Solvency and Financial Condition Report

Cardinal Reinsurance Designated Activity Company

Financial Year end 31 December 2018

EXECUTIVE SUMMARY 5

A. BUSINESS AND PERFORMANCE 7

A.2. Performance from underwriting activities 9

A.3. Performance from Investment Activities 9

A.4. Performance from other Activities 10

B. SYSTEM OF GOVERNANCE 11

B.1. General information on the system of Governance 11

B.2. Fit and Proper Requirements 14

B.3. Risk Management System 17

B.4. ORSA Process 19

B.5. Internal control system 20

B.6. Actuarial function 20

B.7. Compliance function 20

B.8. Internal audit 21

B.9. Outsourcing policy 22

B.10. Other disclosures 22

C. RISK PROFILE 24

C.1. Underwriting risk 24

C.2. Market risk 25

C.3. Credit/Counterparty Risk; 26

C.4. Liquidity risk; 27

C.5. Operational risk; 27

C.6. Other material risk 27

D. VALUATION FOR SOLVENCY PURPOSES 28

D.1. Assets **28**

D.2. Technical Provisions **29**

D.3. Other Liabilities **30**

D.4. Alternative Methods for Valuation **30**

D.5. Any Other Information **31**

E. CAPITAL MANAGEMENT 31

E.1. Own Funds **31**

E.2. Solvency Capital Requirement ("SCR") and Minimum Capital Requirement ("MCR") **31**

E.3. Use of the Duration-Based Equity Risk Sub-Module in the Calculation of the Solvency Capital Requirement **32**

E.4. SCR differences if standard formula or internal model used **32**

E.5. Non-compliance with SCR/MCR **32**

E.6. Any Other Information **32**

Appendices **33**

Key contacts referenced in this Report at 31 December 2018

External Auditors

PWC
Chartered Accountants
Spencer Dock
IFSC
Dublin 1

Actuary

Stuart Wrenn, Head of Actuarial Function
Armour Risk Holdings Limited

Head of Internal Audit

Trevor Nelson
ILS Investment Management Limited
19 Par-La-Ville Road,
Hamilton, HM 11
Bermuda

Regulatory Supervisors

Central Bank of Ireland,
New Wapping Street,
North Wall Quay,
Dublin 1

Secretary & Compliance Support

Aon Insurance Managers (Dublin) Limited
Metropolitan House
James Joyce Street
Dublin 1

Registered Office

Metropolitan House
James Joyce Street
Dublin 1

Executive Summary

Cardinal Reinsurance Designated Activity Company (”Cardinal” or “the Company”)is closed to new business and the focus of the Board and Management Team is the orderly run-off of the existing book of business and the associated claims provisions in line with their policy terms and conditions. Over time the volume of reserves are expected to diminish as claims are commuted or paid. As a consequence of being in run-off, the financial reporting is expected to reflect a diminishing level of premiums and reducing level of technical reserves. The Company holds sufficient assets to pay the claims emanating from the reserves in a timely manner. A primary responsibility of the Board is to ensure that the Company’s capital is adequate to cover the required solvency, and the expected operational requirements given the nature, scale and complexity of the business. . A number of mechanisms are in place to evaluate the level of capital and the outcome of those assessments indicates that the Company’s capital is adequate at 31 December 2018 and for the expected requirements over the course of the run-off. During 2018 the company closed its Singapore branch. The purpose of the SFCR is to provide policyholders with a concise overview of the business written, system of governance, risk profile and solvency position over the reported year.

Solvency II

Solvency II, came into force with effect from 1 January 2016. The regime required new reporting and public disclosure arrangements to be put in place by reinsurers. This document is the third Solvency and Financial Condition Report (“SFCR”) that is required to be published by Cardinal. Solvency II focuses on risk based assessment of the company’s activities and this produces a Solvency Capital Requirement (“SCR”) which is compared with the assets available to meet that SCR.

Besides underwriting risk, other significant risks identified by the Company as part of the SCR calculation process are market risk and counterparty risk. Market risk primarily arises from the Company’s portfolio of financial investments $20.1m (2017: $29.5m) invested in money market funds and bank deposits. The cash at bank is with well known banks together with funds held by reinsurance counterparties exposes the company to a counterparty default risk. The tables below summarises the company’s capital position and capital requirements as at 31 December 2018:

Risk Type	2018 USD $m	2017 USD $m
Non Life	3.5	3.9
Health	0.1	0.1
Market	3.2	3.1
Counterparty	0.2	0.4
Total before diversification	**7.0**	**7.5**
Diversification	(1.6)	(1.7)
Basic Solvency Capital Requirement	**5.4**	**5.8**
Operational Risk	0.8	1.0
Solvency Capital Requirement	**6.2**	**6.8**

	USD $m 2018	USD $m 2017
Total eligible own funds to meet the SCR	**11.7**	**23.7**
Solvency Capital Requirement (SCR)	**6.2**	**6.8**
Ratio of Eligible own funds to SCR	**188%**	**349%**

During 2018 the Company paid a dividend of $11.0m which is the primary reason for the reduction in Own Funds and SCR Solvency Ratio.

As required by legislation this report outlines the Business and Performance of the Company, it's System of Governance, Risk Profile, Valuation for Solvency Purposes and Capital Management.

A. Business and Performance

A.1. Business and external environment

Cardinal is a Designated Activity Company. This report forms part of the Annual Submission to the Central Bank of Ireland who is the responsible supervisory authority under the Solvency II regime.

Cardinal was established in Dublin in 1999 and underwrote traditional treaty reinsurance both on a proportional and non-proportional basis and facultative business. The primary lines of reinsurance business are;

- Marine, aviation and transport insurance
- Fire and other damage to property insurance
- General liability insurance
- Credit and suretyship insurance
- Casualty
- Workers' compensation insurance and
- Motor vehicle liability insurance.

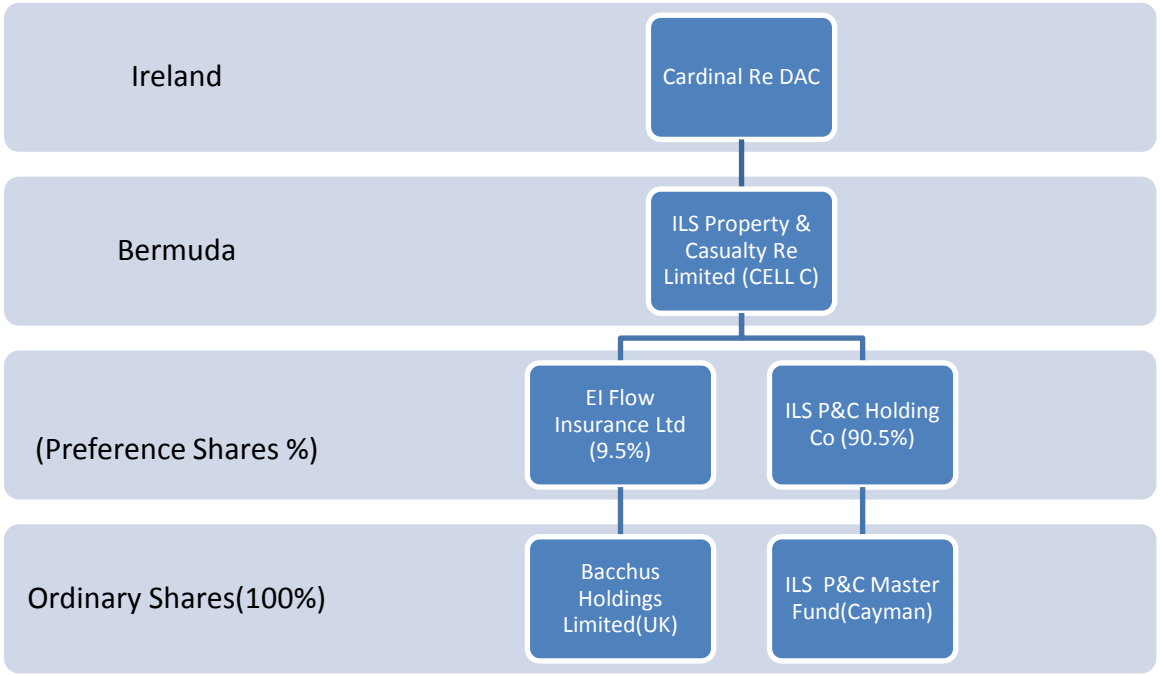
The Company discontinued writing new business from 31 December 2012 and went into run-off. The Company had written primarily short-tailed proportional treaties in Asia and Europe although it also wrote some excess of loss business ("XL") and longer tailed business. Cardinal had branch offices in Singapore (closed 2018) Labuan (closed 2017). Cardinal wrote reinsurance business (mainly Fire, Marine and Engineering) through its Dublin, Singapore and Labuan entities covering regions specific to those locations. The company was acquired by ILS Property & Casualty Re Limited ("ILS"), a company incorporated in Bermuda, on 31 July 2015.

Following the change of ownership, in order to mitigate the underwriting risk, the company entered into two reinsurance agreements with ILS; a 50% quota share retrocession agreement in relation to the Dublin business and a Loss Portfolio transfer agreement in relation to Singapore and Labuan branch business, ceding 100% of risk to ILS subject to an aggregate limit. Both agreements were effective from 1 January 2015. On 30 December 2016, the underwriting assets and liabilities of the Labuan Branch were assumed by the head office in Dublin and the branch ceased operations on 12 April 2017 following the surrender of its reinsurance licence to the Labuan FSA. On 1 July 2018 the remaining underwriting assets and liabilities of the Singapore Branch were assumed by the head office in Dublin and the branch ceased operations. It is expected that the legal closure of the Singapore branch will be completed during the first half of 2019.

The Company's financial year runs to 31 December each year and it reports its results in USD (United States Dollars). In April 2018, under the provisions of Section 202-204 of the Companies Act 2014 and, following receipt of a Letter of No Objection from the Central Bank of Ireland, Cardinal reduced its Issued Share Capital from €20 million to €3.6 million and transferred the amount of the reduction to distributable

reserves. Subsequently, in June 2018 the company paid a dividend of $11.0 million to its shareholder, while no dividend was declared or paid in 2017.

Simplified Group Structure (reversed Hierarchy)



The external auditor, internal auditor and registered office are noted on page 4 of this report. The Central Bank of Ireland is responsible for the financial supervision of the company.

As detailed in Section B of this report the company has outsourced a number of key functions to certain related parties, Armour Risk Management Limited (a company owned by the ILS group) and Quest Consulting (London) Limited (a company owned by the Quest Group), together with the outsourcing of other services to non-related service providers.

A.2. Performance from underwriting activities

Cardinal had written primarily short-tailed proportional treaties in Asia and Europe although it also wrote some excess of loss business ("XL") and longer tailed business. Cardinal wrote reinsurance business (mainly Fire, Marine and Engineering) through its Dublin, Singapore and Labuan offices covering regions specific to those locations, i.e. Europe, Asia and the Middle East. Despite being in run-off premiums continue to emanate, predominantly from India, Kuwait, China and United Arab Emirates. As set out in Section C.1 under "Underwriting Risk", Cardinal has Gross reserves for the following lines of business;

- Proportional workers' compensation insurance
- Proportional fire and other damage to property reinsurance
- Proportional marine, aviation and transport reinsurance
- Proportional general liability reinsurance and
- Proportional credit and suretyship reinsurance
- Non-proportional health reinsurance
- Non-proportional casualty reinsurance
- Non-proportional marine, aviation and transport reinsurance

For business sourced from Singapore and Labuan, Cardinal has retrocession cover in place, with ILS, as at 31 December 2018 under which 100% of case reserves and IBNR is ceded. For business sourced in Dublin the company has a 50% Quota Share retrocession agreement in place with ILS. The reserves ceded through the retrocession arrangements are fully collateralised by means of a Trust Account arrangement under which Cardinal is the sole beneficiary.

Cardinal continues to settle claims and seek commutations with the reinsured companies. During 2018 Cardinal had a neutral claims incurred result. Cardinal has received in excess of USD 0.6 million in premium adjustments in 2018(2017: $0.6m) but this level of premium is expected to reduce in 2019 and future years, as the company is not actively underwriting new business.

When estimating the cost of claims outstanding at the year-end, the principal assumptions underlying the estimates are the Company's historic development patterns and expected loss ratios. This includes assumptions in respect of historic claims costs, average claims handling expenses and market developments.

A detailed analysis of the underwriting performance is shown in **Appendix Form S.05.01.02**

A.3. Performance from Investment Activities

From 2016, Cardinal had invested in high quality corporate and government bonds and money market funds, denominated in US Dollars. The value of assets under management is impacted by asset performance, as well as claim payments, commutations and dividend payments. The Company is closed to new business which results in a reducing total asset value year on year. During 2018 Cardinal liquidated its bond portfolio and increased its money market fund investments together with investing some of the proceeds in fixed bank deposits. The Board adopted these changes as it felt the cost of managing a reducing fixed income portfolio was too high combined with the need to build more liquidity into the portfolio. The change did not significantly impact the investment quality of the investment portfolio

Investment income comprises coupon payments, interest and other income receivable, realised gains and losses on investments and unrealised gains and losses. Interest is accounted for on a time proportion basis. Other income arises mainly from money market funds. The investment expenses are not a significant expense in the context of the company's total expenses. There were no gains and losses recognised directly in equity. There are currently no investments in structured securities and no plans to increase exposure during 2018.

Investment Income	2018 $000s		2017 $000s
Income from deposits with credit institutions	420		47
Income from debt securities	(77)		479
Other income	65		23
Total investment income	**408**		**549**

A.4. Performance from other Activities

Cardinal currently has a number of outsourced arrangements in place pertaining to claims handling, finance, actuarial, internal audit and compliance. Claims handling and elements of the finance functions are outsourced to related entities. As is the nature of a run-off company the most material expenses relate to the claims handling costs and other outsource expenses. Cardinal's management and Board continue to monitor the performance of these outsource services providers and consider their performance satisfactory in 2018. During 2018 Cardinal changed its Internal Audit outsource arrangement from Rob Hamill of Mazars to Trevor Nelson of the Armour Group.

In April 2018, under the provisions of Section 202-204 of the Companies Act 2014 and, following receipt of a Letter of No Objection from the Central Bank of Ireland, Cardinal reduced its Issued Share Capital from €20 million to €3.6 million and transferred the amount of the reduction to distributable reserves.

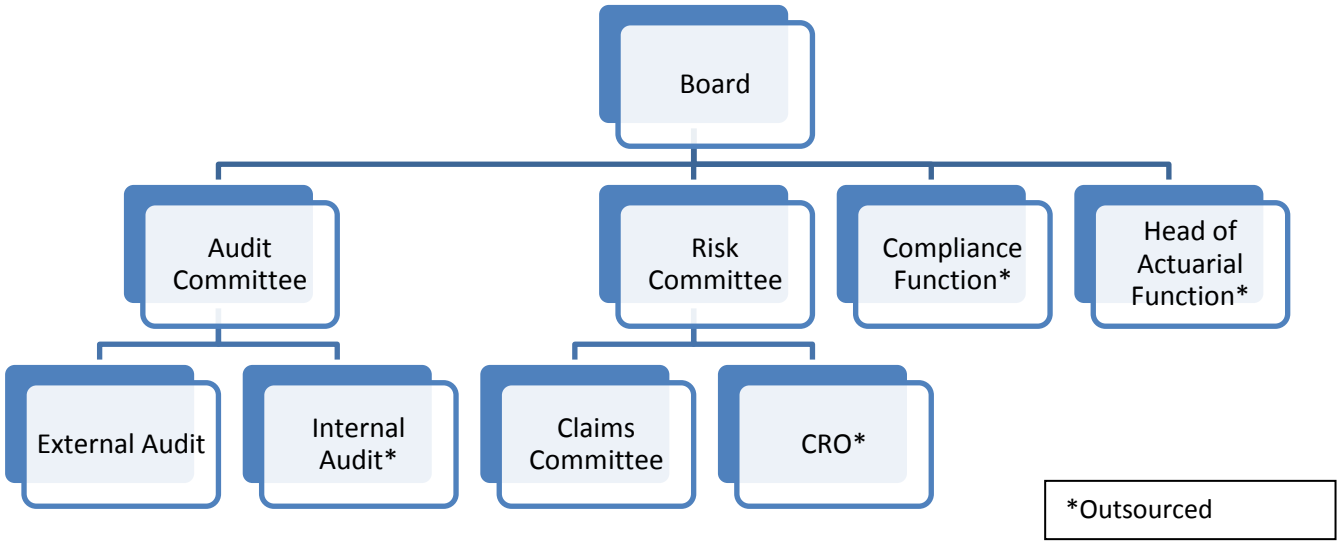
The Board declared an interim dividend of $11.0m which was paid to the shareholder in June 2018; no dividend was paid or declared in 2017.

B. System of Governance

B.1. General information on the system of Governance

The Company is classified as a Low Risk entity under the CBI's risk-based framework for the supervision of regulated firms, known as PRISM or Probability Risk and Impact System and is subject to the CBI's Corporate Governance Requirements for Insurance Undertakings 2015. The Governance Framework is designed to focus on the companies key objectives and control the risk arising from the business by allocating responsibility for managing and monitoring these risks and providing clear channels for reporting these risks. The Company's Board of Directors carry responsibility for the oversight of the business and sets its strategy and risk appetite.

Board and Committee Structure



The Board of directors consisted of eight directors at 31 December 2018 as follows;

- Brad Huntington (Chairman & Non Executive Director)
- Aodh O'Murchu (CEO and Executive Director)
- Ian Britchfield (Independent Non-Executive Director & Audit Committee Chair)
- David Enright (Independent Non-Executive Director & Risk Committee Chair)
- Jeremy Fall (Non Executive Director)
- Sean McDermott (Chief Risk Officer and Executive Director)
- Pauline Richards (Non Executive Director)
- John Williams (Non-Executive Director)

The Chief Executive Officer has responsibility for the operations, compliance and performance which includes the smooth running of the business and effective function of the day-to-day operations of Cardinal Re dac. The Board retains ultimate authority for all strategic issues and management decisions of Cardinal Re dac including effective, prudent and ethical oversight as well as setting the company strategy and ensuring that risk and compliance are properly managed. The board may delegate its powers for purposes

within specific terms of reference to committees. The committees act in an advisory capacity to the board The Board has two direct reporting committees, the Audit Committee and Risk Committee.

The Audit Committee is responsible for;

- Monitoring the effectiveness of the systems of internal control, internal audit, risk management and IT systems,
- Monitoring the effectiveness of the statutory audit process and to liaise with the external auditor particularly in relation to their audit findings,
- Reviewing the integrity of the financial statements and to ensure that they give a "true and fair view" of the financial status and
- Reviewing, monitoring and assessing the independence of the statutory auditor, and in particularly the provision of additional services and
- Reviewing any financial announcements and reports and recommending to the Board whether to approve the company's annual accounts

The Audit committee is supported by External Audit and Internal Audit. For the latter, Trevor Nelson the Group Internal Audit Manager of the Armour Group was appointed as the Head of Actuarial function during 2018 and replaces Rob Hamill of Mazars who previously held the role. External audit is performed by PWC and the appointed partner is Paraic Joyce. The Head of Finance reports to the Audit Committee and he is supported by Armour Risk Management Limited who provide professional services relating to the business activities of the company (e.g., accounting, payments and actuarial).

The Risk Committee is responsible for ensuring there are adequate systems in place to effectively identify, monitor and control the key risks of Cardinal and in particular to ;

- Review and advise the Board on the effectiveness and further development of risk management function, the current risk exposures and future risk strategy, including suggesting relevant stress scenarios on which to base the ORSA,
- Advise the Board on risk appetite and the tolerance levels for future strategy, taking account of the Board's overall risk appetite, the current financial position and, drawing on the work of; the CRO, the actuarial & compliance functions, the Audit Committee, the External Auditor and Internal Auditor and
- Oversee the risk management function.

The Risk Committee is supported in this role by the CRO and Claims Committee. The CRO maintains the Risk Register and reports to the Risk Committee on a quarterly basis. The Risk Register identifies key risks, which are classified into high, medium or low risks and notes the related controls in place to mitigate any adverse effect of these risks. The Claims Committee monitors the key risk of adverse claims development over the life of the run-off book of business and actively engages with Quest Consulting (London) Ltd. the claims management provider, in assessing material commutations and large claims settlements.

Independent Control Functions:

The Company has established the four key independent control functions required under the Corporate Governance Requirements for Insurance Undertakings 2015 - Risk Management, Compliance, Actuarial and Internal Audit. These functions are responsible for providing oversight of and challenge to the business and for providing assurance to the Board in relation to the Company's control framework.

Chief Risk Officer ("CRO"):

A Chief Risk Officer, Sean McDermott is appointed, via a formal outsourcing arrangement with Quest, to oversee the implementation of the Company's Risk Management Policy, reporting to the Board Risk Committee and the Company's Chief Executive Officer. The responsibilities of the Chief Risk Officer include:

- The oversight of the smooth-running of and adherence to the Company's Enterprise Risk Management framework (ERM)
- To be the focal point for risk events reporting and for new and emerging risks, such that these can be assessed and material issues reported to the Boards Risk Committee, who will determine whether the issue is of such significance that it needs to be brought to the attention of the Board and/or the Company's regulator
- To ensure that the annual 'Own Risk and Solvency Assessment' (ORSA) is prepared, following engagement with the Risk Committee and the Board in respect of identifying the keys risks and strategies of the company. The CRO will ensure that the final ORSA is approved by the Board

Compliance Officer:

The Compliance Officer is Mr John McNamara of Aon Insurance Managers (Dublin) Limited, via a formal outsourcing arrangement with responsibility for the implementation of the Company's Compliance Policy and effective processes. The Compliance Officer reports to the Board Risk Committee and the Board, and raises issues as they arise, to the Company's Chief Executive Officer. The responsibilities of the Compliance Officer include:

- assisting the Board with ensuring ongoing compliance with legislation and applicable requirements
- enhancing the Company's awareness of compliance matters
- monitoring the Company's compliance with reinsurance legislation and applicable requirements and guidelines
- documenting any breaches identified, how they were addressed and whether any third party reporting of the breach is required
- ensuring that the Board is kept informed of any amendment to the applicable regulations, legislation and guidelines or the addition of any new requirements and the potential impact on the Company
- through his opinions, recommendations, supervision and independent controls providing reasonable assessment of the effectiveness and consistency of the internal processes used to control the compliance of the Company's operations and protect its reputation.

Head of Actuarial Function ("HoAF"):

Stuart Wrenn is the appointed HoAF, this role is outsourced via an agreement with Armour, this adds oversight of the Company's Actuarial Function. The responsibilities of the HoAF and the Actuarial Function, in line with guidance from the Central Bank of Ireland and the Society of Actuaries, include, but are not limited to the following matters:

- Coordinating the calculation of the firm's technical provisions

• Assessing the consistency of the internal and external data used in the calculation of technical provisions against the data quality standards as set out in Solvency II Regulations

• Continuous monitoring of the solvency position of the Company and the required level of statutory reserves

• Reporting on the solvency position of the Company

• The provision of advice and support to the Company on the ORSA (Own Risk and Solvency Assessment) process, including the financial consequences of stresses and scenarios and the impact of management actions.

Head of Internal Audit

The Head of Internal Audit function is outsourced to Trevor Nelson the Group Internal Audit Manager. Mr Nelson replaced Rob Hamill of Mazars in the role during 2018. The function provides independent and objective assurance services, via a formal outsourcing arrangement in respect of the Company's processes, as carried out by its service providers with due regard to the adequacy of the governance, risk management and internal control framework. The Head of Internal Audit reports to the Chairman of the Audit Committee. The Audit Committee oversees the 'risk based' Audit Plan and outcomes thereof. Internal Audit reports highlight any significant control failings or weaknesses identified and the impact they have had, or may have and the actions and timings which management have agreed to take to rectify them.

B.2. Fit and Proper Requirements

The Company is satisfied its framework for fitness and propriety is appropriate to ensure that individuals fulfilling controlled functions meet all relevant regulatory requirements.

The company is satisfied that the management as a whole (including outsourced functions) and the Board, contain sufficient expertise and collectively possess appropriate qualifications, experience and knowledge about:

- insurance and financial markets;
- business strategy and business model;
- system of governance;
- financial analysis; and
- regulatory framework and requirements

The Central Bank Reform Act 2010 provides that a person performing a controlled function ('CF') must have a level of fitness and probity appropriate to the performance of that particular function. The Company has adopted a Fitness and Probity Policy which is aligned with the 2010 act and with the Central Bank of Ireland's Guidance on Fitness and Probity Standards 2014.

The Board's review of the continued suitability of directors to continue is evidenced by;

- Annual Self Assessment
- Approval of directors appointments and approved persons,

- Oversight of outsource service providers

The Board is responsible for ensuring individuals meet the regulators' fit and proper tests , prior to appointment, by checking that the person has the qualifications, experience, competence and capacity appropriate to the relevant function and the Company performs the requisite review to ensure the person is;

- competent and capable;
- acts honestly, ethically and with integrity; and
- financially sound

Further, approved persons are required to complete an annual attestation confirming that the fit and proper requirements for the role have been met and that they continue to adhere to the Company's standards of conduct.

The Directors responsibilities are stated in the company's Constitution. In addition, Directors are aware of the CBI's Corporate Governance Requirements with particular reference to Non-Executive Directors and Independent Non-Executive Directors. Directors are kept informed of their responsibilities by the Compliance Officer.

Approval from the CBI is required prior to the appointment of PCF role holders by the Company's Board. PCF role holders include all members of the Board as well as the Head of Actuarial Function, Head of Finance, Chief Risk & Compliance Officer and Head of Internal Audit.

Cardinal seeks to ensure that members of the Board, and PCFs possess sufficient professional qualifications, knowledge and experience in the relevant areas of the business to give adequate assurance that they are collectively able to provide a sound and prudent management of the entity. The assessment of whether a person is 'fit' shall take account of the respective duties allocated to that person and, where relevant, the insurance, financial, accounting, actuarial and management skills of the person. In the case of members of the board, the assessment shall take account of the respective duties allocated to individual members to ensure appropriate diversity of qualification, knowledge and relevant experience to ensure that the business is managed and overseen in a professional manner.

Key functions

Key Function	**Rationale**
Actuarial & Claims	Cardinal is a general reinsurance company which has been in run-off since December 2012. Accurate actuarial review of reserving is considered a key task to enable both the Board and key stakeholders to effectively monitor the remaining portfolio and ensure an efficient run-off for the policyholders. Being a company in run-off, a primary focus is on the accurate and timely payment of all valid claims. Therefore this is a key focus for the Board to ensure an efficient claims management process is in operation.
Finance	Finance is considered a key function to ensure the company effectively manages capital requirements and liquidity in line with regulatory requirements. Further, future run-off costs are a key consideration and as such the financial management, including expense cost control, is critical to the continued operation. The maintenance and support of the ledger system is provided by Armour Risk Management Limited. Mr Philip Doyle was the Head of Finance via a secondment agreement with Aon Insurance Managers Dublin Limited ("AIMD"). Mr Doyle resigned from AIMD on 30 November 2018 and consequently resigned his position of Head of Finance of the company. The CEO, Mr Aodh O Murchu assumed the Head of Finance role on an acting basis and the Board subsequently resolved to appoint him to the dual CEO/Head of Finance role subject to the approval of the Central Bank of Ireland which was obtained in March 2019.
Risk	The management of risks facing the company is important. This includes the ability to identify, quantify, manage and anticipate outcomes and their potential effects on the company and its remaining run-off. Given the very conservative investment policy of the Company most of the risk is derived from the claims liabilities. Therefore close monitoring of claims activity is a key function. A monthly report to the Claims Committee is provide by Quest Consulting (London) Ltd, who are claims management experts.
Internal audit	Internal audit is considered a key control point to provide comfort to the Board and key stakeholders that statutory and regulatory operating thresholds and requirements are met and that the operation is being run in the optimum way so as to protect policyholders.
Compliance	Fit and proper, regulatory and statutory requirements are essential and required to be met for the protection of policyholders and shareholders.

B.3. Risk Management System

Cardinal risk management structure and organisational roles are detailed below

Board of Directors and Risk Committee: The Board is responsible for general oversight and monitoring of the risk management system. The Board has formed a Risk Committee which monitors the risk function and provides oversight of the risk management framework of Cardinal Re and reports to the Board.

CEO and CRO Role: The CEO and the CRO are responsible for oversight of risk management operations. They will coordinate to evaluate status of risk management function and enforce measures to improve the process. Following the resignation of the Head of Finance the CEO, also assumed acting responsibility for this function and the Board subsequently resolved to appoint him to the dual CEO/Head of Finance role subject to the approval of the Central Bank of Ireland which was received in March 2019. The Board believes that there is not a conflict of interest between the two positions due to the run-off nature of the operations and that the CEO has the capacity to fulfil the dual role.

Internal Auditor: Following a selection process involving the Audit Committee and the CEO, Mr Trevor Nelson of the Armour Group was appointed to the Internal Audit role during the course of 2018.

Key risks are market risk on the Investment Portfolio and the risk of further claims deterioration which has not been anticipated in the claim reserving figures. The investment risk is monitored by management and reported to the Board on a quarterly basis and any deviations from the benchmark performance are explained to the Board and remedial action taken if necessary. The material claims reserves per cedant are reviewed on a regular basis by the Claims Committee to assess any new information available which would result in a change in the claim reserving levels. The company places reliance on the business continuity plans of its IT provider Armour Risk Management Limited and Quest Consulting (London) Limited.

Process Of Risk Management

The process of risk management is a continuous and systematic one, comprising 5 elements:

a) Identification. All directors of Cardinal ensure that risks are identified relating to their respective areas of responsibility, and in addition collectively identify risks to the overall business. This includes risks outside the control of the company.

b) Assessment. Only risks material to the business are included in the Risk Register. Risks are assessed to firstly evaluate their impact on the business if they materialised, and secondly the probability of the risk materialising. The assessment is carried out on the risk with no mitigating controls in place ('gross' scores), and with mitigating controls in place ('net' scores). The residual financial impact is managed in a number of ways, including:

- mitigating the impact of the risk through the application of controls;
- transferring or sharing risk through outsourcing and purchasing insurance and reinsurance; and
- tolerating risk in line with the risk appetite.

c) Response. All risks will be dealt with as and when they arise, by the responsible director, the CRO the function holder, or the Board as appropriate. Decisions will be recorded on the Risk Register, and detailed in the minutes of the relevant meeting.

d) Monitoring. A register of all identified risks is maintained by the CRO, the 'Risk Register'. The CRO will review all items contained therein. Key risks pertaining to a particular area of the business are included for consideration in Internal Audit planning. The CRO also monitors the Company's adherence to stated risk appetites and tolerances.

e) Reporting. Material risk events are reported to the CRO as and when they occur, and the CRO ensures they are considered at the appropriate Board meeting. The CRO will ensure the Risk Register is updated with regard to states and degree of risk.

Risk Appetite

Risk appetite is the nature and extent of the significant risks the Board is willing to take in achieving its strategic objectives; those risks that it wants to actively engage with. The Board's risk appetite for the areas of risk within the business is stated in the Risk Register. The Board determines the Risk Appetite of the company and delegates the review and monitoring of performance against the determined risk appetites to the CRO and Risk Committee. The reviews are undertaken at each Committee meeting and recorded in the minutes of said meeting. The Risk Committee proposes any recommended changes to risk appetite to the Board for consideration. If the CRO identifies that the Company's risk appetite is being exceeded, or close to being exceeded the Risk Committee will alert the Board who will decide whether to apply additional mitigating measures to reduce the risk back into the risk appetite, or whether to review the Company's stated risk appetite

B.4. ORSA Process

Cardinal is using the Standard Formula to calculate the Solvency Capital Requirement (SCR) which feeds into the calculation of the Risk Appetite and Solvency II requirements. The Board has approved the Risk Appetite of the Company.

Own Risk and Solvency Assessment ('ORSA') is a central component of the Company's Risk Management Framework and the key internal process undertaken by the Company to determine the own funds necessary to ensure that the Company's overall solvency needs are met at all times. The risk management framework comprises a number of risk management components, which when added together describe how risk is managed on a day to day basis. The ORSA addresses all key risks both internal and external that are applicable to the Company and considers the business strategy and required capital.

The ORSA process includes:

- Review and Update of ORSA policy and process
- Review of Risk Management policies and plans
- Review of business plan, expense projections and strategy
- Results from quantitative analysis and review of base assumptions
- Regular review of risk registers and risk appetite outputs and metrics
- Review, testing and assessment by the Actuarial Function
- Review, assessment and reporting from the CRO
- Review and challenge from the Risk Committee/ Board
- Issue final ORSA for approval and submit to CBI

The Board will review, approve and sign off the ORSA at least annually. There is a Risk Committee meeting to assess the current risk scenarios and assess their suitability for the current operating environment or if new scenarios and stresses are warranted. Scenario testing has been completed on an individual as well as a combined basis. The management calculate the SCR on the basis of the standard formula and apply the suggested stress tests, which are then reviewed by the Board.

As the company is in run off, the ultimate objective of the company is to cease business, the company's risk profile as outlined in the ORSA, is expected to decrease as run off provisions decrease and the company will reduce the capital in the company through dividends, in an appropriate manner, as the risk profile decreases.

B.5. Internal control system

The Company operates a robust system of controls over the recognition and reporting of transactions. The company understands the controls in place by key service providers which ensure that the information reported is accurate and timely.

Financial Services

Subject to delegated authorities and/or limits specified by the Board, Armour Risk Management Limited in conjunction with the CEO and Head of Finance administers bank accounts, cash management, processing of cash receipts and disbursements, and any transactions related to treasury services on behalf of the company. Dual signatures are the minimum requirement on all payments

Financial reports are prepared on a quarterly basis, with explanatory statements for key movements in the period for management review. Regulatory and statutory reporting are subject to the review and approval of the Board.

IT Services

As part of the services provided by Armour Risk Management Limited, the company has in place disaster recovery plans and systems as required by the regulator or the Board.

B.6. Actuarial function

The function of the Head of the Actuarial Function (HoAF) is outsourced to Stuart Wrenn of Armour Holdings, this adds an oversight of the Company's Actuarial Function. The responsibilities of the HoAF and the Actuarial Function, in line with guidance from the Central Bank of Ireland and the Society of Actuaries, include, but are not limited to the following matters:

- coordinating the calculation of the firm's technical provisions
- assessing the consistency of the internal and external data used in the calculation of technical provisions against the data quality standards as set in Solvency II
- continuous monitoring of the solvency position of the Company and the required level of statutory reserves
- reporting on the solvency position of the Company
- the provision of advice and support to the Company on the ORSA (Own Risk and Solvency Assessment) process, including the financial consequences of stresses and scenarios and the impact of management actions

The HoAF is responsible for producing an annual actuarial opinion on technical provisions to be submitted to the CBI in accordance with the SII annual quantitative reporting templates. In addition, the head of actuarial function must present an actuarial report on technical provisions, at least in summary form, to the board at the same time as the actuarial opinion on technical provisions and in full within two months of that date.

B.7. Compliance function

The Board of the Company has ultimate responsibility for its compliance objectives.

To help achieve these objectives, the Board has engaged Aon Insurance Managers (Dublin) Limited to operate the Compliance Function, to assist the Board in meeting its responsibilities to ensure compliance

with legislation and applicable requirements. John McNamara is the Compliance Officer under an outsourcing agreement with Aon Insurance Managers Dublin Limited.

Compliance

The role of the Board appointed Compliance Officer is to:

- assist the Board with ensuring ongoing compliance with legislation and applicable requirements
- enhancing the Company's awareness of compliance matters
- monitor the Company's compliance with reinsurance legislation and applicable requirements and guidelines
- document any breaches identified, how they were addressed and whether any third party reporting of the breach is required
- ensure that the Board is kept informed of any amendment to the applicable regulations, legislation and guidelines or the addition of any new requirements and the potential impact on the Company
- through his opinions, recommendations, supervision and independent controls provide reasonable assessment of the effectiveness and consistency of the internal processes used to control the compliance of the Company's operations and protect its reputation.

The Compliance Officer will promptly report matters of compliance concern to the Board.

In any event the Compliance Officer will present a report to the Board at each board meeting which outlines the following:

- Details of regulatory correspondence with the Company
- Details of regulatory developments
- Details of which controls were tested since the last report and the results of the tests
- Conclusions and recommendations on the Company's compliance with reinsurance legislation and guidelines

B.8. Internal audit

The Head of Internal Audit function is outsourced to Trevor Nelson of the Armour Group who replaced Rob Hamill of Mazars in 2018. The function provides independent and objective assurance services, via a formal outsourcing arrangement in respect of the Company's processes, including those carried out by its service providers with due regard to the adequacy of the governance, risk management and internal control framework. The outsourcing of this service enhances its independence. The Head of Internal Audit reports to the Company's Chairman of the Audit Committee. The Audit Committee oversees the 'risk based' Audit Plan and outcomes thereof. Internal Audit Reports highlight any significant control failings or weaknesses identified and the impact they have had, or may have and the actions and timings which management have agreed to take to rectify them.

B.9. Outsourcing policy

Although activities may be transferred to an outsourced provider, the responsibility, including regulatory responsibility is not. Cardinal remains fully responsible for meeting all of its obligations when outsourcing functions or activities. Outsourcing of critical or important functions or activities shall not be undertaken in such a way as to lead to any of the following:

• Materially impairing the quality of the system of governance of the undertaking concerned;

• Unduly increasing the operational risk;

• Impairing the ability of the supervisory authorities to monitor the compliance of the undertaking with its obligations; and

• Undermining continuous and satisfactory service to cedants.

The company has formally documented its outsourcing policy and undertakes a risk assessment and due diligence process prior to any final decision being made as to whether to outsource a material business activity. This addresses all material factors that would impact on the potential service provider's ability to perform the business activity. Each established outsourcing arrangement is also subject to on-going monitoring and formal annual review.

The CEO has responsibility for reviewing any outsourced key functions. Certain operational activities are outsourced via robust service agreements .This includes service agreements with;

- Armour Risk Management Limited ("Armour Risk") in respect of the financial reporting, actuarial and IT,
- Quest Consulting (London) Ltd ("Quest") in respect of the claims management;
- Aon Insurance Managers (Dublin)Limited ("AIMD")in respect of Company Secretarial, Compliance and Regulatory Support, and

The Head of Finance Function whereby Mr Philip Doyle is seconded to the company through an arrangement with AIMD up until Mr Doyle's resignation from AIMD on 30 November 2018. The CEO has now also assumed the Head of Finance role following the approval of the Central Bank of Ireland which was received in March 2019 The CEO relies on the outsourced functions to provide Cardinal with a controlled environment in which to run off the claims liabilities.

B.10. Other disclosures

Remuneration Policy

All remuneration to staff and directors comprises a fixed annual amount. All outsourcing agreement fees are based upon either a fixed fee or an agreed hourly cost. Neither the remuneration schemes or the outsource agreements have any incentive based remuneration.

There are no pension scheme or share options provided by Cardinal Re Dac.

Related Party Transactions-

Apart from the balances and transactions disclosed elsewhere in this report, there were the following significant transactions, with its related parties:

	2018	2017
	USD	USD
Related companies		
Armour Risk Management Limited - Management Fees	283,329	501,364
Quest Consulting (London) Limited - Management Fees	357,605	653,890
ILS Property & Casualty Re Limited - Service Fees	115,945	118,950

C. Risk profile

C.1. Underwriting risk

The company ceased underwriting new business on 31/12/2012 and it has been in run-off since. As a reinsurer, the company has limited access to data on underlying exposures, so claims relating to any residual exposure are modelled as part of Reserve Risk.

Reserve Risk is the risk that future claim payments exceed the current Best Estimate. This could arise, for example, from late reporting of claims, uncertainty due to litigation, claims inflation, an unforeseen increase in claims handling expenses, or latent claims. The company substantially mitigates this risk via collateralised Quota Share reinsurance agreements from its parent ILS P&C Re, under which 100% of business written through the Labuan and Singapore branches and 50% of the business written through the Dublin head office is reinsured.

The table shows the breakdown of Reserve Risk by Solvency II line of business.

Line of Business(LoB) Type	LoB Type	SCR USD'000	SCR USD'000
		2018	2017
Motor Liability	Non Life	0	0
MAT	Non Life	228	250
Fire & other damage to property	Non Life	858	1,104
General liability	Non Life	257	326
Credit & Suretyship	Non Life	541	493
Assistance	Non Life	0	0
Workers' Comp	Non-SLT Health	1	3
Non-prop. Property RI	Non Life	1,286	1,335
Non-prop. Casualty RI	Non Life	1,239	1,166
Non-prop. MAT RI	Non Life	938	1,165
Non-prop. Health RI	Non-SLT Health	101	109
Total undiversified Reserve Risk		**5,449**	**5,951**
Diversification between LoBs		-1,786	-1,941
Diversified Reserve Risk		**3,663**	**4,010**

The company's strategy is to run-off the business in a proper and orderly manner. It aims to commute inwards reinsurance agreements by mutual consent with the cedants.

The Claims & Commutation Settlement Committee meets regularly to review claims development and the progress of the commutation strategy.

C.2. Market risk

Market Risk is the risk of financial loss due to exposure to financial markets and economic conditions. Its key components are Currency Risk, Spread Risk, Concentration Risk and Interest Rate Risk.

The table shows a breakdown of Market Risk by the underlying Risk Types.

Risk Type	**USD $'000**	**USD $'000**
	2018	2017
Interest rate	0	234
Equity	0	0
Property	0	0
Spread	951	808
Currency	2,540	2,751
Concentration	1,204	275
Total before diversification	**4,695**	**4,068**
Diversification credit	-1,531	-1,250
Market Risk after diversification	**3,164**	**3,128**

A key component of Market Risk is Currency Risk which is the risk of losses due to changes in foreign exchange rates. The company has liabilities denominated in over 20 currencies. The retrocession arrangements mitigate this risk and the company seeks to further mitigate Currency Risk by holding matching assets for the major currencies (USD, EUR and SGD) although, it is not practical to match liabilities at all times and in every currency.

The table shows a currency breakdown of Currency Risk.

Currency	**Currency Risk USD $'000**	**Currency Risk USD $'000**
	2018	**`2017**
EUR	1,344	1,507
SGD	172	398
INR	193	185
TRY	46	106
Other	785	555
Total	**2,540**	**2,751**

Spread Risk is the risk that the value of investments reduces due to a reduction in the perceived creditworthiness of the issuers of debt instruments. The company mitigates this by holding assets with high-quality credit ratings, although such assets tend to have lower expected returns.

The table shows of breakdown of Spread Risk by EIOPA Credit Quality Step.

EIOPA Credit Quality Step	USD $'000 2018	USD $'000 2017
0	-	-
1	38	202
2	26	207
3	89	305
4	0	-
5	798	-
6	-	-
Unrated		94
Total Spread Risk	**951**	**808**

Concentration Risk reflects the risk of having large exposures to single counterparties. The company's concentrated risk capital requirement is minimal as it has mitigated the risk by diversifying exposure to a larger number of counterparties.

Interest Rate Risk is the risk of losses due to changes in market interest rates, which can affect both the market value of assets and the discounted value of liabilities. It can be mitigated by matching asset and liability cashflows by amount, term and currency.

The company's strategy is to adopt an appropriate and conservative investment strategy to preserve assets whilst generating a modest investment return.

C.3. Credit/Counterparty Risk;

Credit Risk on investment assets is covered in Market Risk under both Spread Risk and Concentration Risk. Credit Risk also arises from operational activities, e.g. the exposures to cedants, reinsurers or clearing banks. Under Solvency II this is referred to as Counterparty Risk.

The table shows a breakdown of Counterparty Risk by type of exposure.

Exposure type	Counterparty Risk USD $'000	Counterparty Risk USD $'000
	2018	**2017**
Cash at Bank	145	301
Mortgage/Other Receivables	77	207
RI/SPV Securitisation	-	-
Sundry	0	4
Total Spread Risk before diversification	**222**	**513**
Diversification credit	-31	-130
Spread Risk after Diversification	**191**	**382**

The company's claims settlement and commutation strategy will reduce exposure to cedants as exposure will be settled or netted off against claim liabilities.

Counterparty risk is relatively low as Cardinal determined that it should calculate the exposure to counterparties on a net basis rather than the gross basis calculation. In practice Cardinal treats all exposures on a net basis whereby claims will not be paid if there are outstanding debtor balances due.

The reinsurance from ILS P&C Re is fully collateralised in order to mitigate Counterparty Risk and as a result there is a nil capital requirement in respect of the reinsurance recoveries.

C.4. Liquidity risk;

Liquidity Risk is the risk of financial losses due to cash flow problems, for example if the company was forced to pay for a loan facility in order to pay cash calls.

This risk is mitigated by holding substantial cash balances and investing in marketable assets that can easily be converted into cash. As the company has been in run off for a number of years, it does not anticipate any profit from future premiums.

C.5. Operational risk;

Operational Risk is the risk of a failure of systems or processes leading to a financial loss. This risk is mitigated by strong corporate governance and risk management.

Placing a value on this risk is very difficult due to the diverse nature of the underlying risks and availability of meaningful data. Under the Standard Formula it is calculated as 3% of Gross Technical provisions.

C.6. Other material risk

While Brexit is a cause of uncertainty in the market the company is located in the Republic of Ireland and has very little exposure to the UK insurance market. This means that there is likely to be little practical impact on the company's insurance exposures. However, many company functions are performed in the UK, so there is a risk that legislative changes could affect the company's ability to administer the business from the UK and/or the cost of doing so.

With the increase of dependence on electronic communications and the volume of electronic data storage, there is increasing cyber security risk of data theft, and malicious data and service disruption within the industry. Along with the rapidly expanding 'digitisation' of corporate assets, there has been a corresponding digitisation of corporate risk. The Company outsources its IT services to Armour Risk Management Limited.

D. Valuation for Solvency Purposes

The following table summarises the company's Solvency II and GAAP assets and liabilities as at 31 December 2018 and 31 December 2017:

	31 December 2018			31 December 2017		
Asset ($000s)	**Solvency II**	**GAAP**	**Variance**	**Solvency II**	**GAAP**	**Variance**
Investments	20,076	17,062	3,014	29,594	29,594	-
Cash and cash equivalents	3,375	6,389	- 3,014	5,547	5,547	-
Trade and other debtors	6,054	6,054	-	6,732	6,732	-
Total Assets	**29,505**	**29,505**	**-**	**41,873**	**41,873**	**-**
Liabilities ($000s)						
Technical Provisions (net)	13,084	8,685	4,399	14,498	9,799	4,699
Other Liabilities	4,697	4,697	-	3,713	3,713	-
Total Liabilities	**17,781**	**13,382**	**4,399**	**18,211**	**13,512**	**4,699**

D.1. Assets

Assets are valued on the following bases:

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand and demand deposits and other short-term highly liquid investments that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value. They are valued at fair value.

Financial instruments

Trade and other debtors / creditors

Trade and other debtors/creditors are recognised initially at transaction price plus attributable transaction costs. Subsequent to initial recognition they are measured at historical cost less any impairment losses in the case of trade debtors. If the arrangement constitutes a financing transaction, for example if payment is deferred beyond normal business terms, then it is measured at the present value of future payments discounted at a market rate of interest for a similar debt instrument.

Interest-bearing borrowings classified as basic financial instruments

Interest-bearing borrowings are recognised initially at fair value less attributable transaction costs. Subsequent to initial recognition, interest-bearing borrowings are stated at amortised cost using the effective interest method, less any impairment losses.

Investments are stated at Market value.

Financial instruments not considered to be Basic financial instruments (Other financial instruments)

Other financial instruments not meeting the definition of Basic Financial Instruments are recognised initially at fair value. Subsequent to initial recognition other financial instruments are measured at fair value with changes recognised in profit or loss, this includes investments in Money Market Funds.

D.2. Technical Provisions

Technical Provisions are the best estimate of the future cash flows arising from claim payments and expenses, as well as any corresponding recoveries from ceded reinsurance.

Claim payments have been projected based on current case reserves, historic claim payments and a Development Factor Model.

While every effort has been made to project claims realistically, it is important to recognise that there remains significant uncertainty as to the ultimate cost of claims. The best estimate may under or over-estimate their eventual cost.

The table shows the breakdown of the Solvency II Technical Provisions into their component parts by Line of Business as at 31 December 2018:

Solvency II Technical Provisions by LoB Type USD $'000	Case Reserves	IBNR	Expense Reserves	Gross Reserves	Discounting	Risk Margin	Gross Technical Provisions	RI Reserves	Net Technical Provisions
Motor Liability	-	-	-	-	-	-	-	-	-
MAT	1,497	216	398	2,111	-89	34	2,056	-1,182	874
Fire & other damage to property	7,022	1,542	1,868	10,432	-634	174	9,972	-6,308	3,664
General liability	1,424	141	379	1,945	-142	42	1,845	-898	947
Credit & Suretyship	1,137	202	302	1,641	1	62	1,705	-694	1,011
Assistance	-	-	-	-	-	-	-	-	-
Workers' Comp	13	-	3	17	-1	-	16	-3	13
Non-prop. Property RI	2,665	544	709	3,918	-81	200	4,037	-1,694	2,343
Non-prop. Casualty RI	2,731	816	727	4,274	-174	318	4,418	-2,035	2,383
Non-prop. Health RI	220	1	59	280	0	10	290	-111	179
Non-prop. MAT RI	2,038	588	542	3,168	-147	118	3,139	-1,458	1,680
Total	**18,747**	**4,051**	**4,988**	**27,786**	**-1,267**	**958**	**27,477**	**-14,393**	**13,084**

The table shows the restatements required to convert the GAAP Technical Provisions to a Solvency II basis as at 31 December 2018:

USD $'000	Gross	RI	Net
GAAP Technical Provisions	**23,808**	**-15,122**	**8,686**
Expense reserves*	4,354	0	4,354
Remove margin for uncertainty	-384	0	-384
Discounting	-1,266	733	-533
Risk Margin	958	0	958
Other	7	-4	3
Solvency II Technical Provisions	**27,477**	**14,393**	**13,084**

* GAAP Expense Provisions are solely in respect of direct claims handling expenses and a share of overheads, while Solvency II Expense Provisions include all future costs relating to existing business.

Future claim payments are discounted at the EIOPA risk free rates for the relevant currency.

The Solvency II Risk Margin reflects the cost of the capital required to maintain the company's regulatory solvency position while the business runs off.

The table shows the breakdown of the Solvency II Technical Provisions into their component parts by Line of Business as at 31 December 2017:

Solvency II Technical Provisions by LoB Type USD $'000	Case Reserves	IBNR	Expense Reserves	Gross Reserves	Discounting	Risk Margin	Gross Technical Provisions	RI Reserves	Net Technical Provisions
Motor Liability	0	0	0	0	0	0	0	0	0
MAT	1,917	236	380	2,533	-100	35	2,468	-1,522	947
Fire & other damage to property	9,739	1,923	1,854	13,516	-721	222	13,016	-8,357	4,659
General liability	1,752	300	448	2,500	-145	49	2,405	-1,210	1,195
Credit & Suretyship	999	228	273	1,501	1	55	1,557	-638	919
Assistance	0	0	0	0	0	0	0	0	0
Workers' Comp	49	0	8	57	-1	0	56	-48	8
Non-prop. Property RI	2,928	807	755	4,491	-94	162	4,558	-2,171	2,387
Non-prop. Casualty RI	3,524	397	802	4,723	-80	151	4,794	-2,699	2,095
Non-prop. Health RI	231	4	66	300	0	10	310	-118	192
Non-prop. MAT RI	2,984	705	712	4,401	-197	154	4,358	-2,262	2,096
Total	**24,123**	**4,600**	**5,299**	**34,022**	**-1,337**	**838**	**33,523**	**-19,025**	**14,498**

The table shows the restatements required to convert the GAAP Technical Provisions to a Solvency II basis as at 31 December 2017:

USD $'000	Gross	RI	Net
GAAP Technical Provisions	**29,690**	**-19,891**	**9,799**
Expense reserves*	4,763	0	4,763
Remove margin for uncertainty	-441	0	-441
Discounting	-1,337	871	-466
Risk Margin	839	0	839
Other	9	-5	4
Solvency II Technical Provisions	**33,523**	**-19,025**	**14,498**

D.3. Other Liabilities

See ***Trade and other debtors / creditors*** under D.1 Assets.

D.4. Alternative Methods for Valuation

No alternative methods were used.

D.5. Any Other Information

There is no other information to report.

E. Capital Management

E.1. Own Funds

The company's Own Funds are all Tier 1 and consist of $3,540k (2017 $22,234k) of Issued Share Capital and accumulated income of $8,184k (2017 $1,429k). As such these funds are wholly under the company's control. In April 2018, under the provisions of Section 202-204 of the Companies Act 2014 and, following receipt of a Letter of No Objection from the Central Bank of Ireland, Cardinal reduced its Issued Share Capital from €20 million to €3.6 million and transferred the amount of the reduction to distributable reserves. Subsequently, in June 2018 the company paid a dividend of $11 million to its shareholder, while no dividend was declared or paid in 2017.

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

The company's SCR as at 31/12/2018 was $6,229k (2017: $6.771k) and its Own Funds were $11,724k (2017 $23,662k) giving a Solvency Ratio of 188% (2017:349%). During 2018 the Company paid a dividend of $11.0m which is the primary reason for the reduction in Own Funds and SCR Solvency Ratio.

The table shows a breakdown of the SCR by Risk Type:

Risk Type	**2018 USD $000**	**2017 USD $000**
Non Life	3,561	3,899
Health	102	110
Market	3,164	3,128
Counterparty	191	382
Total before diversification	**7,018**	**7,519**
Diversification	(1,584)	(1,730)
Basic Solvency Capital Requirement	**5,434**	**5,789**
Operational Risk	795	982
Solvency Capital Requirement	**6,229**	**6,771**

The MCR is $4,123k (2017 : $4,190k) which is in line with the Absolute Minimum Capital Requirement specified by EIOPA $ 4,123k (€3,600k).

The company has not taken advantage of any Transitional Arrangements, Volatility Adjustment or Undertaking Specific Parameters.

E.3. Use of the Duration-Based Equity Risk Sub-Module in the Calculation of the Solvency Capital Requirement

There was no use of the equity risk sub-module in the calculation of SCR

E.4. SCR differences if standard formula or internal model used

Not applicable.

E.5. Non-compliance with SCR/MCR

The company has had sufficient Own Funds to cover its SCR and MCR throughout the period covered by this report.

E.6. Any Other Information

There is no other information to report.

Appendices

Quantitative reporting templates

S.02.01.02 Balance sheet

S.05.01.02 Premiums, claims and expenses

S.05.02.01 Premiums, claims and expenses by country

S.17.01.02 Non-life technical provisions,

S.19.01.21 Non-life insurance claims in the format of development triangles,

S.23.01.01 Own funds, including basic own funds and ancillary own funds

S.25.01.21 Solvency Capital Requirement calculated using the standard formula,

S.28.01.01 Minimum Capital Requirement for reinsurance undertakings engaged in non-life reinsurance activity

Cardinal Reinsurance

Solvency and Financial Condition Report

Disclosures

31 December

2018

(Monetary amounts in USD thousands)

General information

Undertaking name	Cardinal Reinsurance DAC
Undertaking identification code	635400WWL9RCVBLJGU57
Type of code of undertaking	LEI
Type of undertaking	Reinsurance undertakings
Country of authorisation	IE
Language of reporting	en
Reporting reference date	31 December 2018
Currency used for reporting	USD
Accounting standards	Local GAAP
Method of Calculation of the SCR	Standard formula
Matching adjustment	No use of matching adjustment
Volatility adjustment	No use of volatility adjustment
Transitional measure on the risk-free interest rate	No use of transitional measure on the risk-free interest rate
Transitional measure on technical provisions	No use of transitional measure on technical provisions

List of reported templates

S.02.01.02 - Balance sheet
S.05.01.02 - Premiums, claims and expenses by line of business
S.05.02.01 - Premiums, claims and expenses by country
S.17.01.02 - Non-Life Technical Provisions
S.19.01.21 - Non-Life insurance claims
S.23.01.01 - Own Funds
S.25.01.21 - Solvency Capital Requirement - for undertakings on Standard Formula
S.28.01.01 - Minimum Capital Requirement - Only life or only non-life insurance or reinsurance activity

S.02.01.02

Balance sheet

		Solvency II value
	Assets	C0010
R0030	Intangible assets	
R0040	Deferred tax assets	
R0050	Pension benefit surplus	
R0060	Property, plant & equipment held for own use	0
R0070	Investments (other than assets held for index-linked and unit-linked contracts)	20,076
R0080	*Property (other than for own use)*	0
R0090	*Holdings in related undertakings, including participations*	0
R0100	*Equities*	0
R0110	*Equities - listed*	
R0120	*Equities - unlisted*	
R0130	*Bonds*	0
R0140	*Government Bonds*	0
R0150	*Corporate Bonds*	0
R0160	*Structured notes*	0
R0170	*Collateralised securities*	0
R0180	*Collective Investments Undertakings*	17,062
R0190	*Derivatives*	
R0200	*Deposits other than cash equivalents*	3,013
R0210	*Other investments*	0
R0220	Assets held for index-linked and unit-linked contracts	
R0230	Loans and mortgages	0
R0240	*Loans on policies*	0
R0250	*Loans and mortgages to individuals*	
R0260	*Other loans and mortgages*	
R0270	Reinsurance recoverables from:	14,393
R0280	*Non-life and health similar to non-life*	14,393
R0290	*Non-life excluding health*	14,269
R0300	*Health similar to non-life*	124
R0310	*Life and health similar to life, excluding index-linked and unit-linked*	0
R0320	*Health similar to life*	
R0330	*Life excluding health and index-linked and unit-linked*	
R0340	*Life index-linked and unit-linked*	
R0350	Deposits to cedants	3,834
R0360	Insurance and intermediaries receivables	1,695
R0370	Reinsurance receivables	525
R0380	Receivables (trade, not insurance)	
R0390	Own shares (held directly)	
R0400	Amounts due in respect of own fund items or initial fund called up but not yet paid in	0
R0410	Cash and cash equivalents	3,375
R0420	Any other assets, not elsewhere shown	
R0500	**Total assets**	43,898

S.02.01.02

Balance sheet

		Solvency II value
	Liabilities	C0010
R0510	Technical provisions - non-life	27,477
R0520	*Technical provisions - non-life (excluding health)*	27,172
R0530	*TP calculated as a whole*	0
R0540	*Best Estimate*	26,224
R0550	*Risk margin*	948
R0560	*Technical provisions - health (similar to non-life)*	305
R0570	*TP calculated as a whole*	0
R0580	*Best Estimate*	295
R0590	*Risk margin*	10
R0600	Technical provisions - life (excluding index-linked and unit-linked)	0
R0610	*Technical provisions - health (similar to life)*	0
R0620	*TP calculated as a whole*	
R0630	*Best Estimate*	
R0640	*Risk margin*	
R0650	*Technical provisions - life (excluding health and index-linked and unit-linked)*	0
R0660	*TP calculated as a whole*	
R0670	*Best Estimate*	
R0680	*Risk margin*	
R0690	Technical provisions - index-linked and unit-linked	0
R0700	*TP calculated as a whole*	
R0710	*Best Estimate*	
R0720	*Risk margin*	
R0740	Contingent liabilities	0
R0750	Provisions other than technical provisions	
R0760	Pension benefit obligations	
R0770	Deposits from reinsurers	
R0780	Deferred tax liabilities	
R0790	Derivatives	
R0800	Debts owed to credit institutions	0
R0810	Financial liabilities other than debts owed to credit institutions	0
R0820	Insurance & intermediaries payables	4,379
R0830	Reinsurance payables	0
R0840	Payables (trade, not insurance)	304
R0850	Subordinated liabilities	0
R0860	*Subordinated liabilities not in BOF*	
R0870	*Subordinated liabilities in BOF*	0
R0880	Any other liabilities, not elsewhere shown	13
R0900	**Total liabilities**	32,174
R1000	**Excess of assets over liabilities**	11,724

S.05.01.02

Premiums, claims and expenses by line of business

Non-life

		Line of Business for: non-life insurance and reinsurance obligations (direct business and accepted proportional reinsurance)												Line of business for: accepted non-proportional reinsurance				Total
		Medical expense insurance	Income protection insurance	Workers' compensation insurance	Motor vehicle liability insurance	Other motor insurance	Marine, aviation and transport insurance	Fire and other damage to property insurance	General liability insurance	Credit and suretyship insurance	Legal expenses insurance	Assistance	Misc. financial loss	Health	Casualty	Marine, aviation and transport	Property	
		C0010	C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100	C0110	C0120	C0130	C0140	C0150	C0160	C0200
	Premiums written																	
R0110	Gross - Direct Business																	0
R0120	Gross - Proportional reinsurance accepted			0	0		28	503	2	14								548
R0130	Gross - Non-proportional reinsurance accepted													0	28	43	0	71
R0140	Reinsurers' share																	0
R0200	Net			0	0		28	503	2	14				0	28	43	0	619
	Premiums earned																	
R0210	Gross - Direct Business																	0
R0220	Gross - Proportional reinsurance accepted			0	0		28	503	2	14								548
R0230	Gross - Non-proportional reinsurance accepted													0	28	43	0	71
R0240	Reinsurers' share																	0
R0300	Net			0	0		28	503	2	14				0	28	43	0	619
	Claims incurred																	
R0310	Gross - Direct Business																	0
R0320	Gross - Proportional reinsurance accepted			-30	0		-209	-1,705	-322	148								-2,119
R0330	Gross - Non-proportional reinsurance accepted													280	739	-741	-376	-98
R0340	Reinsurers' share			-30	0		-180	-1,181	-237	72				100	-17	-565	-394	-2,432
R0400	Net			0	0		-29	-524	-85	76				179	756	-176	18	216
	Changes in other technical provisions																	
R0410	Gross - Direct Business																	0
R0420	Gross - Proportional reinsurance accepted																	0
R0430	Gross - Non-proportional reinsurance accepted																	0
R0440	Reinsurers' share																	0
R0500	Net			0	0		0	0	0	0				0	0	0	0	0
R0550	**Expenses incurred**			1	0		97	749	106	85				0	-98	157	188	1,284
R1200	**Other expenses**																	532
R1300	**Total expenses**																	1,816

S.05.02.01

Premiums, claims and expenses by country

Non-life

		C0010	C0020	C0030	C0040	C0050	C0060	C0070
		Home Country	Top 5 countries (by amount of gross premiums written) - non-life obligations			Top 5 countries (by amount of gross premiums written) - non-life obligations		Total Top 5 and home country
R0010			IN	IT	HK	CN	MU	
		C0080	C0090	C0100	C0110	C0120	C0130	C0140
	Premiums written							
R0110	Gross - Direct Business							0
R0120	Gross - Proportional reinsurance accepted	116	146	143	41	1	21	467
R0130	Gross - Non-proportional reinsurance accepted							0
R0140	Reinsurers' share							0
R0200	Net	116	146	143	41	1	21	467
	Premiums earned							
R0210	Gross - Direct Business							0
R0220	Gross - Proportional reinsurance accepted	116	146	143	41	1	21	467
R0230	Gross - Non-proportional reinsurance accepted	0	13	1	0	39	5	57
R0240	Reinsurers' share							0
R0300	Net	116	158	143	41	40	26	524
	Claims incurred							
R0310	Gross - Direct Business							0
R0320	Gross - Proportional reinsurance accepted	-283	65	114	-162	-5	-52	-322
R0330	Gross - Non-proportional reinsurance accepted	0	-311	87	3	-579	-85	-884
R0340	Reinsurers' share	-132	-206	56	-160	-474	-146	-1,061
R0400	Net	-151	-41	145	1	-109	9	-145
	Changes in other technical provisions							
R0410	Gross - Direct Business							0
R0420	Gross - Proportional reinsurance accepted							0
R0430	Gross - Non-proportional reinsurance accepted							0
R0440	Reinsurers' share							0
R0500	Net	0	0	0	0	0	0	0
R0550	**Expenses incurred**	-69	53	174	9	11	19	196
R1200	**Other expenses**							1,855
R1300	**Total expenses**							2,051

S.17.01.02

Non-Life Technical Provisions

		Direct business and accepted proportional reinsurance												Accepted non-proportional reinsurance				Total Non-Life obligation
		Medical expense insurance	Income protection insurance	Workers' compensation insurance	Motor vehicle liability insurance	Other motor insurance	Marine, aviation and transport insurance	Fire and other damage to property insurance	General liability insurance	Credit and suretyship insurance	Legal expenses insurance	Assistance	Miscellaneous financial loss	Non-proportional health reinsurance	Non-proportional casualty reinsurance	Non-proportional marine, aviation and transport reinsurance	Non-proportional property reinsurance	
		C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100	C0110	C0120	C0130	C0140	C0150	C0160	C0170	C0180
R0010	**Technical provisions calculated as a whole**			0	0		0	0	0	0				0	0	0	0	0
R0050	Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP calculated as a whole																	0
	Technical provisions calculated as a sum of BE and RM																	
	Best estimate																	
	Premium provisions																	
R0060	Gross			0	0		0	0	0	0				0	0	0	0	0
R0140	Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default																	0
R0150	**Net Best Estimate of Premium Provisions**			0	0		0	0	0	0				0	0	0	0	0
	Claims provisions																	
R0160	Gross			16	0		2,022	9,798	1,803	1,643				280	4,100	3,021	3,837	26,519
R0240	Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default			13	0		1,182	6,308	898	694				111	2,035	1,458	1,694	14,393
R0250	**Net Best Estimate of Claims Provisions**			3	0		840	3,491	905	948				169	2,064	1,563	2,144	12,127
R0260	**Total best estimate - gross**			16	0		2,022	9,798	1,803	1,643				280	4,100	3,021	3,837	26,519
R0270	**Total best estimate - net**			3	0		840	3,491	905	948				169	2,064	1,563	2,144	12,127
R0280	**Risk margin**			0	0		34	174	42	62				10	318	118	200	958
	Amount of the transitional on Technical Provisions																	
R0290	Technical Provisions calculated as a whole			0	0		0	0	0	0				0	0	0	0	0
R0300	Best estimate			0	0		0	0	0	0				0	0	0	0	0
R0310	Risk margin			0	0		0	0	0	0				0	0	0	0	0
R0320	**Technical provisions - total**			16	0		2,056	9,972	1,845	1,705				289	4,418	3,138	4,037	27,477
R0330	**Recoverable from reinsurance contract/SPV and Finite Re after the adjustment for expected losses due to counterparty default - total**			13	0		1,182	6,308	898	694				111	2,035	1,458	1,694	14,393
R0340	**Technical provisions minus recoverables from reinsurance/SPV and Finite Re - total**			3	0		874	3,665	947	1,011				178	2,383	1,681	2,343	13,085

S.19.01.21

Non-Life insurance claims

Total Non-life business

Z0020	Accident year / underwriting year	Underwriting Year	

Gross Claims Paid (non-cumulative)
(absolute amount)

	Year	C0010	C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100	C0110	C0170	C0180
		Development year											In Current year	Sum of years (cumulative)
		0	1	2	3	4	5	6	7	8	9	10 & +		
R0100	Prior											2,171	2,171	2,171
R0160	2009	3,089	26,687	7,539	4,475	1,864	1,509	585	468	756	395		395	47,366
R0170	2010	862	24,474	9,600	3,768	2,287	1,345	1,419	483	263			263	44,501
R0180	2011	-1,113	30,533	17,160	6,819	2,437	1,973	1,806	334				334	59,949
R0190	2012	577	13,646	5,248	3,574	1,401	1,475	856					856	26,778
R0200	2013	0	0	0	0	0	0						0	0
R0210	2014	0	0	0	0	0							0	0
R0220	2015	0	0	0	0								0	0
R0230	2016	0	0	0									0	0
R0240	2017	0	0										0	0
R0250	2018	0											0	0
R0260												Total	4,018	180,765

Gross Undiscounted Best Estimate Claims Provisions
(absolute amount)

	Year	C0200	C0210	C0220	C0230	C0240	C0250	C0260	C0270	C0280	C0290	C0300	C0360
		Development year											Year end (discounted data)
		0	1	2	3	4	5	6	7	8	9	10 & +	
R0100	Prior											13,883	13,390
R0160	2009	0	0	0	0	0	0	0	4,223	3,927	3,195		3,043
R0170	2010	0	0	0	0	0	0	4,738	3,345	2,489			2,375
R0180	2011	0	0	0	0	0	7,112	5,071	4,311				4,026
R0190	2012	0	0	0	0	6,161	5,370	3,907					3,685
R0200	2013	0	0	0	0	0	0						0
R0210	2014	0	0	0	0	0							0
R0220	2015	0	0	0	0								0
R0230	2016	0	0	0									0
R0240	2017	0	0										0
R0250	2018	0											0
R0260												Total	26,519

S.23.01.01

Own Funds

		Total	Tier 1 unrestricted	Tier 1 restricted	Tier 2	Tier 3
	Basic own funds before deduction for participations in other financial sector as foreseen in article 68 of Delegated Regulation 2015/35	C0010	C0020	C0030	C0040	C0050
R0010	Ordinary share capital (gross of own shares)	3,540	3,540		0	
R0030	Share premium account related to ordinary share capital	0	0		0	
R0040	Initial funds, members' contributions or the equivalent basic own-fund item for mutual and mutual-type undertakings	0	0		0	
R0050	Subordinated mutual member accounts	0		0	0	0
R0070	Surplus funds	0	0			
R0090	Preference shares	0		0	0	0
R0110	Share premium account related to preference shares	0		0	0	0
R0130	Reconciliation reserve	8,184	8,184			
R0140	Subordinated liabilities	0		0	0	0
R0160	An amount equal to the value of net deferred tax assets	0				0
R0180	Other own fund items approved by the supervisory authority as basic own funds not specified above	0	0	0	0	0
R0220	**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**	0				
R0230	**Deductions for participations in financial and credit institutions**	0				
R0290	**Total basic own funds after deductions**	11,724	11,724	0	0	0
	Ancillary own funds					
R0300	Unpaid and uncalled ordinary share capital callable on demand	0				
R0310	Unpaid and uncalled initial funds, members' contributions or the equivalent basic own fund item for mutual and mutual - type undertakings, callable on demand	0				
R0320	Unpaid and uncalled preference shares callable on demand	0				
R0330	A legally binding commitment to subscribe and pay for subordinated liabilities on demand	0				
R0340	Letters of credit and guarantees under Article 96(2) of the Directive 2009/138/EC	0				
R0350	Letters of credit and guarantees other than under Article 96(2) of the Directive 2009/138/EC	0				
R0360	Supplementary members calls under first subparagraph of Article 96(3) of the Directive 2009/138/EC	0				
R0370	Supplementary members calls - other than under first subparagraph of Article 96(3) of the Directive 2009/138/EC	0				
R0390	Other ancillary own funds	0				
R0400	**Total ancillary own funds**	0			0	0
	Available and eligible own funds					
R0500	Total available own funds to meet the SCR	11,724	11,724	0	0	0
R0510	Total available own funds to meet the MCR	11,724	11,724	0	0	
R0540	Total eligible own funds to meet the SCR	11,724	11,724	0	0	0
R0550	Total eligible own funds to meet the MCR	11,724	11,724	0	0	

R0580	**SCR**	6,229
R0600	**MCR**	4,123
R0620	**Ratio of Eligible own funds to SCR**	188.21%
R0640	**Ratio of Eligible own funds to MCR**	284.33%

		C0060
	Reconcilliation reserve	
R0700	Excess of assets over liabilities	11,724
R0710	Own shares (held directly and indirectly)	0
R0720	Foreseeable dividends, distributions and charges	
R0730	Other basic own fund items	3,540
R0740	Adjustment for restricted own fund items in respect of matching adjustment portfolios and ring fenced funds	0
R0760	**Reconciliation reserve**	8,184
	Expected profits	
R0770	Expected profits included in future premiums (EPIFP) - Life business	
R0780	Expected profits included in future premiums (EPIFP) - Non- life business	
R0790	**Total Expected profits included in future premiums (EPIFP)**	0

S.25.01.21

Solvency Capital Requirement - for undertakings on Standard Formula

		Gross solvency capital requirement	USP	Simplifications
		C0110	C0090	C0120
R0010	Market risk	3,164		
R0020	Counterparty default risk	191		
R0030	Life underwriting risk	0	9	
R0040	Health underwriting risk	102	9	
R0050	Non-life underwriting risk	3,561	9	
R0060	Diversification	-1,584		
R0070	Intangible asset risk	0		
R0100	**Basic Solvency Capital Requirement**	5,434		

		C0100
	Calculation of Solvency Capital Requirement	
R0130	Operational risk	796
R0140	Loss-absorbing capacity of technical provisions	0
R0150	Loss-absorbing capacity of deferred taxes	0
R0160	Capital requirement for business operated in accordance with Art. 4 of Directive 2003/41/EC	0
R0200	**Solvency Capital Requirement excluding capital add-on**	6,229
R0210	Capital add-ons already set	0
R0220	**Solvency capital requirement**	6,229
	Other information on SCR	
R0400	Capital requirement for duration-based equity risk sub-module	0
R0410	Total amount of Notional Solvency Capital Requirements for remaining part	0
R0420	Total amount of Notional Solvency Capital Requirements for ring fenced funds	0
R0430	Total amount of Notional Solvency Capital Requirements for matching adjustment portfolios	0
R0440	Diversification effects due to RFF nSCR aggregation for article 304	0

USP Key

For life underwriting risk:
1 - Increase in the amount of annuity benefits
9 - None

For health underwriting risk:
1 - Increase in the amount of annuity benefits
2 - Standard deviation for NSLT health premium risk
3 - Standard deviation for NSLT health gross premium risk
4 - Adjustment factor for non-proportional reinsurance
5 - Standard deviation for NSLT health reserve risk
9 - None

For non-life underwriting risk:
4 - Adjustment factor for non-proportional reinsurance
6 - Standard deviation for non-life premium risk
7 - Standard deviation for non-life gross premium risk
8 - Standard deviation for non-life

S.28.01.01

Minimum Capital Requirement - Only life or only non-life insurance or reinsurance activity

	Linear formula component for non-life insurance and reinsurance obligations	C0010
R0010	MCR_{NL} Result	1,781

		Net (of reinsurance/SPV) best estimate and TP calculated as a whole	Net (of reinsurance) written premiums in the last 12 months
		C0020	C0030
R0020	Medical expense insurance and proportional reinsurance	0	
R0030	Income protection insurance and proportional reinsurance	0	
R0040	Workers' compensation insurance and proportional reinsurance	3	
R0050	Motor vehicle liability insurance and proportional reinsurance	0	
R0060	Other motor insurance and proportional reinsurance	0	
R0070	Marine, aviation and transport insurance and proportional reinsurance	840	
R0080	Fire and other damage to property insurance and proportional reinsurance	3,491	
R0090	General liability insurance and proportional reinsurance	905	
R0100	Credit and suretyship insurance and proportional reinsurance	948	
R0110	Legal expenses insurance and proportional reinsurance	0	
R0120	Assistance and proportional reinsurance	0	
R0130	Miscellaneous financial loss insurance and proportional reinsurance	0	
R0140	Non-proportional health reinsurance	169	
R0150	Non-proportional casualty reinsurance	2,064	
R0160	Non-proportional marine, aviation and transport reinsurance	1,563	
R0170	Non-proportional property reinsurance	2,144	

	Linear formula component for life insurance and reinsurance obligations	C0040
R0200	MCR_L Result	0

		Net (of reinsurance/SPV) best estimate and TP calculated as a whole	Net (of reinsurance/SPV) total capital at risk
		C0050	C0060
R0210	Obligations with profit participation - guaranteed benefits		
R0220	Obligations with profit participation - future discretionary benefits		
R0230	Index-linked and unit-linked insurance obligations		
R0240	Other life (re)insurance and health (re)insurance obligations		
R0250	Total capital at risk for all life (re)insurance obligations		

	Overall MCR calculation	C0070
R0300	Linear MCR	1,781
R0310	SCR	6,229
R0320	MCR cap	2,803
R0330	MCR floor	1,557
R0340	Combined MCR	1,781
R0350	Absolute floor of the MCR	4,123
R0400	**Minimum Capital Requirement**	4,123