulative)  
(absolute amount)

		Development Year										In Current year	Sum of years (cumulative)
		0	1	2	3	4	5	6	7	8	9	10&+	
		C0010	C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100	C0110	
Prior	R0100												R0100
R0160	R0160												R0160
R0170	R0170												R0170
R0180	R0180		4,677	3,247	9,349	844	49	3,102					R0180
R0190	R0190				212	30	669						R0190
R0200	R0200	128,183	58,536	134,860	10	41							R0200
R0210	R0210	68,899	79,917										R0210
R0220	R0220	1,678,797	757,006	403,820	279,161								R0220
R0230	R0230	985,372	377,663	120,462									R0230
R0240	R0240	1,051,672	428,263										R0240
R0250	R0250	1,539,466											R0250
													Total
													R0260
													2,367,353
													8,114,308

Gross undiscounted Best Estimate Claims Provisions  
(absolute amount)

		Development Year										Year end (discounted data)	
		0	1	2	3	4	5	6	7	8	9	10&+	
		C0200	C0210	C0220	C0230	C0240	C0250	C0260	C0270	C0280	C0290	C0300	C0360
Prior	R0100												R0100
R0160	R0160												R0160
R0170	R0170												R0170
R0180	R0180					3,214	2,694						R0180
R0190	R0190				680	926	5	5					R0190
R0200	R0200			106	54								R0200
R0210	R0210			1									R0210
R0220	R0220	2,589,881	1,644,126	1,064,842	851,897								R0220
R0230	R0230	911,710	409,335	344,809									R0230
R0240	R0240	902,283	491,683										R0240
R0250	R0250	1,856,151											R0250
													Total
													R0260
													3,443,898

Annex I

S.22.01.21

Impact of long term guarantees and transitional measures

Amounts in 000s

		Amount with LG measures and transitionals	Impact of transitional on technical provisions	Impact of transitional on interest rate	Impact of volatility adjustment set to zero	Impact of matching adjustment set to zero
		C0010	C0030	C0050	C0070	C0090
Technical Provisions	R0010	57,263,696	1,653,662		31,723	2,904,890
Basic Own Funds	R0020	4,855,350	-1,472,893		-31,723	-2,904,890
Eligible own funds to meet Solvency Capital Requirement	R0050	4,855,350	-1,472,893		-31,723	-2,904,890
Solvency Capital Requirement	R0090	2,822,741	180,769		6,189	2,612,350
Eligible own funds to meet Minimum Capital Requirement	R0100	4,855,350	-1,472,893		-31,723	-2,904,890
Minimum Capital Requirement	R0110	1,270,234	81,432		2,785	349,171

**Annex I**
**S.23.01.01**
**Own Funds**

Amounts in 000s

**Basic own funds before deduction for participations in other financial sector as foreseen in article 68 of Delegated Regulation 2015/35**

Ordinary share capital (gross of own shares)	R0010
Share premium account related to ordinary share capital	R0030
Initial funds, members' contributions or the equivalent basic own fund item for mutual and mutual-type undertakings	R0040
Subordinated mutual member accounts	R0050
Surplus funds	R0070
Preference shares	R0090
Share premium account related to preference shares	R0110
Reconciliation reserve	R0130
Subordinated liabilities	R0140
An amount equal to the value of net deferred tax assets	R0160
Other own fund items approved by the supervisory authority as basic own funds not specified above	R0180

**Own funds from the financial statements that should not be represented by the reconciliation reserve and do not meet the criteria to be classified as Solvency II own funds**

Own funds from the financial statements that should not be represented by the reconciliation reserve and do not meet the criteria to be classified as Solvency II own funds R0220

**Deductions**

Deductions for participations in financial and credit institutions	R0230
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**Total basic own funds after deductions**

	R0290
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**Ancillary own funds**

Unpaid and uncalled ordinary share capital callable on demand	R0300
Unpaid and uncalled initial funds, members' contributions or the equivalent basic own fund item for mutual and mutual-type undertakings, callable on demand	R0310
Unpaid and uncalled preference shares callable on demand	R0320
A legally binding commitment to subscribe and pay for subordinated liabilities on demand	R0330
Letters of credit and guarantees under Article 96(2) of the Directive 2009/138/EC	R0340
Letters of credit and guarantees other than under Article 96(2) of the Directive 2009/138/EC	R0350
Supplementary members calls under first subparagraph of Article 96(3) of the Directive 2009/138/EC	R0360
Supplementary members calls other than under first subparagraph of Article 96(3) of the Directive 2009/138/EC	R0370
Other ancillary own funds	R0390

**Total ancillary own funds - Solo**

	R0400
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**Available and eligible own funds**

Total available own funds to meet the SCR	R0500
Total available own funds to meet the MCR	R0510
Total eligible own funds to meet the SCR	R0540
Total eligible own funds to meet the MCR	R0550

**SCR**

	R0580
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**MCR**

	R0600
--	-------

**Ratio of eligible own funds to SCR**

	R0620
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**Ratio of eligible own funds to MCR**

	R0640
--	-------

Total	Tier 1 Unrestricted	Tier 1 Restricted	Tier 2	Tier 3
C0010	C0020	C0030	C0040	C0050

780,000	780,000			
4,075,350	4,075,350			

--	--	--	--	--

4,855,350	4,855,350			


4,855,350	4,855,350			
4,855,350	4,855,350			
4,855,350	4,855,350			
4,855,350	4,855,350			
2,822,741				
1,270,234				
1.7201				
3.8224				

**C0060**

<b>Reconciliation Reserve</b>	
Excess of assets over liabilities	R0700
Own shares (held directly and indirectly)	R0710
Foreseeable dividends, distributions and charges	R0720
Other basic own fund items	R0730
Adjustment for restricted own fund items in respect of matching adjustment portfolios and ring fenced funds	R0740
<b>Reconciliation reserve</b>	R0760
<b>Expected profits</b>	
Expected profits included in future premiums (EPIFP) - Life business	R0770
Expected profits included in future premiums (EPIFP) - Non-life business	R0780
<b>Total expected profits included in future premiums (EPIFP)</b>	R0790

4,855,350
780,000
4,075,350
107,238
72,202
179,440

Unique number of component	Component Description		Calculation of the Solvency Capital Requirement	Amount modelled	USP	Simplifications
C0010	C0020		C0030	C0070	C0090	C0120
100000	Market Risk		2,154,813	2,051,597		
200000	Counterparty Risk		130,350	88,660		
300000	Life underwriting risk		1,619,625	1,616,175		
400000	Health underwriting risk		59,479			
500000	Non-life underwriting risk		806,411	564,457		
701000	Operational risk		454,367	426,745		
801000	Other risks					
802000	Loss-absorbing capacity of technical provisions					
803000	Loss-absorbing capacity of deferred tax		-233,561	-229,382		
804000	Other adjustments		134,723	140,632		
<b>Calculation of Solvency Capital Requirement</b>			C0100			
<b>Total undiversified components</b>			R0110	<b>5,126,208</b>		
Diversification			R0060	-2,303,467		
Capital requirement for business operated in accordance with Art. 4 of Directive 2003/41/EC			R0160			
<b>Solvency Capital Requirement excluding capital add-on</b>			R0200	<b>2,822,741</b>		
Capital add-ons already set			R0210			
<b>Solvency capital requirement</b>			R0220	<b>2,822,741</b>		
<b>Other information on SCR</b>						
Amount/Estimate of the overall loss-absorbing capacity of technical provisions			R0300			
Amount/Estimate of the overall loss-absorbing capacity of deferred taxes			R0310	-233,561		
Capital requirement for duration-based equity risk sub-module			R0400			
Total amount of Notional Solvency Capital Requirements for remaining part			R0410	1,392,424		
Total amount of Notional Solvency Capital Requirements for ring fenced funds			R0420			
Total amount of Notional Solvency Capital Requirements for matching adjustment portfolios			R0430	2,268,714		
Diversification effects due to RFF nSCR aggregation for article 304			R0440			

**Annex I**
**S.28.01.01**
**Minimum Capital Requirement - Only life or only non-life insurance or reinsurance activity**

Amounts in 000s

**Linear formula component for non-life insurance and reinsurance obligations**

MCRNL Result		C0010	
		R0010	907,328
		Net (of reinsurance/SPV) best estimate and TP calculated as a whole	Net (of reinsurance) written premiums in the last 12 months
		C0020	C0030
Medical expense insurance and proportional reinsurance	R0020	147,627	391,499
Income protection insurance and proportional reinsurance	R0030	28,421	42,340
Workers' compensation insurance and proportional reinsurance	R0040		
Motor vehicle liability insurance and proportional reinsurance	R0050	2,157,848	1,999,153
Other motor insurance and proportional reinsurance	R0060	311,553	603,341
Marine, aviation and transport insurance and proportional reinsurance	R0070	31,529	31,156
Fire and other damage to property insurance and proportional reinsurance	R0080	1,017,165	1,681,643
General liability insurance and proportional reinsurance	R0090	1,041,976	542,823
Credit and suretyship insurance and proportional reinsurance	R0100	23,893	41,822
Legal expenses insurance and proportional reinsurance	R0110	16,190	27,339
Assistance and proportional reinsurance	R0120	15,812	29,696
Miscellaneous financial loss insurance and proportional reinsurance	R0130	33,034	19,189
Non-proportional health reinsurance	R0140		
Non-proportional casualty reinsurance	R0150	418	
Non-proportional marine, aviation and transport reinsurance	R0160	1	
Non-proportional property reinsurance	R0170	1,698	

**Linear formula component for life insurance and reinsurance obligations**

		C0040	
MCRL Result	R0200	698,386	
		Net (of reinsurance/SPV) best estimate and TP calculated as a whole	Net (of reinsurance/SPV) total capital at risk
		C0050	C0060
Obligations with profit participation - Guaranteed benefits	R0210		
Obligations with profit participation - Future discretionary benefits	R0220	153,673	
Index-linked and unit-linked insurance obligations	R0230	31,233,054	
Other life (re)insurance and health (re)insurance obligations	R0240	20,843,191	
Total capital at risk for all life (re)insurance obligations	R0250		
			71,483,630

**Overall MCR calculation**

		C0070	
Linear MCR	R0300	1,605,714	
SCR	R0310	2,822,741	
MCR cap	R0320	1,270,234	
MCR floor	R0330	705,685	
Combined MCR	R0340	1,270,234	
Absolute floor of the MCR	R0350	1,054	
		C0070	
Minimum Capital Requirement	R0400	1,270,234	



### F.3 Glossary of abbreviations and definitions

The following abbreviations and terms have been used in this report:

Abbreviation	Definition
99.5th percentile	An event that would be expected to occur once in every 200 years
AGH	Aviva Group Holdings Limited
AIL	Aviva Insurance Limited
ALCo	Asset Liability Committee
ORC	Operational Risk Committee
ALM	Asset Liability Management
Alternative valuation methods	Valuation methods that are consistent with Article 75 of the Solvency II Directive other than those which solely use the quoted market prices for the same or similar assets or liabilities
ASHE	Annual Survey of Hours and Earnings index
BEL	Best estimate liability
CAO	Chief Audit Officer
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CGI	Canada general insurance comprising the following companies: Aviva Insurance Company of Canada, Aviva General Insurance Company, Traders General Insurance Company, Scottish & York Insurance Co Limited, Elite Insurance Company, S&Y Insurance Company and Pilot Insurance
CMI	Continuous Mortality Investigation
CoC	Cost of Capital approach allowing for diversification between lines of business and on a net-of-reinsurance basis
The Company	Aviva International Insurance Limited
CPI	Consumer Price Index
CA	Chief Actuary
CRO	Chief Risk Officer
Diversification benefit	The reduction in the risk exposure of insurance and reinsurance undertakings and groups related to the diversification of their business, resulting from the fact that the adverse outcome from one risk can be offset by a more favourable outcome from another risk, where those risks are not fully correlated
EEA	European Economic Area
EIOPA	European Insurance and Occupational Pensions Authority
ENIDs	Events Not in Data are events not deemed to be captured by the data which need to be separately allowed for within the best estimate calculations to take appropriate account of uncertainty.
Expected profit included in future premium (EPIFP)	The expected present value of future cash flows which result from the inclusion in technical provisions of premiums relating to existing insurance and reinsurance contracts that are expected to be received in the future, but that may not be received for any reason, other than because the insured event has occurred, regardless of the legal or contractual rights of the policyholder to discontinue the policy
FCA	Financial Conduct Authority
FGI	France general insurance: Aviva Assurances S.A.
FTSE	Financial Times Stock Exchange
The Group	Aviva plc and its subsidiary companies
IAS	International Accounting Standards
ICA	Internal Capital Assessment
ICG	Individual Capital Guidance
IFRS	International Financial Reporting Standards (used to prepare the Company's financial statements)
IM	Internal Model
IMMMR	The processes used to identify, measure, manage, monitor and report risks
IPV	Independent price verification
LACDT	Loss-Absorbing Capacity of Deferred Taxes. This is an adjustment which can be applied to the SCR reflecting the potential compensation of unexpected losses through a simultaneous change in deferred taxes
Latent claims	General insurance claims that are often not made until many years after the period of cover provided, due to the impact of perils or causes not becoming evident for a number of years. Sources of latent claims include asbestos-related diseases, environmental pollution and industrial deafness.
LTIP	Long Term Incentive Plan
MA	Matching adjustment

MCR	Minimum Capital Requirement
MSA	Management Services Agreement
NED	Non-Executive Director
nhSCR	Non-hedgeable SCR, which takes into account non-hedgeable risks only
NNEG	No negative equity guarantee
ORIC	Operational Risk Insurance Consortium
ORSA	Own Risk and Solvency Assessment
OTC derivatives	Over-the-counter derivatives are contracts that are traded (and privately negotiated) directly between two parties, without going through an exchange or other intermediary. Products such as swaps and forward rate agreements are almost always traded in this way.
Outsourcing	An arrangement of any form between an insurance or reinsurance undertaking and a service provider, whether a supervised entity or not, by which that service provider performs a process, a service or an activity, whether directly or by sub-outsourcing, which would otherwise be performed by the insurance or reinsurance undertaking itself
PFI	Private Finance Initiative
PIM	Partial Internal Model
PPO	Periodic Payment Orders (annuities stemming from non-life insurance contracts)
PRA	Prudential Regulatory Authority
Qualifying holding	A direct or indirect holding in an undertaking which represents 10% or more of the capital or of the voting rights or which makes it possible to exercise a significant influence over the management of that undertaking
QRT	Quantitative Reporting Templates
RCSA	Risk and control self assessment
RICS	The Royal Institution of Chartered Surveyors
Risk Margin	An estimate of the amount, in addition to the Best Estimate Liability, that a third party would expect to receive in order to assume ownership of the Company's insurance obligations.
Risk mitigation techniques	All techniques which enable insurance and reinsurance undertakings to transfer part or all of their risks to another party
RMF	Risk Management Framework
RPI	Retail Price Index
Scenario analysis	The analysis of the impact of a combination of adverse events
SCR	Solvency Capital Requirement
SM&CR	Senior Managers and Certification Regime
SF	Standard Formula
SFCR	Solvency and Financial Condition Report
Solvency II Directive	Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance
Solvency II Regulations	Commission delegated regulation (EU) 2015/35 of 10 October 2014 supplementing Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II)
Special Purpose Vehicle (SPV)	Any undertaking, whether incorporated or not, other than an existing insurance or reinsurance undertaking, which assumes risks from insurance or reinsurance undertakings and which fully funds its exposure to such risks through the proceeds of a debt issuance or any other financing mechanism where the repayment rights of the providers of such debt or financing mechanism are subordinated to the reinsurance obligations of such an undertaking
TMTP	Transitional measure on technical provisions
UK&I GI	UK and Ireland General Insurance
UKA	ex-Aviva Annuity UK Limited
UKLAP	Aviva Life and Pensions UK Limited
UKLS	Aviva UK Life Services Limited
USP	Undertaking Specific Parameters
VA	Volatility adjustment

## F.4 Approvals, determinations and modifications

The following approvals, determinations and modifications apply for the Company at 31 December 2019:

### Approvals

Approval	Further information	PRA / regulator reference
Matching adjustment in the calculation of technical provisions	7 November 2015	2200600
	11 November 2016	3087745
	8 August 2019	5143685
Volatility adjustment in the calculation of technical provisions	30 November 2015	2200426
Transitional measures on technical provisions	22 December 2015: Approval of use of TMTP	2198917
	10 August 2016: Approval of reset at 30 June 2016	2825130
	28 December 2017: Approval of reset at 31 December 2017	4850458
Partial internal model in the calculation of the SCR	19 December 2019: Approval of reset at 31 December 2019	5400813
	5 December 2015: Approval of the partial internal model	2243963
	1 March 2016: Approval of the partial internal model integration technique	2429728
	23 March 2017: Approval of changes to the partial internal model <sup>1</sup>	3605395
	21 December 2017: Approval of changes to the partial internal model	4800495
	10 December 2018: Approval of changes to the partial internal model	4973445
	25 October 2019: Approval of changes to the partial internal model	5276048

<sup>1</sup> The major model change written approval notice received from the PRA takes effect from 16 February 2017. Formal confirmation from the PRA dated 27 July 2016 and 23 March 2017 confirmed that this can be backdated to 31 December 2016.

In the Company, there are no ancillary own funds, 'non-standard' items in own funds, use of transitional measure on the risk-free interest rate, application of the duration-based equity risk sub-module for standard formula operations or application of undertaking specific parameters for standard formula operations.

### Determinations and modifications

There are no determinations or modifications.

### F.5 Directors' certificate

We acknowledge our responsibility for preparing the Solvency and Financial Condition Report (SFCR) of Aviva International Insurance Limited at 31 December 2019 in all material respects in accordance with the PRA Rules, the Solvency II Regulations, and the approvals, determinations and modifications listed in Section F.4.

The Board is satisfied that to the best of its knowledge and belief:

- 1) throughout the financial year to 31 December 2019, the Company has complied in all material respects with the requirements of the PRA Rules and the Solvency II Regulations as applicable to the Company and with the approvals, determinations and modifications listed in Section F.4; and
- 2) it is reasonable to believe that in respect of the period from 31 December 2019 to the date of the publication of the SFCR, the Company has continued so to comply and that it will continue so to comply for the remainder of the financial year to 31 December 2020.

Judith Buttigieg  
Chief Executive Officer, Aviva International Insurance Limited  
8 April 2020

## F.6 Audit Report

Report of the external independent auditors to the Directors of Aviva International Insurance Limited ('the Company') pursuant to Rule 4.1 (2) of the External Audit Part of the PRA Rulebook applicable to Solvency II firms

Report on the Audit of the relevant elements of the Solvency and Financial Condition Report

### Opinion

Except as stated below, we have audited the following documents prepared by the Company as at 31 December 2019:

- The 'Valuation for Solvency Purposes' and 'Capital Management' sections of the Solvency and Financial Condition Report of the Company as at 31 December 2019, (**'the Narrative Disclosures subject to audit'**); and
- Company templates S.02.01.02, S.12.01.02, S.17.01.02, S.22.01.21, S.23.01.01 and S.28.01.01 (**'the Templates subject to audit'**).

The Narrative Disclosures subject to audit and the Templates subject to audit are collectively referred to as the '**relevant elements of the Solvency and Financial Condition Report**'.

We are not required to audit, nor have we audited, and as a consequence do not express an opinion on the **Other Information** which comprises:

- Information contained within the relevant elements of the Solvency and Financial Condition Report set out above which is, or derives from the Solvency Capital Requirement, as identified in the Appendix to this report;
- The 'Executive Summary', 'Business and Performance', 'System of Governance' and 'Risk Profile' elements of the Solvency and Financial Condition Report;
- Company templates S.05.01.02, S.19.01.21 and S.25.02.21;
- Information calculated in accordance with the previous regime used in the calculation of the transitional measure on technical provisions, and as a consequence all information relating to the transitional measure on technical provisions as set out in the Appendix to this report;
- The written acknowledgement by management of their responsibilities, including for the preparation of the Solvency and Financial Condition Report ('the Responsibility Statement').

To the extent the information subject to audit in the relevant elements of the Solvency and Financial Condition Report includes amounts that are totals, sub-totals or calculations derived from the Other Information, we have relied without verification on the Other Information.

In our opinion, the information subject to audit in the relevant elements of the Solvency and Financial Condition Report of the Company as at 31 December 2019 is prepared, in all material respects, in accordance with the financial reporting provisions of the PRA Rules and Solvency II regulations on which they are based, and as supplemented by supervisory approvals and determinations.

### Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) including ISA (UK) 800 and ISA (UK) 805, and applicable law. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the relevant elements of the Solvency and Financial Condition Report section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the Solvency and Financial Condition Report in the UK, including the FRC's Ethical Standard as applied to public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the directors' use of the going concern basis of accounting in the preparation of the Solvency and Financial Condition Report is not appropriate; or
- the directors have not disclosed in the Solvency and Financial Condition Report any identified material uncertainties that may cast significant doubt about the Company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the Solvency and Financial Condition Report is authorised for issue.

We have nothing to report in respect of the above matters.

However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the Company's ability to continue as a going concern.

### **Emphasis of Matter - Basis of Accounting**

We draw attention to the 'Valuation for Solvency Purposes', 'Capital Management' and 'Approvals, determinations and modifications' sections of the Solvency and Financial Condition Report, which describe the basis of accounting. The Solvency and Financial Condition Report is prepared in compliance with the financial reporting provisions of the PRA Rules and Solvency II regulations, and therefore in accordance with a special purpose financial reporting framework. The Solvency and Financial Condition Report is required to be published, and intended users include but are not limited to the Prudential Regulation Authority. As a result, the Solvency and Financial Condition Report may not be suitable for another purpose. Our opinion is not modified in respect of this matter.

### **Other Information**

The Directors are responsible for the Other Information.

Our opinion on the relevant elements of the Solvency and Financial Condition Report does not cover the Other Information and we do not express an audit opinion or any form of assurance conclusion thereon.

In connection with our audit of the Solvency and Financial Condition Report, our responsibility is to read the Other Information and, in doing so, consider whether the Other Information is materially inconsistent with the relevant elements of the Solvency and Financial Condition Report, or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the relevant elements of the Solvency and Financial Condition Report or a material misstatement of the Other Information. If, based on the work we have performed, we conclude that there is a material misstatement of this Other Information, we are required to report that fact. We have nothing to report in this regard.

### **Responsibilities of Directors for the Solvency and Financial Condition Report**

The Directors are responsible for the preparation of the Solvency and Financial Condition Report in accordance with the financial reporting provisions of the PRA rules and Solvency II regulations, which have been supplemented by the approvals and determinations made by the PRA under section 138A of FSMA, the PRA Rules and Solvency II regulations on which they are based, as detailed in Section F.4 'Approvals, determinations and modifications' of the Solvency and Financial Condition Report.

The Directors are also responsible for such internal control as they determine is necessary to enable the preparation of a Solvency and Financial Condition Report that is free from material misstatement, whether due to fraud or error.

### **Auditors' Responsibilities for the Audit of the relevant elements of the Solvency and Financial Condition Report**

It is our responsibility to form an independent opinion as to whether the information subject to audit in the relevant elements of the Solvency and Financial Condition Report is prepared, in all material respects, in accordance with financial reporting provisions of the PRA Rules and Solvency II regulations on which they are based.

Our objectives are to obtain reasonable assurance about whether the relevant elements of the Solvency and Financial Condition Report are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but it is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decision making or the judgement of the users taken on the basis of the Solvency and Financial Condition Report.

A further description of our responsibilities for the audit is located on the Financial Reporting Council's website at: [www.frc.org.uk/auditorsresponsibilities](http://www.frc.org.uk/auditorsresponsibilities). This description forms part of our auditors' report.

This report, including the opinion, has been prepared for the Board of Directors of the Company in accordance with External Audit rule 2.1 of the Solvency II firms Sector of the PRA Rulebook as if it applied to the Company, and for no other purpose. We do not, in providing this report, accept or assume responsibility for any other purpose or to any other party save where expressly agreed by our prior consent in writing.

#### **Other Matter**

The Company has authority to calculate its Solvency Capital Requirement using a partial internal model ("the Model") approved by the Prudential Regulation Authority in accordance with the Solvency II Regulations. In forming our opinion (and in accordance with PRA rules), we are not required to audit the inputs to, design of, operating effectiveness of and outputs from the Model, or whether the Model is being applied in accordance with the Company's application or approval order.

#### **Report on Other Legal and Regulatory Requirements**

In accordance with Rule 4.1 (3) of the External Audit Part of the PRA Rulebook for Solvency II firms we are also required to consider whether the Other Information is materially inconsistent with our knowledge obtained in the audit of the Company's statutory financial statements. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

*PricewaterhouseCoopers LLP*  
*Chartered Accountants*  
London

8 April 2020

## Appendix – relevant elements of the Solvency and Financial Condition Report that are not subject to audit

The relevant elements of the Solvency and Financial Condition Report that are not subject to audit comprise:

- The following elements of template S.02.01.02:
  - Row R0550: Technical provisions – non-life (excluding health) – risk margin
  - Row R0590: Technical provisions – health (similar to non-life) – risk margin
  - Row R0640: Technical provisions – health (similar to life) – risk margin
  - Row R0680: Technical provisions – life (excluding health and index-linked and unit-linked) – risk margin
  - Row R0720: Technical provisions – index-linked and unit-linked – risk margin
- The following elements of template S.12.01.02
  - Row R0100: Technical provisions calculated as a sum of BE and RM – Risk margin
  - Rows R0110 to R0130 – Amount of transitional measure on technical provisions
- The following elements of template S.17.01.02
  - Row R0280: Technical provisions calculated as a sum of BE and RM – Risk margin
  - Rows R0290 to R0310 – Amount of transitional measure on technical provisions
- The following elements of template S.22.01.21
  - Column C0030 – Impact of transitional on technical provisions
  - Row R0010 – Technical provisions
  - Row R0090 – Solvency Capital Requirement
- The following elements of template S.23.01.01
  - Row R0580: SCR
  - Row R0740: Adjustment for restricted own fund items in respect of matching adjustment portfolios and ring fenced funds
- The following elements of template S.28.01.01
  - Row R0310: SCR
- Elements of the Narrative Disclosures subject to audit identified as 'unaudited'.



## F.7 Additional information on the COVID-19 global pandemic

On 11 March 2020, the World Health Organization declared the outbreak of a strain of novel coronavirus disease, COVID-19, a global pandemic. Governments in affected areas have imposed a number of measures designed to contain the outbreak, including business closures, travel restrictions, stay at home orders and cancellations of gatherings and events. The spread of COVID-19 has resulted in an economic downturn in jurisdictions in which the Company operates and the global economy more widely, as well as causing increased volatility and declines in financial markets. If the pandemic is prolonged, or further diseases emerge that give rise to similar effects, the adverse impact on the global economy could be deepened and result in further declines in financial markets.

As a reinsurer the Company is impacted by the COVID-19 pandemic through its reinsurance of life protection products as a result of increased mortality; income protection, critical illness and health insurance products as a result of increased morbidity, offset by potential reduction in annuity payments; and general insurance products as a result of disruption to travel and businesses reinsured by the Company. The Company's cedants are keeping their pricing and strategy under review given changes in the risk profile of future new business and expected future investment returns. The Company's balance sheet exposure has been reviewed and actions are being taken to further reduce the sensitivity to economic shocks. The Company continues to maintain strong solvency levels and expects to continue to meet its capital requirements. Since the onset of the pandemic the Company and its cedants have remained operational. Key activities such as cash payments and transaction processing are being maintained; IT systems have remained operational; and employees including frontline customer facing staff within cedants are being supported to ensure that they are there to support customers. Notwithstanding the Company's strong capital and liquidity position and the operational and financial actions that are being taken, deterioration in the situation could have further adverse implications arising from the impacts on financial markets, insurance exposures and operations.

As the situation is rapidly evolving it is not practicable to quantify the potential financial impact of the outbreak on the Company at this stage. Figures presented in the SFCR and the associated Quantitative Reporting Templates (QRTs) have been prepared based on conditions and best estimate assumptions at 31 December 2019 and have therefore not been adjusted for any impacts of COVID-19 including any impacts on technical provisions.

The following summarises the impact of COVID-19 on the information contained within sections A to E of the SFCR where this is considered relevant.

### Business and performance

Information presented in Section A of this report represents the performance of the business as reported in the Company's financial statements for the 12-month period to 31 December 2019. As referred to above it is not practicable to quantify the potential financial impact of the outbreak on the Company at this stage.

### System of governance

The Company's overarching risk management and internal control system is responding well to the challenges of the COVID-19 outbreak and remains intact. Work is in progress to capture changes to the control environment to make allowances for the operational constraints. Any modifications are being closely monitored and subject to appropriate governance.

Government travel restrictions and social distancing measures in the Company's cedants' major markets have required them to implement contingency plans and changes to some of their operational processes to ensure continued uninterrupted service to customers, while minimising the impact on the quality of service provided. These plans involve most of the staff being able to work from home, including customer contact centre staff in cedants. The changes to operational processes that have been implemented have been designed to ensure customer service, data protection and staff well-being risks are at a level acceptable to Management.

### Risk profile

The current process for monitoring the risks, the risk-mitigation techniques in place and the material concentrations of risk to which the business is exposed as a result of COVID-19 for each of the Company's key risk types are set out in this section.

The Company performs sensitivity analyses & stress and scenario testing in order to understand the impact that changes in underlying risk calibrations and correlations of those risks would have on the Company's risk profile and SCR. See section C.7 for details of the methodology employed in sensitivity analysis, the assumptions and limitations in performing these analyses and the results obtained at 31 December 2019.

### Underwriting risk

#### GI and Health

The Company's general insurance and health exposures to COVID-19, together with mitigants, are as follows:

- **Business Interruption:** For the significant majority of the business interruption policies reinsured by the Company, where policy wordings are determined by its cedants, cover is based on a specified list of diseases. These policies exclude business interruption due to new and emerging diseases, like COVID-19. Cedant policy wordings clearly identify the diseases covered and also highlight that new and emerging diseases are not covered. Business interruption losses stemming from the current COVID-19 outbreak are therefore not covered under the significant majority of business

interruption policies but there is a risk that litigation will be required to provide legal clarity in terms of the events and the cover provided under broker determined business interruption policy wordings where the Company's cedant is the lead or follow insurer. In Canada the Company's cedant has agreed there is business interruption cover under a specific pandemic risk policy for Canadian dentists.

- Travel Insurance: The Company, through its cedants is potentially exposed to claims due to travel cancellation, disruption and sickness, after recoveries have been made from travel providers and agents. Steps have been taken by the Company's cedants to limit exposure arising from new business, through pricing actions and withdrawal of products and policy options.
- Other: The economic disruption and anticipated recession arising from COVID-19 are likely to lead to increased claims across a wide range of policies, including credit, directors and officers and surety covers. There are also likely to be adverse impacts on future premium volumes.

## Life

The principal Life underwriting risks impacted by the COVID-19 pandemic are mortality and morbidity risks. Going forward, there is also uncertainty over the impact this pandemic will have on future policyholder behaviour (e.g. persistency)

The Company's cedant has reinsurance in place to reduce their net exposure to potential losses. This includes a high-level of quota share reinsurance in place on Individual Protection business and, for UK Group Life protection, surplus reinsurance for individual claims. In Individual Protection, the Company's cedant has introduced additional underwriting questions, adjusted pricing and will refer more cases to manual underwriting.

Cedant underwriting procedures on Individual Life Protection products limit exposure to cohorts of the population at highest risk of COVID-19 (i.e. the elderly and those with pre-existing conditions). As the Company does not reinsure recent new non-profit non-annuity business, there is limited exposure to Group Life Protection. On Group Life Protection, the Company's cedant has taken pricing actions to limit potential exposure from new business. The Company expects there to be some offset to increased protection claims as a result of COVID-19 from reserve releases on the UK annuity portfolio.

While the Company has some exposure to income protection claims arising from COVID-19, the cedant's policy terms typically include a deferment period after which benefits become payable to policyholders. In most cases the deferment period is expected to be longer than the symptomatic period of COVID-19. This materially decreases the Company's exposure.

## Market risk

As a result of the financial market impact of COVID-19 cedants have taken a number of actions to reduce exposure to equity and interest rate risk. Actions include purchasing tactical derivative hedges, asset disposals and reallocations and reducing new business sales in certain markets and products.

Due to the adverse impact of COVID-19 on the UK commercial property sector, and in particular the difficulty in being able to assign values to commercial property portfolios, the Company's Life cedant has temporarily suspended their commercial property funds to redemptions.

## Credit risk

As a result of the financial market impact of COVID-19 cedants have taken a number of actions to reduce exposure to credit spread and counterparty default risk. Actions include purchasing tactical derivative hedges, asset disposals and reallocation, and reducing new business sales in certain markets and products. The Company continues to monitor credit quality in the Commercial Mortgage and Equity Release portfolios, where there is an increased risk of defaults.

## Liquidity risk

The Company is monitoring the impact of COVID-19 on the liquidity position closely. Due to the Company's strong liquidity position, no management actions have been taken to date.

## Operational risk

COVID-19 is resulting in an increased level of inherent operational risk through enforced remote working, staff absences for sickness and childcare, market volatility and through outsourcing arrangements. The Company and its cedants are adjusting processes and controls to ensure operational risks remain at an acceptable level.

## Valuation for solvency purposes

The COVID-19 pandemic has resulted in declines in global financial markets with a corresponding impact on the valuation of certain financial assets held at fair value within the Company's balance sheet. The pandemic has also resulted in an increase in volatility in financial markets, increasing the valuation uncertainty of assets and liabilities valued using an alternative method for valuation as described in section D.4. The Company's cedants have taken a number of actions to reduce exposure to market risk and credit risk and the Company will continue to monitor its balance sheet exposure.

Technical provisions have been prepared based on conditions and best estimate assumptions at 31 December 2019 and have therefore not been adjusted for any impacts of COVID-19.

Life insurance technical provisions will be impacted through life protection products, as a result of increased mortality, and through income protection, critical illness and health insurance products, as a result of increased morbidity. These impacts may be offset by a potential reduction in future annuity payments. Life insurance technical provisions will also be impacted by economic movements, although these are expected to be largely matched by movements in financial assets backing the liabilities.

General insurance technical provisions will be impacted as a result of disruption to travel and businesses reinsured by the Company, which may be partially offset by a potential reduction in motor claims.

We review the best-estimate assumptions used in the calculation of technical provisions on an ongoing basis and will update them accordingly for the expected impacts of COVID-19. However, given the rapidly evolving nature of the situation, it is not practicable at this stage to quantify the potential valuation impact of the pandemic and related financial market impacts on the financial assets and technical provisions of the Company.

### Capital management

The capital of the Company is monitored on an ongoing basis and the Company continues to maintain strong solvency levels and expects to continue to meet its Solvency Capital Requirements. Notwithstanding this, insurance claims arising from the COVID-19 pandemic and the associated volatility in financial markets will most likely have an adverse impact on the Company's own funds and solvency ratio. The Company's balance sheet exposure and solvency position is being reviewed on an ongoing basis and actions are being taken to protect the solvency position and further reduce the sensitivity to economic shocks and mitigate insurance risk.