ASPEN

SOLVENCY AND FINANCIAL CONDITION REPORT

ASPEN INSURANCE UK LIMITED
31 DECEMBER 2018

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Directors' responsibility statement

We acknowledge our responsibility for preparing the SFCR in all material respects in accordance with the requirements of the PRA Rules and the Solvency II Regulations.

We are satisfied that:

a) Throughout the financial year in question, the insurer has complied in all material respects with the requirements of the PRA Rules and Solvency II Regulations as applicable to the insurer, and

b) It is reasonable to believe that the insurer has continued to comply subsequently and will continue to comply in the future.

By order of the Board

Michael Cain
Chief Executive Officer
17 April 2019

Mark Dean
Chief Risk Officer
17 April 2019

Plantation Place
30 Fenchurch Street
London
EC3M 3BD

Report of the external independent auditor to the Directors of Aspen Insurance UK 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 Aspen Insurance UK Limited as at 31 December 2018:

- The 'Valuation for solvency purposes' and 'Capital Management' sections of the Solvency and Financial Condition Report of Aspen Insurance UK Limited as at 31 December 2018, ('**the Narrative Disclosures subject to audit**'); and

- Company templates S02.01.02, S17.01.02, S23.01.01, S28.01.01 ('**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 about above which are, or derive from the Solvency Capital Requirement, as identified in the Appendix to this report;

- The 'Business and performance', 'System of governance' and 'Risk profile' sections of the Solvency and Financial Condition Report;

- Company templates S05.01.02, S05.02.01, S19.01.21, S.25.03.21; and

- the written acknowledgement by the Directors 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 Aspen Insurance UK Limited as at 31 December 2018 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, as modified by relevant supervisory modifications, 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 *Auditor's 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.

Emphasis of Matter – special purpose basis of accounting
We draw attention to the 'Valuation for solvency purposes' and 'Capital Management' and other relevant disclosures 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.

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 if:

- the directors' use of the going concern basis of accounting in the preparation of the SFCR is not appropriate; or
- the directors have not disclosed in the SFCR 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 SFCR is authorised for issue.

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, accordingly, 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 modified by the modifications, and 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.

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; assessing the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and using the going concern basis of accounting unless they either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

Auditor's 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 Relevant Elements of the Solvency and Financial Condition Report are prepared, in all material respects, with financial reporting provisions of the PRA Rules and Solvency II regulations on which it they based, as modified by relevant supervisory modifications, and as supplemented by supervisory approvals and determinations.

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 auditor's 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 Relevant Elements of the Solvency and Financial Condition Report.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities.

Other Matter
The Company has authority to calculate its Solvency Capital Requirement using an 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 Aspen Insurance UK Limited'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.

The purpose of our audit work and to whom we owe our responsibilities
This report of the external auditor is made solely to the company's directors, as its governing body, in accordance with the requirement in Rule 4.1 (2) of the External Audit Part of the PRA Rulebook for Solvency II firms and the terms of our engagement. We acknowledge that the directors are required to submit the report to the PRA, to enable the PRA to verify that an auditor's report has been commissioned by the company's directors and issued in accordance with the requirement set out in Rule 4.1 (2) of the External Audit Part of the PRA Rulebook for Solvency II firms and to facilitate the discharge by the PRA of its regulatory functions in respect of the company, conferred on the PRA by or under the Financial Services and Markets Act 2000.
Our audit has been undertaken so that we might state to the company's directors those matters we are required to state to them in an auditor's report issued pursuant to Rule 4.1 (2) and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company through its governing body, for our audit, for this report, or for the opinions we have formed.

Kushan Tikkoo

Kushan Tikkoo
for and on behalf of KPMG LLP
15 Canada Square
Canary Wharf
London
E14 5GL
17 April 2019

- The maintenance and integrity of Aspen Insurance UK Limited's website is the responsibility of the directors; the work carried out by the auditors does not involve consideration of these matters and, accordingly, the auditors accept no responsibility for any changes that may have occurred to the Solvency and Financial Condition Report since it was initially presented on the website.
- Legislation in the United Kingdom governing the preparation and dissemination of Solvency and Financial Condition Reports may differ from legislation in other jurisdictions.

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

Solo internal model

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

- The following elements of template S.17.01.02
  - Row R0280: Technical provisions calculated as a sum of best estimate and risk margin

- The following elements of template S.23.01.01
  - Row R0580: Solvency capital requirement
  - 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: Solvency capital requirement

- Elements of the Narrative Disclosures subject to audit identified as ‘unaudited’.

Solvency and Financial Condition Report ("SFCR")

Forward looking statements

All forward-looking statements address matters that involve risks and uncertainties. Accordingly, there are or will be important factors that could cause actual results to differ materially from those indicated in these statements.

In addition, any estimates relating to loss events involve the exercise of considerable judgment in the setting of reserves and reflect a combination of ground-up evaluations, information available to date from brokers and cedants, market intelligence, initial tentative loss reports and other sources. The actuarial range of reserves provided, if any, is based on Aspen Insurance UK Limited's ("AIUK's") current state of knowledge and explicit and implicit assumptions relating to the incurred pattern of claims, the expected ultimate settlement amount, inflation and dependencies between lines of business. Due to the complexity of factors contributing to losses and the preliminary nature of the information used to prepare estimates, there can be no assurance that AIUK's ultimate losses will remain within stated amounts.

Summary

Summary of Business and Performance

The objective of AIUK is to provide an efficient platform from which Aspen Insurance and Aspen Reinsurance ('Aspen Re'), the two underwriting segments of the Aspen Group ("Group"), can offer specialty insurance and reinsurance products to their customers while providing a high level of security to policyholders.

AIUK writes business through the London Market and operates through various branches and affiliated underwriting agents.

The underwriting result on a UK GAAP basis, for the twelve months ended 31 December 2018 was an underwriting loss of $89,239k (2017: underwriting loss of $135,526k), reflecting a challenging year as a result of large catastrophe losses in the second half of 2018. Catastrophe losses were lower compared to the prior year but higher than planned.

Gross written premium for the twelve months ended 31 December 2018 of $1,475,237k is consistent with the equivalent period for 2017 of $1,481,346k with a slight reduction driven by changes in underwriting appetite and focus based on market conditions and historic performance.

Net earned premium increased to $548,138k in 2018 (2017: $408,517k), mainly due to lower ceded premium largely as a result of the Company restructuring certain ceded reinsurance arrangements with its affiliates on a majority of its US-based reinsurance business from a quota share to an excess of loss arrangement. This move also resulted in the Company experiencing a reduction in reinsurance recoveries, ceding commissions and an increase in net incurred claims compared to 2017.

Net incurred claims increased to $382,203k in 2018 compared to $340,095k in 2017. The increase was primarily as a result of the change in AIUK's ceded reinsurance arrangements discussed above. The impact of the increase in net retained business was offset by a reduction in total net catastrophe losses, which amounted to approximately $97,200k in 2018 compared to approximately $235,900k in 2017. The results of AIUK's non-proportional reinsurance business benefitted the most from this reduction. Losses from catastrophe activity included US Wildfires $14,500k, Hurricane Florence $12,000k, Typhoon Jebi $23,700k, Hurricane Michael $8,200k and other smaller events totalling $38,800k.

Expenses increased to $255,174k in 2018 (2017: $203,948k) in line with the increase in net earned premiums, with an expense ratio of 46.6% in 2018 compared to 49.9% in 2017. The increase is mainly due to lower ceded commissions in 2018 of $204,047k compared to $274,504k in 2017, which is as a result of AIUK's reduction in its ceded reinsurance program. Gross administrative expenses fell from $131,047k in 2017 to $127,861k in 2018 as operational efficiencies derived through implementation of

the Aspen Group's efficiency and cost-cutting drive ("Aspen 2.0") were partly offset by related one-off charges.

The overall investment loss for the twelve months ended 31 December 2018 was $1,900k (2017: return of $88,049k) comprised of $62,089k investment income (2017: $56,449k) balancing with realized investment losses (excluding derivatives) of $1,954k (2017: $4,131k gains) and unrealized investment losses (excluding derivatives) of $25,254k (2017: $2,376k gains) and investment expenses of $3,281k (2017: $4,069k). The increase in AIUK's investment income principally arose from an increase in the book yield of the Company's fixed income portfolio. The realized and unrealized investment losses were derived primarily by mark to market losses in the Company's fixed income portfolios. Included in the investment loss were realised and unrealised foreign exchange losses from derivate contracts totalling $33,565k (2017: $29,162k gains).

Summary of Systems of Governance

AIUK is governed by its Board of Directors (the "AIUK Board"), and two sub-committees of the Board: the Audit Committee and the Risk Committee. Other committees may be established on an ad hoc basis for administrative purposes. These include the Remuneration Standing Committee and the Special Referral Committee. AIUK's Chief Executive Officer ("CEO") chairs an Executive Committee, which provides support to the CEO in dealing with the day to day executive management of AIUK.

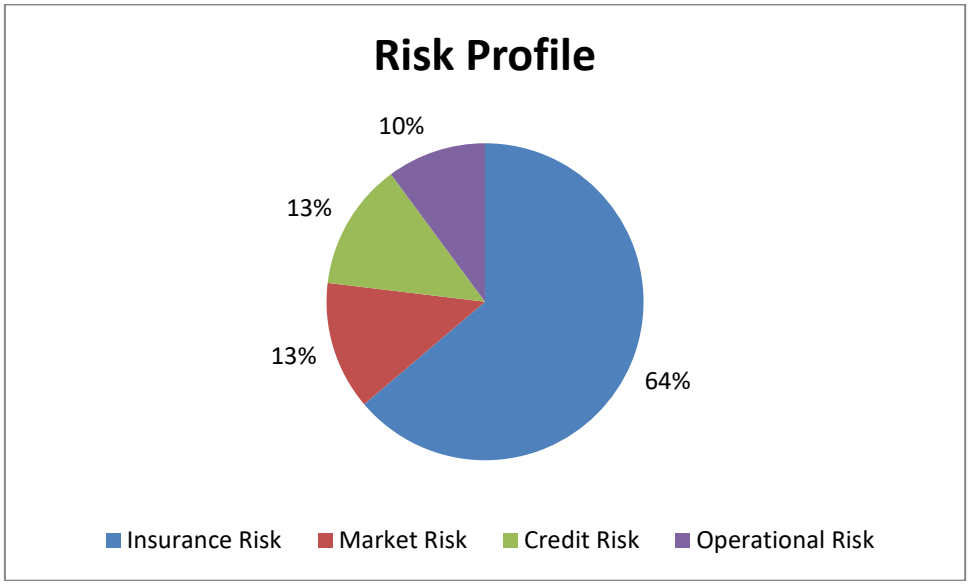
The AIUK Board is responsible for ensuring that the principles of good governance are observed.

AIUK has an Internal Control and Risk Management Framework and employs the Three Lines of Defence model to manage risk. The integration of the risk management process, business strategy, business planning, and capital management is defined through AIUK's approach to its Own Risk and Solvency Assessment ("ORSA").

The governance structure of AIUK has not changed materially in the twelve months ended 31 December 2018.

Summary of Risk Profile

The following chart shows the relative size of the Internal Model capital risk category components at the valuation date (before any diversification between those risk categories):



Insurance risk is defined as the risk that underwriting results vary from their expected amounts, including the risk that reserves established in respect of prior periods are understated.

Market risk is defined as the risk of variation in the income generated by, and the fair value of, AIUK's investment portfolio, cash and cash equivalents and derivative contracts, including the effect of changes in foreign currency exchange rates.

Credit risk is the risk of loss to AIUK if the counterparty to a financial instrument or reinsurance agreement fails to meet its contractual obligations. AIUK is also exposed to credit risk through its investment holdings (cash and fixed income securities) which is part of Market risk within the Internal Model.

Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, personnel or systems, or from external events.

The diagram above does not show Emerging risk, Liquidity risk, Regulatory and Taxation risk as these are not included in the Internal Model. These are discussed in further detail in section C.

The risk profile of AIUK has not changed materially for the twelve months ended 31 December 2018.

Summary of Valuation for Solvency Purposes

An analysis of the valuation of assets and liabilities on a Solvency II basis is shown in Section D.

Assets and liabilities have been valued at the amount for which they could be exchanged between knowledgeable willing parties in an arm's length transaction and Technical Provisions have been estimated as the sum of a best estimate and a Risk Margin. The best estimate corresponds to the probability-weighted average of future cashflows, taking account of the time value of money (expected present value of future cashflows), using the relevant risk-free interest rate term structure.

Summary of Capital Management

As part of its risk appetite, AIUK defines the amount of capital required to meet its internal risk appetite, regulatory and rating agency requirements and commercial constraints.

To support its objective AIUK maintains sufficient Own Funds to cover the Minimum Capital Requirement ("MCR") and the Solvency Capital Requirement ("SCR") with an appropriate buffer. The MCR coverage ratio at 31 December 2018 was 268% (2017: 287%) and the SCR coverage ratio was 125% (2017: 134%).

A Business and Performance

A1 Business

A1.1 Business

AIUK is a private company limited by shares, incorporated in England & Wales and domiciled in the United Kingdom. It is a wholly owned subsidiary of Aspen European Holdings Limited ("AEHL"), a company incorporated in England & Wales, whose ultimate parent company at 31 December 2018 was Aspen Insurance Holdings Limited ("AIHL"), which is incorporated in Bermuda. On 15 February 2019, in accordance with the merger agreement between Apollo Global Management and AIHL (see page 19), AIHL merged with Highlands Merger Sub, Ltd., a company incorporated in Bermuda and wholly owned subsidiary of Highlands Holdings, Ltd., a company incorporated in Bermuda. As a result, from 15 February 2019, Highlands Holdings, Ltd. is the new ultimate parent company of AIUK.

The supervisory authority responsible for financial supervision of AIUK is the United Kingdom Prudential Regulation Authority ("PRA"), whose contact details are:

Prudential Regulation Authority
20 Moorgate
London, EC2R 6DA

The supervisory authority responsible for conduct supervision of AIUK is the United Kingdom Financial Conduct Authority ("FCA"), whose contact details are:

Financial Conduct Authority
12 Endeavour Square
London, E20 1JN

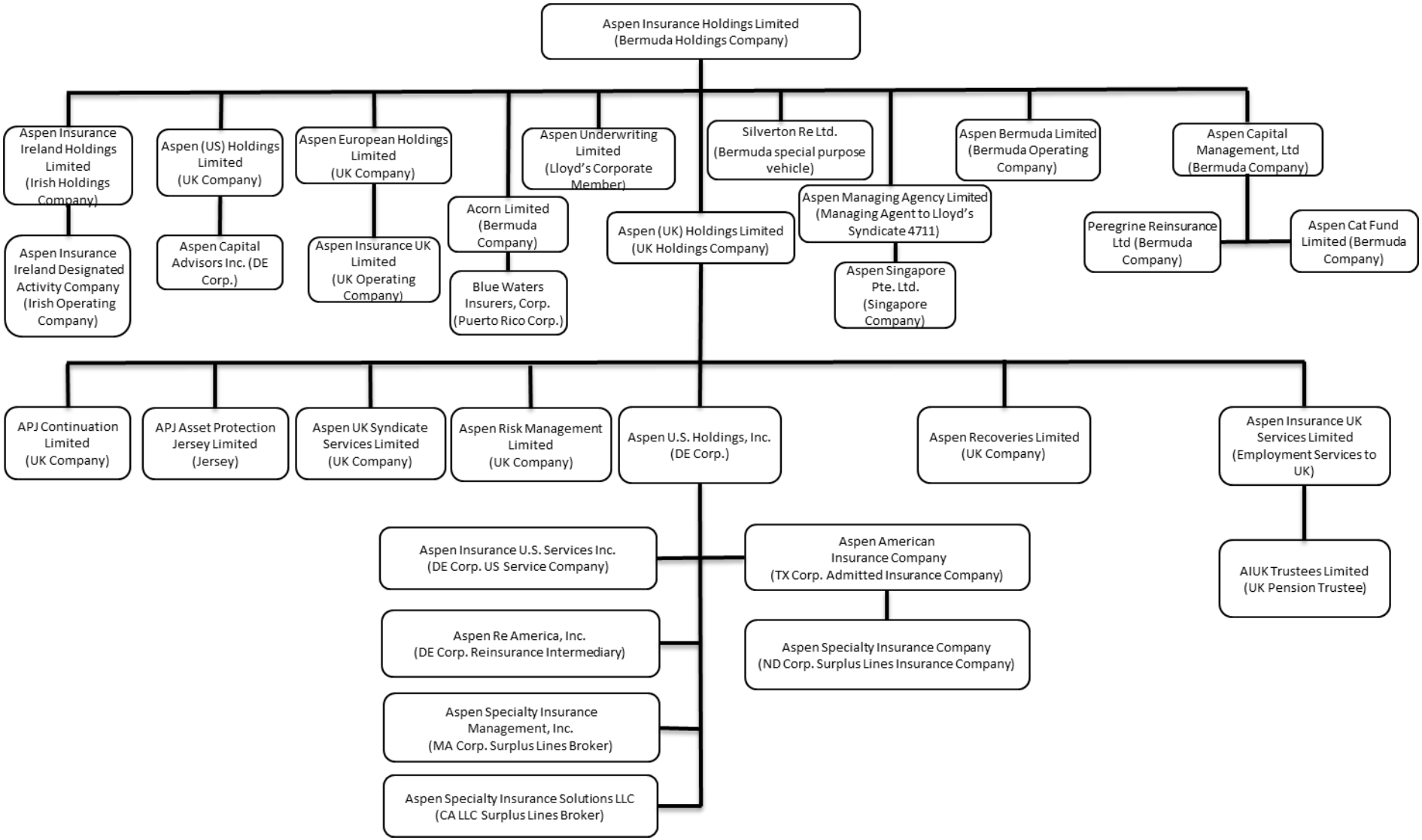
The Group supervisor is the Bermuda Monetary Authority, whose address is:

43 Victoria Street
Hamilton, PO Box 2447
Bermuda

KPMG LLP is the external auditor of AIUK, and their contact details are:

KPMG LLP
15 Canada Square
London, E14 5GL.

AIUK is part of a group that conducts global insurance and reinsurance business. The position of AIUK within the legal structure of the Group at 31 December 2018 is set out below:



AIUK writes business through the London Market and operates in the United Kingdom (directly and through affiliated company underwriting agents), the United States, Latin America and the United Arab Emirates (through affiliated underwriting agents), and through branches in Australia, Canada, Ireland, Singapore and Switzerland.

AIUK is authorised to underwrite all eighteen classes of insurance and reinsurance business. Its business is managed as two distinct underwriting segments, Aspen Re and Aspen Insurance.

A1.1.1 Reinsurance Segment

The reinsurance segment consists of the following classes of business:

Property catastrophe reinsurance

Property catastrophe reinsurance is generally written on a treaty excess of loss basis where AIUK provides protection to an insurer for an agreed portion of the total losses from a single event in excess of a specified loss amount. In the event of a loss, most contracts provide for coverage of a second occurrence following the payment of a premium to reinstate the coverage under the contract, which is referred to as a reinstatement premium. The coverage provided under excess of loss reinsurance contracts may be on a worldwide basis or limited in scope to selected regions or geographical areas. This business is included within the 'Non-proportional property' line of business as classified under Solvency II.

AIUK has a quota share arrangement in place with Aspen Bermuda Limited ("ABL") to receive Property Reinsurance business which includes significant natural catastrophe exposure in the United States. Because this is a Proportional Treaty contract, this business must be reported in a Direct / Proportional SII line of business, and therefore it is included within the 'Fire and other damage to property' line of business as classified under Solvency II.

Other property reinsurance

Other property reinsurance includes property, engineering and construction risks written on excess of loss basis and proportional treaties, facultative or single risk reinsurance. Risk excess of loss reinsurance provides coverage to a reinsured where it experiences a loss in excess of its retention level on a single "risk" basis.

A "risk" in this context might mean the insurance coverage on one building or a group of buildings for fire or explosion or the insurance coverage under a single policy which the reinsured treats as a single risk. This line of business is generally less exposed to accumulations of exposures and losses but can still be impacted by natural catastrophes, such as earthquakes and hurricanes.

Proportional treaty reinsurance provides proportional coverage to the reinsured, meaning that, subject to event limits where applicable and ceding commissions, AIUK pays the same share of the covered original losses as it receives in premiums charged for the covered risks. Proportional contracts typically involve close client relationships which often include regular audits of the cedants' data.

In addition to writing property facultative on a direct basis, AIUK writes business through Rock Re, a dedicated affiliate brokered property facultative unit which focuses on the North American brokered property facultative marketplace.

Other property business is included within 'Non-proportional property' and 'Fire and other damage to property' lines of business as classified under Solvency II.

Casualty reinsurance

Casualty reinsurance is written on an excess of loss, proportional and facultative basis and consists of U.S. treaty, international treaty and casualty facultative reinsurance. AIUK's U.S. treaty business comprises exposures to workers' compensation (including catastrophe), medical malpractice, general liability, auto liability, professional liability and excess liability including umbrella liability. AIUK's

international treaty business reinsures exposures mainly with respect to general liability, auto liability, professional liability, workers' compensation and excess liability.

Casualty reinsurance is included within 'Non-proportional casualty', 'Non-proportional health', 'General liability' and 'Motor vehicle liability' lines of business as classified under Solvency II.

Specialty reinsurance

Specialty reinsurance is written on an excess of loss and proportional basis and consists of credit and surety reinsurance, agriculture reinsurance, mortgage reinsurance and insurance, marine, aviation, terrorism, engineering, cyber and other specialty lines. AIUK's credit and surety reinsurance business consists of trade credit, surety (mainly European, Japanese and Latin American risks) and mortgage reinsurance and insurance and political risks. AIUK's agricultural reinsurance business covers crop and multi-peril business. Other specialty lines include reinsurance treaties and some insurance policies covering policyholders' interests in marine, energy, aviation liability, space, contingency, engineering, terrorism, nuclear and personal accident.

Specialty reinsurance is included within 'Non-proportional casualty', 'Non-proportional marine, aviation and transport', 'Non-proportional property', 'Credit and Suretyship', 'Fire and other damage to property', 'Marine, aviation and transport' and 'Miscellaneous financial loss' lines of business as classified under Solvency II.

A1.1.2 Insurance Segment

The insurance segment consists of:

Property and Casualty insurance

AIUK's property and casualty insurance line comprises U.K. commercial property and construction business, commercial liability, U.S. specialty casualty, excess casualty, environmental liability and railroad liability.

Property insurance provides physical damage and business interruption coverage for losses arising from weather, fire, theft and other causes. The U.K. commercial and construction team's client base is predominantly U.K. institutional property owners, small and middle market corporates and public sector clients.

AIUK's casualty insurance line comprises U.K. commercial liability, U.S. specialty casualty, excess casualty and environmental liability, written on a primary, excess, quota share, programme and facultative basis.

Property and casualty business is included within 'Non-proportional casualty', 'Non-proportional property', 'Fire and other damage to property' and 'General liability' lines of business as classified under Solvency II.

Marine and energy insurance

AIUK's marine and energy insurance comprises marine and energy liability, onshore energy physical damage and offshore energy physical damage written on a primary, excess, quota share, programme and facultative basis.

The majority of Aspen's marine and energy insurance was primarily written by Aspen's Syndicate 4711 at Lloyd's; however this business is subject to a quota share to AIUK.

Marine and energy insurance is included within 'Non-proportional marine, aviation and transport', 'Fire and other damage to property' and 'Marine, aviation and transport' lines of business as classified under Solvency II.

Financial and professional lines insurance

AIUK's financial and professional lines are mainly credit and political risks, written on a primary, excess, quota share, programme and facultative basis.

The credit and political risks team writes business covering the credit and contract frustration risks on a variety of trade and non-trade related transactions, as well as political risks (including multi-year war on land cover). AIUK provides credit and political risks cover worldwide.

Other non-material business included within financial and professional lines are management liability, accident and health, professional liability, surety, cyber and crisis management business written on a primary, excess, quota share, programme and facultative basis.

Financial and Professional lines is included within 'Non-proportional casualty', 'Non-proportional marine, aviation and transport', 'Credit and suretyship', 'General liability' and 'Marine, aviation and transport' lines of business as classified under Solvency II.

A1.1.3 Significant Events for the twelve months ended 31 December 2018

The following events are considered significant by the management of AIUK:

The U.K.'s decision to leave the European Union ("EU"):

Significant uncertainty remains surrounding the implementation, timing and effect of Brexit since the triggering of Article 50 of the Lisbon Treaty on 29 March 2017. It is no longer certain that there will be a transitional period following this date although the UK continues to be a full member of the EU with access to the single market and operating under the current passporting regime.

Gross written premiums with a risk attributable to an EU territory, excluding the UK, were $171,084k (11.6%) in 2018 made up of $125,168k (8.5%) reinsurance business and $45,916k (3.1%) insurance business. Therefore, AIUK could potentially lose the insurance business currently written to a EU territory (the Reinsurance interests would be unaffected under World Trade Organization rules by the UK's withdrawal but could be adversely affected by a lack of Solvency II equivalence with the impact that would have on the acceptability of reinsurance security).

From a reinsurance perspective, AIUK considers its ability to write cross-border reinsurance from other EU countries in the event of Brexit will be largely unaffected, however, the Company has already experienced instances of reinsurance clients opting to use other Aspen Group companies to renew business due to uncertainties over:

• Whether the UK will remain Solvency II equivalent post Brexit and whether this impacts the ability for AIUK to write reinsurance business for European Cedants;

• The ability for AIUK to service the European Economic Area ("EEA") business post Brexit which is a material risk to the business.

There have been limited instances where EU reinsurance clients have requested their business to be renewed on other Aspen Group companies including Aspen Bermuda Limited as Bermuda's Solvency II equivalence is unaffected by the outcome of Brexit or the Lloyd's Belgium Subsidiary which can be accessed via the Aspen Group's Lloyd's Syndicate.

AIUK's ability to be able to continue to write EU insurance business is dependent on political agreements as part of the Brexit negotiations. If arrangements for contract continuity are not agreed then AIUK may have to Part VII transfer its historic EU business for which there is ongoing exposure, to an EU entity. Plans to undertake a Part VII transfer have been developed but have not yet been implemented.

Brexit has caused and is likely to cause increased economic volatility and market uncertainty globally, in particular volatility of currency exchange rates, interest rates and credit spreads. AIUK's risk

management framework provides the mechanism for managing and mitigating these risks. Contingency plans for the Aspen Group due to Brexit have been drawn up and implementation is in progress.

Depending on the terms of Brexit, the UK could also lose access to the single EU market and to the global trade deals negotiated by the EU on behalf of its members. AIUK consider that it is unlikely there will be any material near-term impacts from Brexit on AIUK's Solvency Capital Requirement ("SCR").

Other significant events

- On 28 August 2018 the Aspen Group announced its agreement to sell its business to Apollo Global Management. The merger agreement that was signed imposed operating restrictions on Aspen Insurance Holdings Limited and its subsidiaries until the agreement and sale were finalised on 15 February 2019.

- On 26 October 2018 AIUK applied to the PRA for approval of $100m of Ancillary Own Funds to improve its capital position. The PRA approved this application on 28 January 2019 and National Australia Bank issued a $100m Letter of Credit on 11 February 2019 to provide these funds.

- On 5 January 2018, Aspen notified the PRA of the intention to close Aspen U.K.'s branches in Paris, France and Cologne, Germany. The Cologne branch was closed on 31 July 2018, and the Paris branch was closed on 2 April 2019.

A1.1.4 Material Related Undertakings

AIUK has no related undertakings as defined under Solvency II.

A2 Underwriting performance

A2.1 Underwriting Performance

Overview

The financial results of AIUK reflect a challenging year as a result of large catastrophe losses in the second half of 2018. The underwriting loss before investment income has decreased from $135,526k in 2017 to $89,239k in 2018. This is due to a number of factors as explained below, but resulted primarily from catastrophe losses that were higher than usual but lower than the prior year.

A2.1.1 Underwriting performance in aggregate

Year ended 31 December 2018	Direct and proportional business	Non-proportional business	Total
	$'000	$'000	**$'000**
Gross written premiums	980,269	494,968	**1,475,237**
Gross earned premiums	1,011,255	503,261	**1,514,516**
Net earned premium	355,715	192,423	**548,138**
Net incurred claims	(299,853)	(82,350)	**(382,203)**
Expenses	(167,961)	(87,213)	**(255,174)**
Underwriting loss before investment income	(112,099)	22,860	**(89,239)**
Net Claims Ratio	84.3%	42.8%	**69.7%**
Expense Ratio	47.2%	45.3%	**46.6%**
Combined Ratio	131.5%	88.1%	**116.3%**

Year ended 31 December 2017	Direct and proportional business	Non-proportional business	Total
	$'000	$'000	**$'000**
Gross written premiums	1,019,704	461,642	**1,481,346**
Gross earned premiums	948,234	443,098	**1,391,332**
Net earned premium	275,044	133,473	**408,517**
Net incurred claims	(212,931)	(127,164)	**(340,095)**
Expenses	(133,372)	(70,576)	**(203,948)**
Underwriting loss before investment income	(71,259)	(64,267)	**(135,526)**
Net Claims Ratio	77.4%	95.3%	**83.3%**
Expense Ratio	48.5%	52.9%	**49.9%**
Combined Ratio	125.9%	148.1%	**133.2%**

Gross written premium for the twelve months ended 31 December 2018 of $1,475,237k is consistent with the equivalent period for 2017 of $1,481,346k.

The net earned premium increase to $548,138k in 2018 (2017: $408,517k) is mainly due to lower ceded premium as a result of a decision to reduce the amount of ceded reinsurance purchased.

Net incurred claims increased to $382,203k in 2018 (2017: $340,095k) as although net catastrophe losses reduced to approximately $97,200k in 2018 (2017: $235,900k) an increase in large and mid-sized fire losses combined with a reduction in recoveries for large and attritional losses increased net incurred claims overall.

Net expenses increased to $255,174k in 2018 (2017: $203,948k) due to lower ceded commissions in 2018 of $204,047k (2017: $274,504k) as a result of AIUK's reduction in its ceded reinsurance program. Gross administrative expenses fell from $131,047k in 2017 to $127,861k in 2018 as operational efficiencies derived through implementation of the Aspen Group's efficiency and cost-cutting drive ("Aspen 2.0") partly offset by related one-off charges.

The underwriting loss before investment income has decreased from $135,526k in 2017 to $89,239k in 2018 as a result of the reasons above.

A2.1.2 Underwriting performance by Solvency II Line of Business

AIUK cedes a fixed quota share portion of its business to a fellow subsidiary, Aspen Bermuda Limited ("ABL"). In addition to reducing net premiums and claims by the amounts ceded this also reduces expenses by the ceding commission earned under the contract, which is a fixed percentage of total premium ceded.

AIUK reviews the results for individual lines of business on a pre-quota share basis, i.e. before the application of the internal quota share. For the purpose of presenting line of business results after the application of the quota share as shown below, the ceding commission is allocated to lines of business pro-rata to the (earned) premium for each line of business regardless of the actual and allocated acquisition and operating expenses for that line. This means that a Solvency II line of business with an expenses ratio lower than the amount of the reinsurance commission 'overrider' will benefit from the quota share with ABL on a net expenses basis and a Solvency II line of business with an expenses ratio higher than the amount of the reinsurance commission 'overrider' will be adversely affected by the quota share with ABL on a net expenses basis. This needs to be considered when reviewing performance.

Solvency II requires business to be categorised into standardised lines of business. In practice, the business is managed and performance is reviewed by management and the Board along the management reporting lines, which differ to the presentation below.

Direct and proportional business	Motor vehicle liability	Marine, aviation and transport	Fire and other damage to property	General liability	Credit and suretyship	Misc Financial Loss	Total
2018	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Gross written premiums	20,367	93,352	410,762	329,905	126,188	(305)	**980,269**
Gross earned premiums	20,727	86,455	412,201	328,782	162,343	747	**1,011,255**
Net earned premium	8,958	33,664	159,342	91,668	61,727	356	**355,715**
Net incurred claims	(4,731)	(23,749)	(183,311)	(57,402)	(30,833)	173	**(299,853)**
Expenses	(3,836)	(15,126)	(71,861)	(48,941)	(28,052)	(145)	**(167,961)**
Underwriting profit/(loss) before investment income	391	(5,211)	(95,830)	(14,675)	2,842	384	**(112,099)**
Net Claims Ratio	52.8%	70.5%	115.0%	62.6%	49.9%		**84.3%**
Expense Ratio	42.8%	44.9%	45.1%	53.4%	45.4%		**47.2%**
Combined Ratio	95.6%	115.5%	160.1%	116.0%	95.4%		**131.5%**

Non-proportional business	Health	Casualty	Marine, aviation and transport	Property	Total
2018	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Gross written premiums	39,863	183,545	90,969	180,591	**494,968**
Gross earned premiums	41,911	185,022	92,299	184,029	**503,261**
Net earned premium	18,642	79,734	35,255	58,792	**192,423**
Net incurred claims	6,298	(23,414)	(5,908)	(59,326)	**(82,350)**
Expenses	(7,881)	(34,185)	(15,987)	(29,160)	**(87,213)**
Underwriting profit/(loss) before investment income	17,059	22,135	13,360	(29,694)	**22,860**
Net Claims Ratio	-33.8%	29.4%	16.8%	100.9%	**42.8%**
Expense Ratio	42.3%	42.9%	45.3%	49.6%	**45.3%**
Combined Ratio	8.5%	72.2%	62.1%	150.5%	**88.1%**

The underwriting result by Solvency II line of business for the previous year is shown below:

Direct and proportional business	Motor vehicle liability	Marine, aviation and transport	Fire and other damage to property	General liability	Credit and suretyship	Misc Financial Loss	Total
2017	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Gross written premiums	25,531	78,519	409,970	333,590	172,746	(652)	**1,019,704**
Gross earned premiums	21,150	78,673	404,398	308,082	134,842	1,089	**948,234**
Net earned premium	7,568	23,965	120,235	70,961	52,059	256	**275,044**
Net incurred claims	(6,613)	(22,985)	(149,027)	(21,527)	(12,705)	(74)	**(212,931)**
Expenses	(4,063)	(10,968)	(66,476)	(27,717)	(24,074)	(74)	**(133,372)**
Underwriting profit/(loss) before investment income	(3,108)	(9,988)	(95,268)	21,717	15,280	108	**(71,259)**
Net Claims Ratio	87.4%	95.9%	123.9%	30.3%	24.4%		**77.4%**
Expense Ratio	53.7%	45.8%	55.3%	39.1%	46.2%		**48.5%**
Combined Ratio	141.1%	141.7%	179.2%	69.4%	70.6%		**125.9%**

Non-proportional business	Health	Casualty	Marine, aviation and transport	Property	Total
2017	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Gross written premiums	40,980	148,503	89,722	182,437	**461,642**
Gross earned premiums	39,274	145,656	83,521	174,647	**443,098**
Net earned premium	14,081	38,750	26,291	54,351	**133,473**
Net incurred claims	(10,981)	(27,835)	(29,801)	(58,547)	**(127,164)**
Expenses	(7,352)	(18,717)	(13,315)	(31,192)	**(70,576)**
Underwriting profit/(loss) before investment income	(4,252)	(7,802)	(16,825)	(35,388)	**(64,267)**
Net Claims Ratio	78.0%	71.8%	113.3%	107.7%	**95.3%**
Expense Ratio	52.2%	48.3%	50.6%	57.4%	**52.9%**
Combined Ratio	130.2%	120.1%	164.0%	165.1%	**148.1%**

A narrative explanation of the result by Solvency II line of business is shown below:

Motor vehicle liability

Motor vehicle liability net earned premium was $8,958k in 2018 compared to $7,568k in 2017. This line of business was predominantly written out of the United Arab Emirates in 2018. The net claims ratio in 2018 improved compared to the prior year due to favourable development on business written in prior years, primarily through the Zurich branch.

The underwriting result was a profit of $391k in 2018 and a loss of $3,108k in 2017.

Marine, aviation and transport

Marine, aviation and transport net earned premium was $33,664k in 2018 compared to $23,965k in 2017. The increase is driven by growth in the amount of London market gross business written on worldwide risks.

The underwriting loss of $5,211k for 2018 was impacted by catastrophe losses and strengthening of prior year loss reserves - albeit to a lesser extent than in 2017, where the loss was $9,988k.

Fire and other damage to property

Fire and other damage to property net earned premium was $159,342k in 2018 compared to $120,235k in 2017. The increase of net earned premiums is in line with the AIUK strategy to reduce its ceded reinsurance program.

The underwriting loss of $95,830k in 2018 has increased slightly from a loss of $95,268k in 2017. Net claims incurred, which increased in part due to higher net retained business, were impacted by a number of large and mid-size fire losses, partly offset by reduced catastrophe losses.

General liability

General liability net earned premium was $91,668k in 2018 compared to $70,961k in 2017. The amount of premium written increased significantly in 2017, and a significant proportion of the increased premium written was earned in 2018.

The underwriting loss of $14,675k in 2018 compares to a profit of $21,717k in 2017. The main reasons behind this unfavourable movement were higher than normal incurred claims and reserve strengthening - primarily on international excess casualty business in 2018, compared to favourable claims development experienced in 2017.

Credit and suretyship

Credit and suretyship gross written premiums in 2018 reduced by $46,558k due primarily to a commutation adjustment of $37.9m. Net earned premium was $61,727k in 2018 compared to $52,059k in 2017, with the increase arising primarily through the earning of an increased level of business written in 2017.

The underwriting profit of $2,842k in 2018 is lower than the $15,280k profit in 2017 due to losses as a result of the collapse in 2018 of a major UK-based multinational facilities management and construction services company, as well as favourable development of reserves in 2017, which did not occur in 2018.

Non-proportional health

Non-proportional health net earned premium of $18,642k in 2018 increased compared to $14,081k in 2017. The underwriting profit of $17,059k in 2018, compared to a loss of $4,252k in 2017, was mainly due to favourable development in 2018 on prior year losses.

Non-proportional casualty

Non-proportional casualty net earned premium was $79,734k in 2018 compared to $38,750k in 2017. The increase in net earned premiums is due to growth in gross written premiums and a reduction in ceded premiums.

The underwriting profit of $22,135k in 2018 compares favourably with a $7,802k loss in 2017, as the 2017 year experienced a greater level of large and catastrophe losses.

Non-proportional marine, aviation and transport

Non-proportional marine, aviation and transport net earned premium was $35,255k in 2018 compared to $26,291k in 2017. The increase was due to an increase in gross written premiums and a reduction in ceded premiums. The underwriting profit of $13,360k is favourable compared to a loss of $16,825k in 2017, which is mainly due to a reduction in catastrophe losses in 2018 compared with 2017.

Non-proportional property

Non-proportional property net earned premium was $58,792k in 2018 compared to $54,351k in 2017.

The non-proportional property underwriting loss of $29,694k in 2018 compared to a loss of $35,388k in 2017. Both years suffered material catastrophe losses.

A2.1.3 Underwriting performance by material geographical locations

The UK GAAP underwriting performance split by geographical locations (on the basis of the country where AIUK had operations writing the business) is as follows:

Year ended 31 December 2018

	Gross written premiums	Gross earned premiums	Net earned premium	Net incurred claims	Expenses	Underwriting result
	$'000	$'000	$'000	$'000	$'000	$'000
United Kingdom	747,049	736,199	147,667	(84,896)	(65,163)	**(2,392)**
USA	356,694	399,585	305,938	(218,796)	(131,968)	**(44,826)**
Switzerland	178,049	177,547	52,097	(39,971)	(35,529)	**(23,403)**
Republic of Ireland	35,998	42,883	2,732	(10,160)	(3,583)	**(11,011)**
Canada	25,291	21,210	2,032	(4,084)	(1,929)	**(3,981)**
Australia	42,527	42,600	7,600	(9,249)	(1,731)	**(3,380)**
Singapore	48,711	51,422	14,765	(8,774)	(7,024)	**(1,033)**
United Arab Emirates	38,676	39,926	14,318	(8,557)	(5,513)	**248**
France	1,153	1,557	484	102	(1,995)	**(1,409)**
Germany	1,090	1,587	505	2,181	(738)	**1,948**
	1,475,237	1,514,516	548,138	(382,203)	(255,174)	**(89,239)**

Year ended 31 December 2017

	Gross written premiums	Gross earned premiums	Net earned premium	Net incurred claims	Expenses	Underwriting result
	$'000	$'000	$'000	$'000	$'000	$'000
United Kingdom	707,541	663,245	211,163	(247,116)	(83,335)	**(119,287)**
USA	353,408	349,648	122,595	(70,486)	(65,190)	**(13,082)**
Switzerland	175,710	162,146	56,206	(27,419)	(33,511)	**(4,724)**
Republic of Ireland	47,666	44,850	5,334	(2,942)	(729)	**1,663**
Canada	23,889	21,243	(33,443)	34,054	(862)	**(251)**
Australia	44,659	41,964	14,139	(7,336)	(884)	**5,919**
Singapore	88,490	82,865	23,511	(10,027)	(12,018)	**1,466**
United Arab Emirates	35,704	21,036	7,440	(8,292)	(5,449)	**(6,301)**
France	2,119	2,202	797	1,568	(1,246)	**1,119**
Germany	2,160	2,133	775	(2,099)	(724)	**(2,048)**
	1,481,346	1,391,332	408,517	(340,095)	(203,948)	**(135,526)**

The material variances are explained in more detail below:

United Kingdom

Net incurred claims arising from business written in the United Kingdom have decreased as a result of a reduction in losses assumed from catastrophe events in 2018 compared to 2017.

United States

Net earned premiums, net incurred claims and expenses arising from business written in the USA have increased as a result of a reduction in the proportion of business ceded. The underwriting result was impacted by US catastrophe events.

Switzerland

Net incurred claims arising from business written in Switzerland have increased as a result of a reduced proportion of incurred claims recoveries, which arose through changes in the ceded portion of the business.

A3 Investment performance

A3.1 Investment Performance

AIUK's investment return for the twelve months ended 31 December 2018 was lower than the prior period largely due to:

- realised and unrealised losses on derivatives resulting from the weakening of world currencies versus the US dollar in 2018, compared to realised and unrealised gains as a result of strengthening of world currencies versus the US dollar in 2017.
- realised and unrealised losses on AIUK's debt investments resulting from an increase in US interest rates in 2018 along with increased market expectations of future interest rate increases.
- equities being liquidated in the first quarter of 2018

The resulting overall investment return for the twelve months ended 31 December 2018 was a loss of $1,900k compared to a gain of $88,049k in 2017.

The components of investment income by asset category are presented below.

Year ended 31 December 2018 $'000	**Government bonds**	**Corporate bonds**	**Equities**	**Derivatives**	**Other Investments**	**Total**
Investment income	22,813	24,263	184	-	14,829	**62,089**
Realised gains or (losses) on investments	(236)	(2,592)	1,633	(26,312)	(759)	**(28,266)**
Unrealised gains or (losses) on investments	(5,014)	(16,903)	-	(7,253)	(3,272)	**(32,442)**
Investment expenses and charges						**(3,281)**
TOTAL	**17,563**	**4,768**	**1,817**	**(33,565)**	**10,798**	**(1,900)**

Year ended 31 December 2017 $'000	Government bonds	Corporate bonds	Equities	Derivatives	Other Investments	Total
Investment income	21,724	22,570	5,173	-	6,982	**56,449**
Realised gains or (losses) on investments	1,646	536	2,208	14,949	(259)	**19,080**
Unrealised gains or (losses) on investments	(10,252)	133	14,335	14,217	(1,844)	**16,589**
Investment expenses and charges						**(4,069)**
TOTAL	**13,118**	**23,239**	**21,716**	**29,166**	**4,879**	**88,049**

Other investments include collateralised securities, investment funds, loans, deposits, cash and cash equivalents.

There were no gains or losses recognised directly in equity for UK GAAP reporting purposes. Financial instruments are either held at fair value through profit or loss or amortised cost, with changes reflected directly in the income statement.

A3.1.1 Information about investments in securitisations

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

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

AIUK invests in mortgage-backed securities that meet the definition of securitisations. The valuation of these items is explained in section D.

A split of securitisations by category is shown in the table below:

Market Value 31 December 2018	TOTAL $'000
Collateralised Mortgage Obligations	5,966
Mortgage-backed Securities	246,324
TOTAL	**252,290**

Mortgage-backed securities are securities that represent ownership in a pool of mortgages. Both principal and income are backed by the group of mortgages in the pool. They include bonds issued by U.S. government-sponsored enterprises such as Federal National Mortgage Association, Federal Home Loan Mortgage Corporation and Government National Mortgage Association. AIUK's mortgage-backed portfolio is supported by loans diversified across a number of geographical and economic sectors.

A4 Performance of other activities

All income and expenses arise from the conclusion of contracts of insurance and associated investment and foreign exchange gains or losses. AIUK had no other material sources of income and expenses during the reporting period.

A5 Any other information

AIUK has nothing to report under other information.

B System of Governance

B1 General information on the system of governance

B1.1 Aspen Insurance UK Limited

AIUK is governed by the AIUK Board, and two principal committees of the Board: the Audit Committee and the Risk Committee. The Board may establish additional committees ad hoc for administrative purposes and for the consideration of matters properly delegated to the Non-executive Directors ("NEDs"). These include the Remuneration Standing Committee and the Special Referral Committee.

The Board holds a minimum of four meetings per year. A 'Matters reserved to the Board' document is approved and maintained by the Board. It prescribes those aspects of AIUK's operations which must be referred to and approved by the Board in order to satisfy the requirements for sound and prudent management of AIUK's business. These include business planning (both underwriting and investments); the setting of reserves and approval of accounts and regulatory returns; approval of AIUK's ORSA report; the paying of dividends; and the approval of material transactions.

AIUK's Chief Executive Officer ("CEO") chairs an Executive Committee to support the CEO in dealing with the day to day executive management of AIUK. The Executive Committee comprises the Executive Directors and other senior managers.

The AIUK Audit, Risk and Executive Committee each maintain Terms of Reference setting out their function, membership and operating procedures. There are also Terms of Reference for the Remuneration Standing Committee and the Special Referral Committee, contained in the 'Matters reserved to the Board' document.

B1.2 Main roles and responsibilities of the Audit Committee

The Audit Committee of AIUK is responsible for assisting the Board in its oversight of:

- the statutory audit process and annual financial statements;
- the performance of AIUK's compliance function;
- the reserving process for risks underwritten by or on behalf of AIUK;
- the performance of AIUK's internal audit function;
- AIUK's financial returns and reports to the PRA and FCA and any other relevant regulator; and
- resolving any conflicts of interest which the Chairman of the Board is unable to resolve.

In fulfilling its purpose, the Committee maintains free and open communication with AIUK's independent auditors, internal auditors and management.

B1.3 Main roles and responsibilities of the Risk Committee

The purpose of the Risk Committee is to assist the Board in its oversight duties in respect of the identification and control by management of material risks to the objectives of AIUK.

B1.4 Main roles and responsibilities of the Remuneration Standing Committee

The purpose of this Committee is to assist the Board in discharging its obligations (in accordance with Article 275 of the Commission Delegated Regulation (EU) 2015/35) ("Article 275") to oversee the probity of the compensation arrangements relating to "Covered Individuals" i.e. those employees in a position to exercise significant influence over AIUK. This include arrangements applicable on termination of employment.

B1.5 Main roles and responsibilities of the Special Referral Committee

The purpose of this Committee is to consider business opportunities that arise and may need to be dealt with quickly. It can increase gross (re)insurance limits stated in the business plan to a level not exceeding 125% of those originally delegated to management. It can also extend the policy term, without limit (that is to say that it has the full power of the Board in this regard) beyond the 24 month extension to the maximum terms defined for each line of business which is already in the gift of the co-Chief Underwriting Officers.

B1.6 Material changes to systems of governance in the period

There were no material changes to systems of governance in the period during 2018.

B1.7 Key Functions

AIUK's system of governance includes the following key functions that are important to its sound and prudent management:

- Risk Management;
- Compliance;
- Internal Audit;
- Actuarial;
- Underwriting;
- Operations;
- Claims;
- IT;
- Finance and Investments; and
- Outwards Reinsurance.

B1.7.1 Authority and Independence of the Key Functions

AIUK has an Internal Control and Risk Management Framework in place to ensure that:

- there is clear management responsibility for key functions;
- the Board has appropriate line-of-sight over AIUK's operations; and
- material matters are brought to the Board's attention.

The CEO has apportioned responsibility for key tasks to suitably qualified and experienced staff. The appointed individuals are accountable to the CEO for their respective functions and report to the Board on their performance and service.

B1.8 Information on Remuneration policies and practices

B1.8.1 Policy

The Group's overall approach to compensation is set out in the Group Compensation Policy. A Solvency II Appendix to this policy has been developed to address the additional remuneration and governance requirements that have been put in place to meet the requirements of Article 275.

The Group Compensation Policy and the Solvency II Appendix state that AIUK's remuneration arrangements should not promote inappropriate risk taking and link compensation to achievement of financial and strategic goals. The Group Chief Risk Officer reports annually to the Group Compensation Committee that the compensation framework in place does not encourage overt risk taking.

The Group Compensation policy states that the elements of total compensation; base salary and variable remuneration (annual bonus and long-term incentive awards), should be balanced such that each executive has the appropriate amount of pay that is contingent on longer-term performance.

For Covered Individuals, a minimum of 40% of variable remuneration must (i) be deferred for a minimum period of three years and (ii) vest no faster than pro rata from year one. A review is undertaken to ensure that the proportion of compensation delivered in the form of performance related long-term incentive awards vesting over not less than three years represents at least 40% of total variable remuneration.

B1.8.2 Cash remuneration

Annual cash bonuses are intended to reward executives and employees for Aspen's consolidated annual performance and for individual and team achievements contributing to the success of the business over the previous financial year.

The Group Compensation Committee approves the bonus pool formula, following recommendations from management and with information and advice from independent compensation consultants. Executives and employees are allocated bonuses based on the performance of Aspen, the performance of their teams and their individual contribution to the business. Bonus determinations take into account compliance with AIUK's governance and risk control requirements to discourage excessive risk-taking.

For risk-taking functions, factors considered in the allocation of bonuses include internal audit reviews, underwriting reviews and any reports of non-compliance with Aspen's Risk Controls.

B1.8.3 Equity compensation

A substantial portion of senior executive compensation is in the form of equity awards as Aspen believes such awards serve to align the interests of senior executives to the Group's shareholders.

Opportunities for executives to build wealth through stock ownership assist in attracting and retaining talent. Vesting schedules encourage executives to stay with the organisation for defined periods before they are eligible to receive shares and such awards typically vest over three years. Annual performance hurdles are used to ensure that the proportion of shares that vest is appropriately linked to the performance of the business.

B1.8.4 Governance

Central to the governance of compensation is Aspen's Group Compensation Committee, a committee of the AIHL Board. The Group Compensation Committee oversees compensation and benefits policies, including administration of the annual bonus awards and long-term incentive plans ("LTIPs"). It also determines compensation of the Group CEO, Named Executive Officers ("NEOs") and other relevant members of senior management. The Compensation Committee consists exclusively of NEDs.

The Group Compensation Committee retains professional compensation consultants, to provide advice in respect of compensation practices. The advisors also:

- comment on management proposals on compensation elements for the highest earning executives;
- make recommendations on proposals relating to LTIPs;
- make recommendations on the proposed employee bonus pool; and
- advise on ensuring best practice and compliance with the various regulatory requirements in the regions in which Aspen operates.

Details of the role and responsibilities of the Group Compensation Committee are set out in its Charter, which is reviewed by the Group Compensation Committee and approved by the AIHL Board on the recommendation of the Corporate Governance and Nominating Committee annually.

In accordance with para 1(d), (e) and (f) of Article 275 , the Board is responsible for overseeing the local implementation of the Group Compensation Policy, establishment and oversight of the Solvency II requirements and ensuring compliance with any local regulatory requirements.

In order for the Board to provide oversight:

- the Board approves the Solvency II Appendix of the Group Compensation Policy as applicable to AIUK which gives assurance that the Policy and Appendix satisfy local regulatory requirements including Solvency II;
- the Chairman of the AIUK Board has nominated a NED who is also a NED on the Group Compensation Committee to oversee the application of the Group Compensation Policy;
- the Remuneration Standing Committee has been established with the authority to approve proposed compensation arrangements, including if necessary those arising in conjunction with new business opportunities and those applicable on the termination of employment for Covered Individuals; and
- AIUK NEDs receive an annual report on the application of the Group Compensation Policy and specifically its application to Covered Individuals. The report will be provided prior to awarding annual bonuses and LTIP awards. The report allows AIUK NEDs to confirm or otherwise, prior to awards of variable remuneration, that they remain satisfied that the remuneration of Covered Individuals meets local regulatory requirements, including Solvency II. It is not necessary for AIUK NEDs to approve specific remuneration packages for Covered Individuals. Awards proposed for Covered Individuals outside of the Group Compensation Policy require pre-approval by the AIUK Board NEDs so as to ensure that any such proposed package is consistent with the Board's aim not to promote adverse risk-taking in AIUK.

B1.8.5 Transparency

Aspen operates a transparent compensation program and a description of the Group's compensation principles, together with details of senior executive compensation, are disclosed in the Proxy Statement filed with the U.S. Securities and Exchange Commission (the "SEC").

B1.8.6 Share-based payments

AIHL has issued performance shares and restricted share units under the 2003 and 2013 Share Incentive Plans, as amended. In addition, AIHL approved the 2008 Sharesave Scheme as part of its Employee Share Purchase Plan.

The plans include:

- Employee Share Purchase Plan ("ESPP"): for AIUK, the ESPP consists of the U.K. Share Save Plan which is granted annually under the HMRC-approved Save As You Earn share option schemes in the United Kingdom. An expense is recognised in the financial statements over the service period in respect of the fair value of the outstanding options at the balance sheet date, with a corresponding increase in liabilities;
- Restricted Share Units: restricted share units entitle the holder to receive one ordinary share unit for each unit that vests. Holders of restricted share units are not entitled to any of the rights of a holder of ordinary shares, including the right to vote, unless and until their units vest and ordinary shares are issued they are, however, entitled to receive dividend equivalents with respect to their units. Restricted share units vest equally over a two or three-year period;
- Performance Share Awards: the fair value of performance share awards is based on the value of the average of the high and low of the share price on the date of the grant less a deduction for expected dividends which would not accrue during the vesting period. Performance shares vest over a three year period with vesting dependent on the achievement of performance targets at the end of specified periods as established at the time of grant;
- Phantom Shares: these allow certain employees to share in the rewards of share ownership without the dilutive effect of actually issuing shares as the payment to beneficiaries will ultimately be in cash rather than shares.

The performance criteria for share-based payments are disclosed in the Proxy Statement which was filed with the SEC on 19 March 2018.

B1.9 Supplementary pension and early retirement schemes for members of the Board

Aspen offers all staff the choice of making contributions into a defined contribution pension plan. There are no defined benefit pension liabilities.

B1.10 Information about material transactions during the reporting period with shareholders and with members of the AMS (Administrative, Management or Supervisory body)

On 28 August 2018, Affiliates of certain investment funds (the "Apollo Funds") managed by affiliates of Apollo Global Management, LLC (together with its consolidated subsidiaries, "Apollo"), and Aspen Insurance Holdings Limited, announced the acquisition of Aspen by Apollo. The transaction closed on 15 February 2019 following receipt of regulatory approvals and the approval of Aspen's shareholders. As a result, the existing share based long term incentive schemes vested and the future structure of incentive schemes is likely to change. Following the acquisition of Aspen Group by Apollo all share based plans vested in full. Currently no replacement scheme has been implemented.

B2 Fit and proper requirements

B2.1 Fit and Proper Guidelines

There are two aspects to fitness and propriety:

- corporate – ensuring that AIUK operates to appropriate standards of corporate governance; and
- individual – ensuring that those individuals responsible for Senior Manager Functions, Key Functions and those in Certified Positions have the necessary qualities to perform their duties to an appropriate standard and carry out the responsibilities of the position which they hold. These qualities relate to the integrity demonstrated in personal behaviour and business conduct, soundness of judgement and a degree of knowledge, experience and professional qualifications commensurate with their role.

<u>Corporate</u>

AIUK ensures that the collective knowledge, competence and experience of its management bodies includes competency in the following areas:

- market knowledge;
- business strategy and business model;
- system of governance (including risk management);
- financial and actuarial analysis (including capital modelling); and
- regulatory framework and requirements.

In addition, AIUK will regularly assess whether the board composition has sufficient diversity of qualifications, knowledge and relevant experience to ensure thorough review and robust challenge.

<u>Individual</u>

AIUK ensures that background checks are conducted on all staff at the point of recruitment and will utilise third party suppliers to perform such checks as appropriate. Additional checks will be conducted throughout an individual's employment where deemed necessary, such as on appointment to a Senior Manager role. As a minimum, a background check will address the following areas:

- criminal records check;
- credit check;
- confirmation of qualifications;
- confirmation of employment history; and

- Regulatory References

AIUK considers whether any additional matters should also be addressed when recruiting individuals to perform any key business activities, including the following:

- more extensive criminal record checks;
- checks on current and past directorships; and
- compliance and sanctions checks

B2.1.1 Ongoing assessment of fitness and propriety

AIUK uses an annual appraisal process to provide confirmation that the fitness and propriety standards established for a role remain appropriate and that the person undertaking that role remains suitably qualified through a review of required knowledge, competence, qualifications and where necessary development requirements.

In addition the Board performs Board and Committee effectiveness reviews annually and Compliance has an annual fitness and propriety attestation process for all senior insurance managers, key function holders and certified persons.

B3 Risk management system including own risk and solvency assessment

B3.1 Description of the risk management system

The risk management strategy for AIUK is set out in the Group Internal Control and Risk Management Framework and AIUK Internal Control and Risk Management Framework context document (which explain the application of the Framework to AIUK, together these constitute the "Framework" document).

The Internal Control and Risk Management Framework is defined by the Framework document and three tiers of key documentation. The purpose of the documents is as follows:

- **Tier 1** – the Framework document is supported by three documents dealing with risk identification and categorisation (the "Risk Universe"), Risk Appetite and Risk Limits and provides a high level overview of the internal control and risk management systems. Ownership of the Tier 1 Documents lies with the Group Chief Risk Officer ("Group CRO") and for AIUK the UK Chief Risk Officer (the "UK CRO").

- **Tier 2** – a series of nine documents intended to serve as user guides for employees and directors (the "Tier 2 documents" or "User Guides"). These provide more detailed information on Aspen's policies in relation to a particular area of activity including an overview of related policies.

Ownership is allocated as shown in the following table:

User Guide	Group Ownership	AIUK Ownership
Insurance Risk	Head of Risk	AIUK CRO
Other Risk Management	Head of Risk	
Internal Model	Head of Risk Capital	
Compliance	Group and UK Compliance Director	Group and UK Compliance Director
The Governance Framework		
Human Resources	Group HR Director	Group HR Director
Investment and Treasury Risks	Head of Risk	AIUK CRO and AIUK CFO
Finance	Group Chief Financial Officer	AIUK CFO
Data Quality Management	Group Chief Operations Officer	AIUK CRO

- **Tier 3** – the individual policy and procedure documents (the "Tier 3 documents"), which follow on from the User Guides and provide the details of the day-to-day operations and controls.

For AIUK the owners ensure the applicability and appropriateness of these documents for AIUK. All Tier 1 documents and Tier 2 user guides and any major changes to them are subject to approval by the AIUK Board, AIUK Risk Committee or AIUK Audit Committee. Minor changes are subject to approval by the Group and AIUK owners. Tier 3 documents are the specific policies that are summarised in the user guides. The user guides define ownership and approval responsibilities for the underlying Tier 3 policies. Therefore the AIUK Board, AIUK Risk Committee or AIUK Audit Committee approves the responsibilities for approval of these underlying Tier 3 policies.

All three levels of risk and internal control policies are available to all staff through Aspen's intranet. Details of specific risk management processes and their day to day operation are included in Tier 2 and 3 documents:

- **Identify** – Aspen records all the risks to which it is exposed in the Risk Universe, with additional detail relating to operational risk recorded in the Operational Risk Register. Maintenance of the Risk Universe and the Operational Risk Register is the responsibility of the Risk Management & Analytics ("RM&A") Department.

  Emerging risks are assessed and added to the Risk Universe and Operational Risk Register, if appropriate.

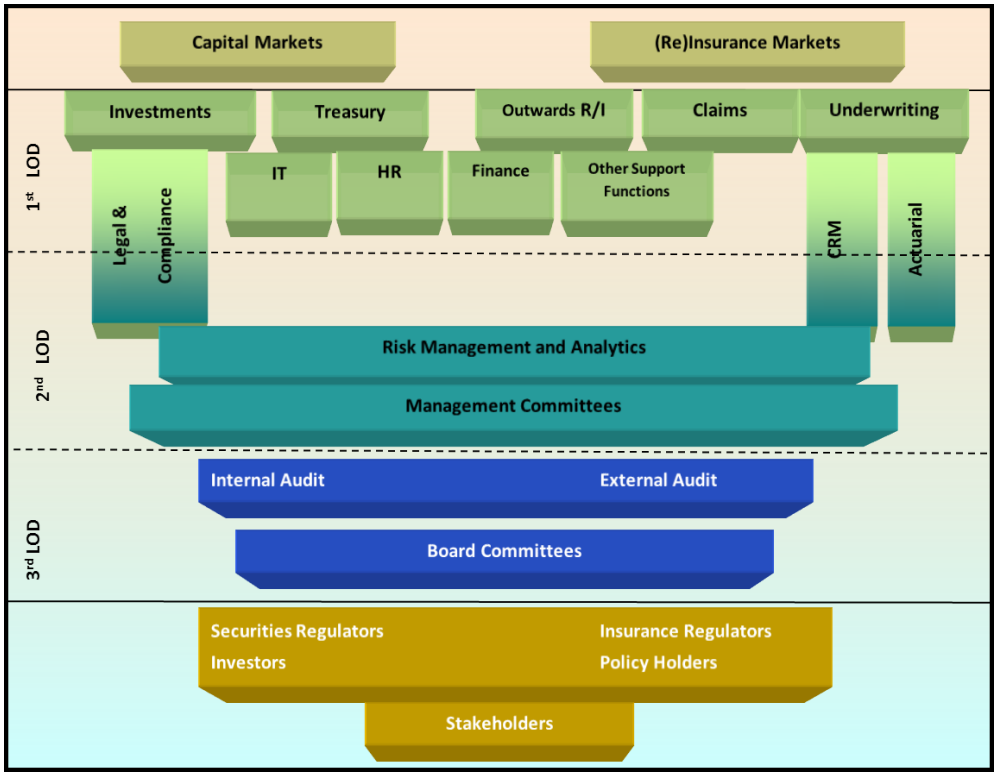
- **Measure** – Aspen has developed and implemented a series of risk management tools, such as the Internal Model and the Stress and Scenario Testing programme to aid its quantification of risk. The Tier 1 Risk Limits document outlines the key risk limits at a Group and AIUK level. Areas not quantifiable in this way, such as operational risk, are measured by a process of enquiry, supported by empirical evidence where possible and assigned estimates of probability and severity based on judgement.

- **Monitor** – Aspen uses a wide range of processes and measurement systems to monitor material risks. These are overseen by subject-matter experts within the RM&A Department.

- **Manage** – A variety of approaches are used to manage and optimise core risks. These include limits on the acceptance of risk by AIUK's underwriting teams and the investment and treasury function and risk mitigation by ceded reinsurance and hedging strategies. Operational risks are managed by segregation of duties, systems of internal control and contingency plans as appropriate. The management of risk is a key objective of the Three Lines of Defence model.

- **Report** – An overall report assessing compliance with the AIUK Risk Appetite and Key Risk Limits is prepared quarterly by the AIUK CRO and presented to the AIUK Risk Committee. An equivalent report is produced by the Group CRO for the GroupEntity Board. These reports also present analysis of other risk and capital-related matters. Many other reports containing risk information are prepared and presented to various other governance and decision making bodies including the AIUK Risk Committee as described in the Tier 2 User Guides and Tier 3 policy documents.

The Internal Control and Risk Management Framework document itself defines and explains the Three Lines of Defence model operated by Aspen as illustrated by the following diagram:



Reporting of risks is divided between the Three Lines of Defence.

B3.2 Implementation of the risk management system

B3.2.1 Risk Appetite and Risk Limits

The Risk Appetite Statement is approved by the AIUK Board. It articulates the Risk Appetite in terms of the following components:

Risk Preferences	A high level description of the types of risks Aspen prefer to assume and avoid within the context of its objectives
Capital Constraint	A minimum level of risk adjusted capital
Volatility	An assessment of the volatility of the business plan in comparison to the plan for the preceding year

B3.2.2 Risk preferences

The primary objective of AIUK is to provide an efficient platform for the Group to offer specialty insurance and reinsurance products to policyholders who seek capacity in the London market and to commercial policyholders in the UK domestic market. In addition, AIUK uses its capital base to offer capacity via

branches and binding authorities in other markets, including the USA, Australia, Canada, Latin America, various European countries and Singapore.

AIUK expects to comply with the requirements of all the regulators in the jurisdictions in which it operates.

In order to meet the expectations of its equity stakeholder, AIUK aims to maintain a level of profitability consistent with the Group return targets set out in the Group Risk Appetite statement, taking into account the contributions of other subsidiaries.

AIUK also aims to generate sufficient distributable income to allow it to contribute its share of funding for the debt and dividend obligations of the Group.

The AIUK risk appetite and risk management process is aimed at ensuring that these objectives are met.

As part of providing an efficient platform AIUK may use intra group quota shares to help balance and diversify its retained risk such that it makes efficient use of its capital base.

Within the AIUK Risk Preferences Aspen distinguishes between core risks and non-core risks. Core risks are risks that it is prepared to assume because they are part of AIUK's value creation strategy. Non-core risks are risks that are not part of AIUK's value creation strategy and which the AIUK seeks to avoid or minimise.

B3.2.3 Capital constraint

AIUK's risk appetite statement capital constraint ensures AIUK complies with all regulatory capital requirements, rating agency ambitions, sets an internal capital requirement in terms of a modelled buffer above the regulatory SCR and sets what the Reinsurance segment believes is a commercial minimum. Along with a review of volatility, the aim is to reduce the need for recourse to Group capital.

For the internal capital measure the available capital is Solvency II Own funds. For both the rating agency and the commercial measure the available capital is calculated using the US GAAP balance sheet for AIUK.

B3.2.4 Volatility Measure

The capital constraint above already includes a limit on the probability of falling below the Internal Model SCR which is the regulatory capital requirement.

The volatility measure assesses the relative comparison of the volatility of the proposed plan with the previous year's plan on a number of bases:

- The aggregate modelled SCR distribution at 1 in 5, 1 in 10 and 1 in 20 return periods
- The probability in percentage terms of an adverse movement in the mean profit of >$10m, >$50m, >$100m and >$200m
- The aggregate Catastrophe Loss distribution at 1 in 5, 1 in 10 and 1 in 20 return periods

The aim of reviewing volatility is to reduce the chance of unplanned recapitalisations of AIUK. At a broader level, AIUK volatility must be consistent with the volatility constraints for the Group. The Group reviews the standard deviation and downside standard deviation of its operating return on equity from the Internal Model.

Total comprehensive income for Group reporting purposes includes unrealised investment losses, but is stated before deduction of any dividends. Therefore, the Group volatility constraint limits the number of occasions on which the Group could be called on to recapitalise in excess of any amounts paid in dividends during the year.

B3.2.5 Key Risk Limits

Key Risk Limits are reviewed each year to take account of changes to the business plan so that the limits reflect the prospective analysis of risk exposures completed through the planning process and taking into account other factors such as changes in the external environment.

There have been two changes to the Key Risk Limit in relation to credit exposures to third party reinsurers since the last SFCR:

1. Increases in individual reinsurer limits to acknowledge the increased appetite for reinsurance credit risk, agreed by the September 2018 AIUK Board

Classification	Required Aspen Rating	Min Requirements (S&P / Capital)	Prior Max Agg Exposure (% SHE / FAL)	Revised Max Agg Exposure (% SHE / FAL)
Long Tail	"A"	"AA-" / USD 1bn	10%	**15%**
Medium Tail	"B"	"A" / USD 500mn	7.5%	**10%**
Short Tail	"C"	"A-" / USD 250mn	5.0%	**7.5%**

2. Aggregate limit increases were also agreed for the Munich Re Group and Lloyd's on an exceptional basis,

B3.2.6 Risk Universe

The Risk Universe divides risks into 'Core' and 'Non-Core' risks.

- Core risks comprise those risks inherent in the running of Aspen's business:
  - Insurance risk – for both underwriting and reserving;
  - Market risk – in relation to the investment portfolio.

These risks are quantified, accepted, monitored, and managed in accordance with Aspen's risk management processes as set out in the Insurance and Investment and Treasury User Guides.

- Non-core risks:
    - Credit risk (where not insurance-related or market-related);
    - Emerging risk;
    - Liquidity risk;
    - Operational risk (people, process, data, system failures and other external events);
    - Group Risk (i.e. Contagion Risk);
    - Regulatory risk;
    - Strategic risk; and
    - Taxation Risk.

These are quantified as far as possible and, wherever practical, minimised or avoided.

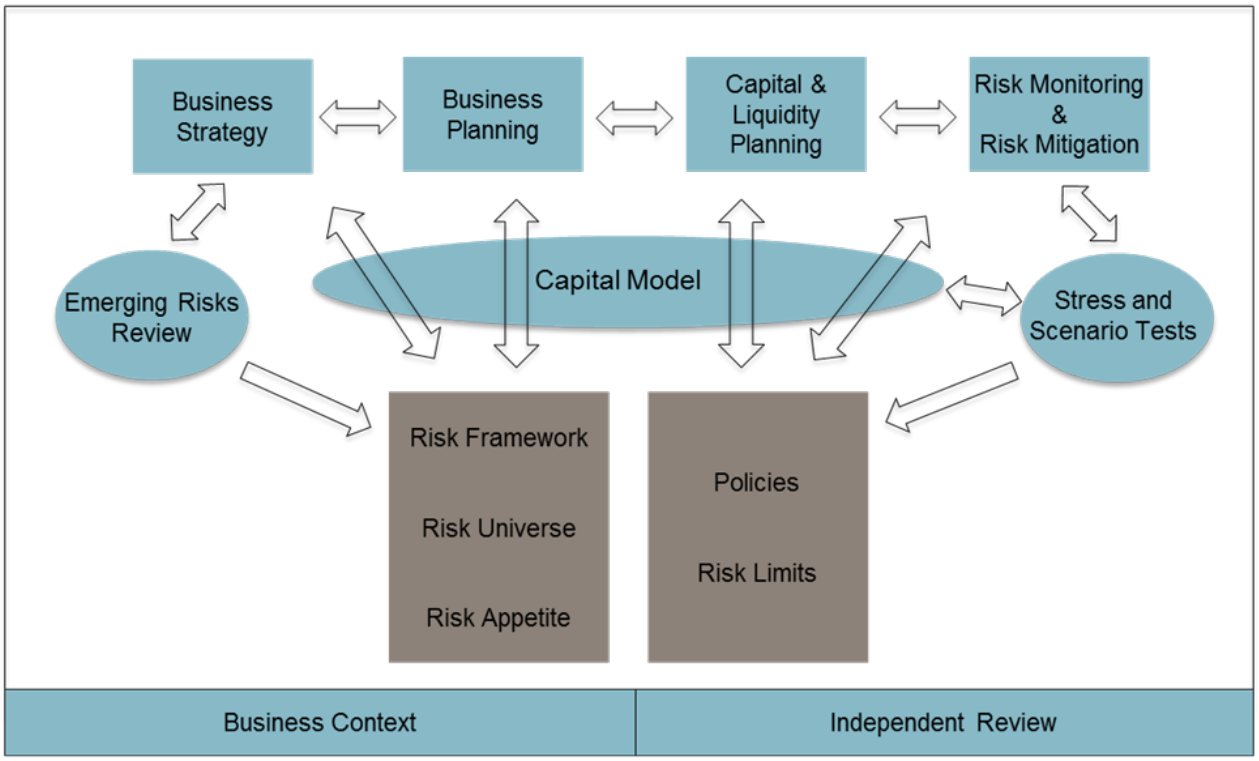
B3.2.7 Risk Appetite and Key Risk Limit Breaches

In presenting the assessment of risk to the AIUK Risk Committee, the UK CRO will give consideration as to whether any of the risk appetite constraints and/or key risk limits have been breached; if so, risk mitigating actions will be presented to the AIUK Board for approval following review by the AIUK Risk Committee.

B3.3 Aspen's Own Risk and Solvency Assessment ("ORSA") Process

A visual representation of how AIUK's ORSA works and is embedded into the business is shown below:

Figure 1 – ORSA Process



AIUK's approach to ORSA is documented in the UK ORSA policy, which is applicable to AIUK.

The UK ORSA policy defines the ORSA as:

The integration of business strategy, business planning, capital and risk management processes to effectively identify, assess, monitor, manage, and report the short and long term risks faced by the Group and ensure that its overall solvency needs are met at all times.

It sets out how the ORSA is embedded as a series of 'business as usual' processes and how these in aggregate address the full range of expected ORSA considerations and outcomes over the course of a business year. It is illustrated visually in Figure 1 above.

The policy explains that ORSA outcomes are communicated internally via those business-as-usual processes with which they are aligned, in a context that allows stakeholders at all levels to act effectively on them in their day-to-day management and decision making.

AIUK is required to report on the ORSA process and its outcomes at least once a year to the PRA.

The ORSA report is approved by the AIUK Board as providing an accurate account of the AIUK Internal Control and Risk Management Framework and the ORSA processes conducted during the year.

The individual components of the Internal Control and Risk Management framework and the outputs of the ORSA process upon which the ORSA report relies are subject to approval, review and challenge by the AIUK Risk Committee with changes and actions agreed by the AIUK Board.

An important aspect of the ORSA is the inter-linkages among the processes in Figure 1 above. The two boxes at the bottom of Figure 1 represent the framework for the management and control of risk:

- The ***Internal Control and Risk Management Framework*** (the "Framework") is the over-arching control mechanism that defines the controls in place and the processes AIUK will follow within Aspen to manage risk. The first two key documents within the overall Framework are the ***Risk Universe*** and the ***Risk Appetite Statement***. The first of these two documents defines and categorises the risks that AIUK are currently exposed to and is termed the "Risk Universe", while the second defines how much risk AIUK is willing to take and this is termed the "Risk Appetite".

  To assist the embedding of the Framework into the business, AIUK use Risk Policies and Risk Limits. ***Risk Policies*** define the processes AIUK will follow in managing the different categories of risk on a day-to-day basis. They also describe the internal control processes.

- In order for AIUK to translate the Risk Appetite Statement into more meaningful variables which it can monitor in terms of key areas of its risk (key here being those which are most impactful on the variability of its results and its required capital), it uses a series of ***Risk Limits***. In totality these risk limits are a translation of AIUK's risk appetite into more detailed limits, which can be easily cascaded down to lines of business (where applicable) and then monitored and managed by underwriting teams or support teams and reported to governance bodies as required.

- The overall Risk Framework is a fluid set of documents which are adapted as the business evolves. For example, if AIUK discover the business faces additional risks through its ***Emerging Risks Review*** processes then it will add the risks to the Risk Universe and adapt its Risk Appetite and Risk Limits depending on the impact they could have on the business. As another example, AIUK's Stress and Scenario Testing may uncover other aspects which were previously unknown, or not well understood, and the Framework will be adapted accordingly.

- ***Business Strategy*** is reviewed on a periodic basis. It is informed by inter alia, the previous strategy, results and performance against business plans, the latest understanding of current and prospective risks and a quantitative assessment of its strategies using its Internal Model. Any review of business strategy will consider in particular, whether strategy options are consistent with or require changes to the Risk Universe or Risk Appetite. A strategy review may introduce new categories of risk which would mean the Risk Universe would need to be updated and policies defined for the management of those new risks. Similarly any revisions to strategy may require a change in risk appetite.

- ***Business Plans*** Aspen's Group business planning process is an annual process (subject to any changes considered material enough to warrant a full update in the interim) that produces updated 3 year projections for the Group and its component entities including AIUK. The business plans will take into account the agreed strategy and a further assessment of the current and prospective risks that AIUK considers need to be taken into account and a quantitative assessment of the plans using the Internal Model. The three year plans for AIUK and the associated capital requirement projections are reviewed by the AIUK Board annually as part of the ORSA process and reflected in the ORSA report.

- ***Capital & Liquidity Planning*** outlines the available capital for both AIUK and contingency options in the event that additional capital is required. It also describes fungibility issues which impact liquidity.

- Alongside the annual business plan, there are regular ***Risk Monitoring*** processes in place to provide management, the AIUK Risk Committee and the AIUK Board with an assessment of the current risk environment and to ensure AIUK are adhering to its risk policies. These processes take into account output from the latest update of the Internal Model and other risk monitoring processes to ensure the Risk Appetite Statement and all Risk Limits are being met. The key report to the AIUK Risk Committee is the quarterly Chief Risk Officer report but there are also specific reports on risk matters e.g. Stress and Scenario Testing. As part of the risk monitoring process, any breaches of risk limits are discussed. In the quarterly UK CRO report, the UK CRO will put forward any ***Risk Mitigation*** to address any risk limit breaches identified. This may include reducing risk exposure, a recommendation for further capital to be raised or the recommendation for new or amended risk limits. The mitigating actions will then be discussed, at the AIUK Risk Committee and any action agreed by the Board. In addition, the potential for any additional Stress and Scenario Testing will be considered.

Independent Review describes the various assurance processes in place over the framework and processes included within the ORSA.A critical component of AIUK's ORSA process, as can be seen from Figure 1, is its ***Internal Model***. This is a core component of many decision making processes and is used to model AIUK's Capital Requirement and is demonstrated in the ORSA. As well as being an integral part of the management process, both in terms of general decision making and the risk management framework, AIUK recognise that from time to time independent processes should be used to ensure the Internal Model output is reasonable. AIUK use the Stress and Scenario Testing process as a check on the Internal Model output, particularly in the tail of the distribution.

B3.4 Internal Model

The Economic Capital Model ("ECM") is integral to Aspen's ORSA process. The ECM is used to measure and monitor AIUK's Risk Appetite Statement through calculation of the Solvency Capital Requirement ("SCR") and the required 1-in-20 buffer above the SCR, in satisfaction of the capital constraint within AIUK's Risk Appetite. The ECM measures these elements both for the scenarios considered and evaluated as part of the annual business planning process and for the ongoing measurement and monitoring of certain key risks reported within the UK CRO reports and many other risks identified within AIUK's Risk Universe.

B3.4.1 Outline of the Internal Model

The scope of Aspen's Internal Model comprises:

- the ECM – also referred to as the Calculation Kernel;
- the Economic Scenario Generator ("ESG");
- catastrophe risk management processes (including third party vendor catastrophe models) that are material to the calculation of the SCR;
- all spreadsheets which carry assumptions, parameters or standing data into the ECM;
- all other data sources which feed the spreadsheets; and
- policies and processes in relation to Internal Model change, data, documentation, expert judgement, operational control and validation.

The scope of the Internal Model excludes:

- separate multi-year projection models and other bespoke simulation-based models built for strategic purposes;
- the business planning system;
- stress & scenario testing; and
- the reserving process.

The purpose of the model is to provide a quantification of those risks included in the scope of the model. The ECM is a simulation-based model and allows the business to focus on the tail of the distribution (i.e. the most severe downside scenarios) and, in particular, what are the key drivers of losses in the tail.

B3.5 Internal Model Governance

In order to satisfy the requirements of Solvency II it is important to demonstrate that appropriate governance surrounds the Internal Model and any proposed changes thereto.

Management maintains a three tier structure for the governance of Aspen's Internal Model as follows:

- **High Level Governance** covers the approval of any application to regulators for approval to use the Internal Model to calculate a company's solvency capital requirements; approval of major changes or extensions to the model; deciding roles and responsibilities for the Internal Model governance; aligning the model design and operations with the undertaking's risk profile and operations; ensuring there are sufficient resources to develop, monitor and maintain the Internal Model, and monitoring on-going compliance with the requirements for Internal Model approval. High Level Governance is the responsibility of the AIHL and AIUK Board, with responsibility for some AIHL and AIUK functions being delegated to their Risk Committees.
- **Low Level Governance** covers design and implementation of the Internal Model; testing and validation of the model; documentation of the Internal Model and any changes to it; analysing the performance of the Internal Model, and reporting on the performance to the high-level governance body, including compliance with the Internal Model approval requirements. Low Level Governance is the responsibility of the Group and UK CRO and Head of Risk Capital, through the Governance and Technical Executive Committee ("GATE") with escalation to the Capital and Risk Principles group ("CARP").
- **Day-to-day operations and change** are the responsibility of the Capital Modelling Team.

Feedback between the high level and low level governance functions are provided by the Group CRO to the AIHL Board/Risk Committee and by the UK CRO to the AIUK Board/Risk Committee.

The deep integration of the Internal Model into the wider business results in continuous challenge of its outputs by stakeholders, for instance during the business planning process, when model outputs feed directly into the formulation of the business plan. Likewise, capital allocations produced by the Internal Model during business planning are used in performance measurement and are therefore subject to robust challenge by senior management and underwriters.

B3.5.1 Model Change

The purpose of the UK Internal Model Change Policy is to ensure that appropriate and robust governance controls exist in relation to any proposed changes to the Internal Model, as well as to satisfy the requirements of Solvency II. The UK Internal Model Change Policy applies to any change for any element within the scope of the Internal Model.

The reporting and assessment of Internal Model changes are against a baseline model approved by the AIUK Board as part of the annual approval of its business plan, and is a key Solvency II requirement. Changes are categorised into one of five types (model governance and controls, underlying risk profile, model platform, model design & methodology or data updates).

The Internal Model Change Policy defines qualitative and quantitative criteria to determine whether changes are 'Major', 'Minor' or 'Routine'. The quantitative criteria for a major change is defined as a movement in economic capital of 10% or more from an individual change, or 15% or more from the cumulative set of changes. Major changes require approval by the AIUK Board and the PRA. Minor changes are reported quarterly to the AIUK Risk Committee and the PRA via the quarterly UK CRO report to the AIUK Risk Committee. 'Routine' changes, which for Model Design and Methodology changes are those whose quantitative effect is less than the simulation error, are not reported to the AIUK Risk Committee, however, they are reviewed as part of the annual validation exercise to ensure they have been appropriately classified as 'Routine'. AIUK is in the process of updating its Model

Change policy to address PRA feedback received in response to AIUK's submission of a "Major" model change in September 2018.

B3.5.2 Capital Modelling Team Review and Verification Processes

The controls and detailed checks operated by the Capital Modelling team as defined in the ECM Operational Control Framework are undertaken every time there is a reported update of the capital requirement for AIUK. The Capital Modelling team processes include the assessment of the quality of data and the review and challenge of parameterisation including expert judgement. The detailed checks vary by risk type and typically include:

- reconciliations of input data (including understanding reasons for changes in data);
- comparisons of parameters to historical data;
- documentation of the rationale for parameterisation;
- review of parameterisation; and
- explanation of changes between model runs.

The Operational Risk Management team provide assurance that these controls have operated effectively as part of the annual Internal Model Validation exercise.

B3.5.3 Internal Model Validation

AIUK has a validation policy which requires an annual internal validation of the Internal Model for AIUK. The annual internal validation exercise is co-ordinated by an independent actuary. Some elements of that validation are undertaken by Internal Audit and Risk Management.

As part of the internal validation Stress and Scenario Testing acts as a check on the modelling by allowing comparison of the assessment of those stress scenarios with the distributions produced by the Internal Model to ensure they are not out of line.

The internal validation report was presented to the AIUK Risk Committee in June 2017. An independent third party validation of the model (both the calculation kernel and the associated processes) was completed in November 2014. An independent third party validation of the model will take place in 2019. Another external party completed a review of the catastrophe risk management models and associated processes in 2015.

The Internal Model was approved by the PRA in December 2015 based on a formal application and submission of extensive documentation earlier that year. This provides significant assurance over the modelling processes and associated policies.

B4 Internal control system

B4.1 Internal Control

An overview of the Internal Control and Risk Management Framework is provided in Section B3 above. The section below sets out the additional controls in place for AIUK.

B4.2 Internal Control functions

The additional controls in place for AIUK cover:

- compliance;
- Sarbanes Oxley and other internal controls; and
- business continuity and disaster recovery.

B4.3 Compliance

The UK Compliance function is a level 1/2 Hybrid function in the Three Lines of Defence model. In addition to its second line duties, it performs first line functions relating to the maintenance of AIUK's authorisations and licenses.

The role of UK Compliance team is to provide assurance to AIUK management and the AIUK Board that AIUK's business operations meet all applicable regulatory requirements and are reflective of relevant guidance and best practice standards. In doing so, the UK Compliance function seek to ensure that the risks to AIUK's overall strategy and local business plans resulting from local regulatory intervention or reputational risk are minimised.

The UK Compliance team is part of the Group Compliance function which is led by the Group and UK Compliance Director who reports to the UK CEO.

B4.4 Other Systems of Internal Control

Other significant elements of Aspen's internal control complimentary to the Three Lines of Defence model and which have an AIUK dimension are discussed below.

B4.4.1 Sarbanes-Oxley

As a Group with common and preference shares and debt listed on the New York Stock Exchange at 31 December 2018 (only preference shares and debt are listed from 15 February 2019 onwards), Aspen is subject to the Sarbanes-Oxley Act of 2002 ("S-Ox"). This is a U.S. federal law intended to give comfort to investors in relation to the quality of financial information by requiring senior executives to take individual responsibility for its accuracy and completeness. S-Ox also requires an effective internal control structure and procedures.

Aspen has detailed processes in place in parallel with the Three Lines of Defence model to ensure that it fulfils the comprehensive S-Ox requirements. These include:

- the identification of control owners who are accountable for specific controls, their operation and documentation and the implementation of any remedial action which may be identified;
- a quarterly reporting and attestation process (including oversight of remedial action) managed by the Operational Risk team;
- process assurance through an annual programme of testing which is undertaken on behalf of the business by Internal Audit; and
- a S-Ox Steering Group which supports the Group Chief Executive Officer and the Group Chief Financial Officer in their attestations as to the effectiveness of the internal controls over financial reporting, and provides assurance to the AIUK Audit Committee.

B4.4.2 Employee Standards

Controls are exercised by the Human Resources function for employer and employee protection and to fulfil statutory and regulatory requirements. These include pre-contract screening of all new employees and regulatory "fit and proper" procedures where required. These are more fully explained in Section B2 above.

B4.4.3 Business Continuity

AIUK has appropriate business continuity management processes and internal control mechanisms to assess and manage the exposure to the risk of business interruption.

The following high level minimum standards have been defined to mitigate the risk of business interruption:

1. Sources of business continuity risk and critical processes are identified by each Platform and assessed to determine the extent of exposure;
2. Aspen has a formal business continuity plan covering identified critical processes that has been approved by the local Board and is tested on an annual basis; and
3. Aspen has a documented escalation and invocation process for disaster scenario planning.

Aspen has documented these procedures including necessary arrangements to ensure continuity of the core business activities and management of a disruptive incident.

B5 Internal audit function

B5.1 Internal Audit

B5.1.1 Mission

The primary role of Internal Audit is to help the AIUK Board and Executive Management protect the assets and reputation of AIUK, and to help management improve the effectiveness or risk management, control and governance processes in a maintainable manner. Internal Audit achieves this in its capacity as the Third Line of Defence by:

- providing an independent and objective assessment that all significant risks are identified and appropriately reported by management and the risk function to the AIUK Board and Executive Management;
- assessing whether they are adequately controlled; and
- Challenging Executive Management to improve the effectiveness of governance, risk management and internal controls.

B5.1.2 Reporting Lines

The Head of Internal Audit reports functionally to the Aspen Group (AIHL) Audit Committee and administratively to the Group Chief Executive Officer; and operates at all times with independence and objectivity. Additionally, the Head of Internal Audit has a duty to report, if necessary, to the Group Chairman. The Head of Internal Audit will also report matters to the Chief Executive Officer and the Chairman of the AIUK Audit Committees as appropriate.

The administrative role of the Group Chief Executive Officer, in relation to the Head of Internal Audit, includes primary responsibility for recruitment, goal setting, performance appraisal and remuneration recommendations. The AIUK Audit Committee may provide input to performance appraisals and remuneration decisions will be made by the Group Compensation Committee in consultation with the Chair of the AIUK Audit Committee.

The AIHL Audit Committee will review and concur in the appointment, replacement or dismissal of the Head of Internal Audit, having taken input from the AIUK Audit Committee members.

B5.1.3 Authority

Internal Audit derives its authority from the Boards of Aspen through the Aspen Group Audit Committees. Internal Audit is authorised to:

- Have unrestricted access to all functions, property, records and staff.
- Have full and free access to the Audit Committee. The Head of Internal Audit is authorised to call a meeting with the Chairman of the Audit Committee at any time. At least once each year, the Head of Internal Audit will have a private session with the Aspen Audit Committee.
- Obtain necessary assistance of personnel in business units or departments where they perform audits, as well as other specialised services from within or outside the organisation.

- Allocate resources and apply such techniques as may be required to fulfil the requirements of the annual plan and any additional audit activities that may be agreed, subject to any changes agreed with Management and, where necessary, with the Audit Committee.

Any attempts to limit the scope of work, information restrictions, or any other impediment limiting the ability of Internal Audit to perform its role will be reported to the Chairman of the Group and AIUK Audit Committees as appropriate.

The Head of Internal Audit and the staff of the Internal Audit department are not authorised to perform any operational duties for AIUK, initiate or approve accounting transactions external to the internal audit department or direct the activities of any employee not employed by the Internal Audit department except to the extent such employees have been appropriately assigned to auditing teams or to otherwise assist the internal auditors.

B5.1.4 Audit Coverage

Internal Audit coverage is broad, encompassing all of AIUK's business activities. It is the responsibility of Internal Audit to identify all auditable areas within the audit universe. The audit universe is dynamic in nature, and requires annual monitoring to ensure that new and evolving auditable areas are appropriately included.

Auditable areas are analysed on a case by case basis using a risk based methodology to determine appropriate audit coverage and efficient and effective use of resources. Based on this analysis, a rolling three year audit plan is developed and updated annually.

Auditable areas that have been identified as having a higher degree of significance and/or risk will generally be audited more frequently than those areas with lower significance or risk. The Audit plan is reviewed and approved by the AIUK Audit Committee annually.

B5.1.5 Objective of work

The objective of the Internal Audit department is to determine whether AIUK's network of risk management, control and governance processes, as designed and represented by management, is adequate and functioning appropriately.

B5.1.6 Communication of results

Internal Audit provides individual reports and periodic reports to the AIUK Audit Committee.

B5.1.7 Independence

To preserve both the perception and reality of its independence and objectivity, Internal Audit do not:

- have responsibility for the implementation of corrective measures;
- second staff, or provide consultancy services to business functions, if this is in anyway likely to conflict with Internal Audit independence;
- allow internal auditors who are seconded, or undertake consultancy assignments, to be involved in subsequent audits of those areas for 12 months following their return to Internal Audit or the completion of the consultancy assignment;
- delegate their judgement on audit matters to others, unless otherwise agreed with the AIUK Audit Committee; and
- have any direct authority over, or responsibility for, any system, procedure, or activity, which they may be responsible for auditing or reviewing.

When undertaking consultancy activities, Internal Auditors shall seek to maintain their objectivity when drawing conclusions and offering advice to management. Internal auditors must have an impartial, unbiased attitude and avoid any conflicts of interest. If impairments to independence or objectivity exist prior to commencement of the consulting engagement, or subsequently develop during the engagement, disclosure shall be made immediately to management.

Annually, the Head of Internal Audit confirms to the Group and AIUK Audit Committees, the continuing independence of Internal Audit activity.

B6 Actuarial function

B6.1 Actuarial Function

B6.1.1 Scope of Actuarial Function

Within the Actuarial Function are the following teams:

- Insurance Actuarial Team;
- Reinsurance Actuarial Team; and
- Independent Assurance Team (whose role is to assess the work of the pricing and reserving teams and ensure sufficient independence as well as to co-ordinate and complete significant elements of the internal validation of the Internal Model).

The Insurance and Reinsurance Actuarial Teams report to the Group Chief Actuary and both teams cover pricing and reserving for the respective segment. The Independent Assurance Team reports to the Group CRO.

The Reserve Committee comprises a core membership who attend all meetings (the "Core Reserve Committee"), together with senior individuals representing Insurance and Reinsurance divisions who attend the relevant sub-committee meetings dealing with the reserves of the division. A wrap-up meeting is held to confirm the reserves to be booked on a US and UK GAAP basis which is attended by just the Core Reserve Committee.

The Core Reserve Committee membership consists of Group Chief Risk Officer, Group Chief Financial Officer, Insurance Chief Executive Officer, Reinsurance Chief Underwriting Officer, Group Head of Capital Management, Chief Accounting Officer/UK CFO and Insurance Global Performance and Strategy Head. It may call upon representatives from claims and underwriting teams in addition to the external consulting actuaries as appropriate.

B6.1.2 Key Responsibilities of the Actuarial Function

The key responsibilities of the Actuarial Function are as follows:

- performing the reserving calculations, facilitating the reserve setting process and coordinating the calculation of Technical Provisions on a Solvency II basis;
- ensuring the appropriateness of underlying methodologies, models and data;
- back testing reserving best estimates and held reserves against experience;
- assessing the reliability and adequacy of the Technical Provisions calculation and associated uncertainties;
- expressing an opinion on the overall underwriting policy;
- expressing an opinion on the adequacy of outwards reinsurance arrangements;
- contributing to the effective implementation of the risk-management system;
- maintaining actuarial pricing and reserving standards across Aspen's portfolios; and
- in the case of the Independent Assurance Team, ensuring actuarial pricing and reserving standards are maintained across Aspen's portfolios.

B6.1.3 Identification of the Users of the Actuarial Function's Work

The key internal users of the Actuarial Function's reserving work include:

- UK Finance;
- Insurance and Reinsurance Reserve Committees;
- the Group Audit Committee; and

- the AIUK Audit Committee and AIUK Board.

The key external users of the Actuarial Function's reserving work include:

- the PRA; and
- rating agencies.

B6.1.4 Independence of the Actuarial Function

The AIUK Board ensures that the Actuarial Function is appropriately segregated, has unrestricted access to relevant information and is not constrained, controlled or unduly influenced by management in the setting of reserves. This is evidenced by internal review meetings with the relevant underwriters, claims and finance staff on an ad hoc basis. More formally, representatives of both the Insurance and the Reinsurance Reserving Teams attend the Insurance and Reinsurance Reserve Committee meetings.

The level of reserves selected by management for each reserving class is finalised by the Core Reserve Committee, following the meetings with underwriters, claims and finance and also the Insurance and Reinsurance Reserve Committee meetings, as part of a formal sign-off process. The management best estimates, together with a report highlighting the main findings, are then presented to the AIUK and Group Audit Committee for review and approval. The Group Audit Committee monitors and reviews the management best estimates and the associated systems and controls. There are no outstanding action points or recommendations for the Actuarial Function that have not been implemented.

Furthermore, reserves are reviewed on an annual basis by our external auditors and by another independent external party who present their findings to the AIUK and Group Audit Committee. To conclude, the Actuarial Function is considered sufficiently independent.

B7 Outsourcing

B7.1 Outsourcing Policy

The Group has adopted an Outsourcing Policy, which is applicable to AIUK that is intended to establish a prudent risk management framework in relation to the management of the outsourcing arrangements and ensure compliance with the relevant regulatory requirements. The Outsourcing Policy covers the entire outsourcing lifecycle, from identifying the need for outsourcing through relationship management and oversight and provides processes to effectively manage risk associated with outsourcing relationships.

Consistent with regulatory requirements, the Outsourcing Policy covers any form of agreement between AIUK and a service provider which performs an insurance or reinsurance activity or undertakes a key function on behalf of AIUK. All outsourcing arrangements are classified as either 'Critical or Important' or 'Non-Critical', and the requirements set out in the Outsourcing Policy differ based on this classification. The basis and responsibilities for determining the classification are detailed in this policy.

On 20 April 2018, Aspen Insurance UK Services Limited, Aspen Insurance U.S. Services, Inc. and Aspen Bermuda Limited entered into an Outsourcing Agreement (the "Agreement") with Genpact International, Inc., a company incorporated in Delaware, United States ("Genpact"). Pursuant to the Agreement, Genpact provides AIUK with a range of operational business processes, primarily from their offshore service centre in Gurgaon, India, to enable Aspen to deliver greater operating effectiveness and efficiencies. The Agreement is effective 1 April 2018 and shall have an initial term period of five years. Aspen has the right to extend the Agreement for three additional one year terms.

In addition, Aspen UK Services Limited, Aspen U.S. Services Inc. and Aspen Bermuda Limited entered into an outsourcing agreement with Cognizant Worldwide Limited, a company registered in England, on August 31, 2018. Pursuant to the agreement, Cognizant provides AIUK with information technology services.

B7.1.1 Activities that represent critical or important outsourcing agreements

The table below illustrates the various outsource providers for critical or important activities and the jurisdiction in which the service providers of such functions or activities:

Outsourced function	Provider	Nature of service	Jurisdiction
Underwriting Operations	Xchanging Ins-sure Services ("XIS")	London Premium Processing & Settlement Bureau; Access to Insurance Market Repository	UK
Claims Operations	Xchanging Claims Services ("XCS")	Lloyd's Claims Handling (Note: Legacy only supported by XCS) and Volumetrix	UK
IT	NIIT Technologies	Provision of IT Support & Development	UK
IT	Cognizant Technology Solutions Corporation	Provision of IT Support & Development	UK
Various	Genpact Limited	Provision of various back and middle office functions, including underwriting operations, claims operations, catastrophe risk modelling, legal services, compliance services, actuarial services and finance	UK, India
Treasury	Intra-group	Provision of treasury services to the business	Not applicable - these are Group services
Actuarial	Intra-group	Provision of actuarial services to the business	Not applicable - these are Group services
Risk Management	Intra-group	Provision of risk management services to the business	Not applicable - these are Group services
Compliance	Intra-group	Provision of compliance services to the business	Not applicable - these are Group services
Internal Audit	Intra-group	Provision of internal audit services to the business	Not applicable - these are Group services
Other Services (not listed above)	Intra-group	Provision of other business services to the business	Not applicable - these are Group services

B8 Any other information

AIUK has nothing to report under other information.

C Risk Profile

C1 Underwriting risk

C1.1 Insurance Risk

C1.1.1 Insurance Risk

Insurance risk is defined as the risk that underwriting results vary from their expected amounts, including the risk that reserves established in respect of prior periods are understated.

Insurance risk includes the following:

1. Underwriting risk: The variation of accident year technical result from its expected values other than as a result of execution, operational or counterparty risks. Underwriting risk can be further split into sub-categories including:
    a. Catastrophe accumulation risk: The risk that losses from natural catastrophes exceed expected levels.
    b. Pricing calibration risk: The risk that actual technical results differ from expected values as a result of invalid assumptions, methodology or parameters used in the pricing process.
    c. Large claims risk: The risk that losses from a single man-made event, or group of related events, exceed the expected levels.
    d. Attritional risk: The risk that the total of all losses other than catastrophe and large losses exceeds the expected level.
    e. Reinsurance mitigation risk: The risk that gross losses are not reduced by reinsurance recoveries to the extent expected.

2. Reserving risk: The variation in policyholder reserves for prior accident years.

Processes for addressing and monitoring risk

AIUK models its exposure to underwriting and reserving risks using the Internal Model to measure the associated capital requirements on both the Solvency II SCR regulatory basis and an internal basis. The internal basis uses a US GAAP balance sheet and measures the capital required to write one year's business to ultimate using a TVaR99 (Tail Value at Risk the mean of the worst 1% of simulations) metric. Modelling of insurance risk exposure is the key process for monitoring and managing insurance risk.

The Reserving Policy and Group Underwriting Risk Policy evidence how Aspen manages the risk of loss or of adverse change in the values of insurance and reinsurance liabilities, resulting from inadequate pricing and provisioning assumptions.

The Underwriting Risk Policy requires and defines the use of Aspen Underwriting Principles ("AUPs") for each underwriting team, and similarly the Group Pricing Standard establishes the requirements that must be addressed by the Pricing Policy Document ("PPD") for each portfolio. AUPs set out a series of key principles translated into specific guidelines, requirements, processes and management controls, the compliance of which is mandatory for all Underwriters. The PPDs set out a series of standards and principles to apply to all business underwritten.

The Group Claims risk policy sets out the core risk management requirements for the Claims process. The UK Platform Claims Procedures apply to claims handling in respect of AIUK claims. It covers the full claims cycle and is supported by a range of detailed procedures. It includes specific considerations in respect of the handling of AIUK claims.

The Reinsurance Mitigation Risk Policy defines Aspen's approach to managing the risk that gross losses are not reduced by reinsurance recoveries to the extent expected. The Insurance Accumulation Risk Policy defines Aspen's approach to management of material risk concentrations by categorising those risks, setting tolerances and limit, measuring, monitoring, reporting and escalating Natural Catastrophe and Non Natural Catastrophe accumulations.

The Key Risk limits are monitored and reported in the UK CRO report to the AIUK Risk Committee.

Material Risk Concentrations

AIUK has limited its exposure to material risk concentrations by imposing maximum claim amounts on certain contracts as well as the use of reinsurance arrangements in order to limit exposures so they are managed within key risk limits.

The material risk concentrations managed via Key Risk limits include catastrophe risks (such as hurricanes, earthquakes and flood damage), clash losses (large losses from single events through exposure via multiple contracts) and exposure to future man made catastrophic events (such as acts of war, acts of terrorism and losses resulting from political instability).

The effectiveness of these risk mitigation techniques is assessed through continual monitoring of the underlying risk profile and escalation of deviations from plan.

C1.1.2 Transfer of risks to special purpose vehicles ('SPV')

AIUK transfers certain underwriting risks to Bermuda special purpose insurers ("SPI's"). The SPIs used are all via Aspen Capital Markets ("ACM") which has a number of separate funds. All cessions to ACM funds are through the use of traditional reinsurance contracts. Each ACM fund fully collateralises its exposure and meets the conditions which qualify them as SPV under Solvency II.

C1.2 Sensitivity analysis

Net claims incurred sensitivity
The following analysis shows the impact on profit or loss from a 5% increase or decrease in total claims liabilities. The analysis is performed on the basis that that all other assumptions have been held constant:

Year ended 31 December	2018		2017	
$'000	5% Increase	5% Decrease	5% Increase	5% Decrease
TOTAL	**(74,867)**	**74,867**	**(77,298)**	**77,298**

C2 Market risk

C2.1 Market Risk

Market risk is defined as the risk of variation in the income generated by, and the fair value of, AIUK's investment portfolio, cash and cash equivalents and derivative contracts including the effect of changes in foreign currency exchange rates.

Market risk includes the following:

1. Currency risk: The risk of adverse variation in the US dollar value of net assets in foreign currencies as a result of currency rate movements.

2. Fixed income security risk: The risk of variation in the market value of fixed income securities or their derivatives.

   Fixed income security risk can be further split into sub-categories including:
   a. Interest rate risk: The risk of variation in the market value of fixed income securities as a result of changes in prevailing interest rates. AIUK classify reinvestment risk as – the risk of lower yields on the reinvestment of the proceeds from coupons payments, maturities and prepayments – which is a sub-category of interest rate risk.
   b. Spread risk (including default risk): The risk of variation in the market value of fixed income securities as a result of changes in the compensation required by the market for the credit risk of non-US government issuers, including the risk of default.

3. Equity risk: The risk of adverse movements in the market price of investments (or their derivatives) other than fixed income securities. AIUK sold its equity investments in January 2018 and did not hold any equity investments at the end of 2018, and does not plan to invest in equities during 2019.

4. Market risk mitigation risk: The risk of variation in the value or effectiveness of hedging positions.

5. Asset concentration risk: The risk of correlated adverse variation in the market value of a sub-set of assets with linked risk exposures.

6. Real Estate fund risk. The risk in the value of our investments in real estate funds is subject to the success of the property investments made by the funds. AIUK did not invest in real estate funds in 2018 and does not plan to do so in 2019.

Processes for addressing and monitoring risk

As with Insurance risk, Aspen monitors and manages exposure to market risk using the Internal Model to measure the associated capital requirements on both an internal basis and the Solvency II SCR regulatory basis.

The Investment Risk Policy and Guidelines describe:

- the investment strategy in the context of the annual business plan;
- asset allocation; and concentration limits at Group and AIUK levels.
- the measurement of market risks,
- portfolio duration and interest rate risk in the investment portfolio.

The Investment Risk Policy specifically describes what is permissible with regards to the use of derivatives in order to manage currency positions,

- Use of derivatives is limited to interest rate swaps, forward rate transactions, bond options, interest rate futures, foreign exchange spot and forward transactions and currency swaps and options.
- As at 31 December 2018, AIUK has only entered into foreign exchange forward transactions.
- AIUK has no off balance sheet exposures.

The Asset and Liability Management ("ALM") Policy defines Aspen's approach to duration and currency matching. The Risk Management, Treasury and Investments functions monitor the value, currency and duration of cash and investments held by AIUK to ensure that it is able to meet the insurance and other liabilities as they become due. The following components of ALM are addressed:

- the average duration and currency of liabilities;
- the outlook for interest rates and the yield curve;
- the need for cash to pay claims; and
- total return.

Material Risk Concentrations

As with Insurance Risks as well as modelling exposures and the capital required to address potential market risks using the Internal Model AIUK has also limited its exposure to material risk concentrations through the use of Key Risk Limits.

These material risk concentrations include foreign currency risk, interest rate risk and equity risk.

Key Risk limits regarding asset allocation, overall credit rating and volatility of AIUK's investment portfolio have been defined by management and approved by the AIUK Board. The AIUK Annual Investment Plan is reviewed and approved by the AIUK Board.

In order that AIUK can manage its currency risks within the regulatory parameters required, a Key Risk Limit approved by the AIUK Board limits the mismatch between assets and liabilities where there are material positions in currencies other than the functional currency of AIUK (i.e. US Dollars).

The Key Risk limits are monitored and reported in the UK CRO report to the AIUK Risk Committee.

The effectiveness of risk mitigation techniques is assessed through continual monitoring of the underlying risk profile and escalation of any deviations from plan.

C2.1.1 Prudent Person Principle

Aspen's Investment Risk Policy and Guidelines refers specifically to the prudent person principle and describes how it ensures that it properly identifies, measures, monitors, manages and controls, as well as appropriately takes into account in the assessment of its overall solvency needs, the risks originating from its investments. The Investment Risk Policy and Guidelines works in conjunction with the Investment Policy, the latter providing a framework for a strategy consistent with the overall business strategy and risk tolerances.

C2.2 Sensitivity analysis

Foreign currency risk sensitivity

As at 31 December 2018, if the U.S. Dollar had weakened / strengthened by 10% with all other variables held constant, profit for the year would have been $6.8m (2017: $13.5m) higher / lower, mainly as a result of foreign exchange gains / losses on the translation of non U.S. Dollar denominated financial assets and liabilities.

Interest rate risk sensitivity

The table below depicts interest rate change scenarios and the effect on profit or loss from AIUK's interest rate sensitive invested assets:

Movement in basis points	**-100**	**-50**	**+50**	**+100**
Year ended 31 December 2018				
Fixed income portfolio effect - gain/(loss)	75.3	37.6	(37.6)	(75.3)
Year ended 31 December 2017				
Fixed income portfolio effect - gain/(loss)	78.3	41.0	(41.4)	(82.4)

On a Solvency II basis the impact of interest rates on the value of the investment portfolio will be offset, to a material but not complete extent, by the impact on the valuation of the future liabilities within the technical provisions, which are discounted on a Solvency II basis.

Equity Risk sensitivity

In January 2018, AIUK liquidated its entire holdings of equity securities and reinvested the proceeds into fixed income securities, therefore AIUK was not exposed to equity risk as at 31 December 2018.

C3 Credit Risk

C3.1 Credit Risk

Credit risk is the risk of loss to AIUK if the counterparty to a financial instrument or reinsurance agreement fails to meet its contractual obligations. AIUK is also exposed to credit risk through its investment holdings (cash, equities and fixed income securities). AIUK treats credit risk relating to its fixed income security investments as part of market risk. This is because as part of spread risk AIUK includes the risk that a security falls in value as a result of being downgraded by a rating agency as this will also cause the spread to increase. AIUK includes the risk of actual default on interest payments or

redemption proceeds as a special case of spread risk. Whilst this default risk is actually a type of credit risk, it is convenient to deal with it within market risk because of the way AIUK models it in the Internal Model as an extreme case of downgrade risk.

AIUK is also exposed to credit risk through the diminution in the value of insurance receivables as a result of counterparty default. This principally comprises default and concentration risks relating to amounts receivable from intermediaries, policyholders and reinsurers. The credit risk in relation to reinsurers covers both its reinsurers' shares of insurance liabilities and amounts due from reinsurers in respect of claims already paid. Reinsurance and retrocession does not isolate AIUK from its obligations to policyholders. In the event that a reinsurer or retrocessionaire fails to meet its obligation, AIUK's obligations remain.

Processes for addressing and monitoring risk

As with insurance risk, AIUK models exposure to credit risks using the Internal Model to measure the associated capital requirements on both an internal basis and the Solvency II SCR regulatory basis. Modelling of credit risk exposures is the key process for monitoring and managing credit risk.

The processes for addressing credit risk in relation to financial Instruments has already been dealt with as part of the explanation of the processes to address Market risk. The Group Insurance Credit Risk policy defines the processes for assessing, monitoring and managing credit exposure to intermediaries, policyholders and reinsurance counterparties.

Material Risk Concentrations

AIUK limits its exposure to material risk concentrations through the use of Key Risk Limits. AIUK is potentially exposed to concentrations of credit risk in respect of amounts recoverable from reinsurers, and insurance and reinsurance balances owed by the brokers with whom it transacts business. AIUK manages the levels of credit risk by placing limits on its exposure to a single counterparty, or groups of counterparty. Such risks are subject to regular review. The creditworthiness of reinsurers is considered on an annual basis by reviewing their financial strength prior to finalisation of any contract. In addition, management assesses the creditworthiness of all reinsurers and intermediaries by reviewing credit grades provided by rating agencies and other publicly available financial information. The recent payment history of reinsurers is also used to update the reinsurance purchasing strategy. AIUK has risk limits for the amount of exposure to both third party and intragroup related reinsurers and any breaches of those limits are reported to the AIUK Risk Committee and Board.

The effectiveness of these risk mitigation techniques is assessed through continual monitoring of the underlying risk profile.

C3.2 Sensitivity analysis

The assets bearing credit risk are summarised below, with analysis by credit rating issued by Standard and Poor's:

Year ended 31 December	**2018**	**2017**
	$'000	**$'000**
Reinsurers' share of claims outstanding	2,366,686	2,276,153
Debtors arising out of direct insurance operations	93,545	166,743
Debtors arising out of direct reinsurance operations	674,962	665,463
Cash at bank and in hand	142,085	96,798
Deposits with ceding undertakings	34,847	23,621
Loans and receivables	73,534	136,928
Other financial investments		
Fixed income investments	2,214,441	2,283,793
Short term investments	216,785	250,514
Derivative financial assets	6,226	4,762
Total assets bearing credit risk	**5,823,111**	**5,904,775**

Year ended 31 December	2018 $'000	2017 $'000
AAA	339,685	409,586
AA	1,319,016	1,345,713
A	566,969	606,230
BBB	72,331	72,352
Below BBB or non-rated	533	-
Other assets	3,524,577	3,470,894
Total assets bearing credit risk	**5,823,111**	**5,904,775**

To date, AIUK has not experienced any material losses related to such credit risk.

C4 Liquidity risk

C4.1 Liquidity Risk

Liquidity risk is defined as the risk of failing to maintain sufficient liquid financial resources to meet liabilities as they fall due or to provide collateral as required for commercial or regulatory purposes.

Liquidity risk includes the following:

1. Payment default risk: The risk that there is insufficient cash to make payments when due and that no additional cash can be made available by borrowing, sale of assets or capital raising.

2. Risk of unplanned asset realisation losses: The risk that securities are required to be sold at a loss to meet liquidity requirements.

3. Risk of failure of credit facility: The risk that advances from the credit facility are unavailable.

4. Group liquidity risk: The risk that liquidity cannot be secured for a Group company from elsewhere in the Group.

5. Collateral risk: The risk that AIUK is unable to provide collateral to a third party when contractually required to do so.

Processes for addressing and monitoring risk

Unlike insurance, market and credit risk AIUK does not model and manage liquidity risk using its Internal Model. This is because it is not a risk that is mitigated by holding capital against it.

AIUK's annual Stress & Scenario Testing ("SST") process is used to determine the basis of the Key Liquidity risk limit. The Liquidity Risk policy provides further details of how Liquidity risks are identified, monitored, managed and modelled. This includes details of an escalation process for a breach of the minimum free funds limit.

Material Risk Concentrations

AIUK limits its exposure to material risk concentrations through the operation of the Liquidity Risk Policy. This highlights the measures that Aspen has put in place in order to maintain an agreed amount of unencumbered assets in cash and cash equivalents. These measures include concentration limits to ensure the diversification and liquidity of assets, and a liquidity contingency funding plan.

Liquidity stress testing is carried out against AIUK's and the Group's risk profiles at least annually by the RM&A team as part of the SST programme. This allows management to identify the potential strains on AIUK's liquidity as a result of the scenarios assessed and gain an understanding of the Group's ability to support the liquidity needs of entities, such as AIUK, as the need arises. Cash-flow forecasting is also used to manage liquidity risk. This annual process identifies the most severe stress on AIUK's liquidity over a 12 month time horizon as a result of the identified stress scenarios. The approach includes some prudence in the assessment of the cash flow and collateral requirements associated with the stress scenario and the funds available to meet those requirements over the 12 month horizon. Given this prudence and the selection of the most severe scenario we do not further sensitivity test the associated assumptions.

The effectiveness of these risk mitigation techniques is assessed through continual monitoring of the underlying risk profile.

C4.2 Duration analysis

The table below analyses AIUK's monetary liabilities into their relevant maturity groups based on the period remaining at the year end to their contractual maturities or expected settlement dates:

$'000

2018	**Up to 1 year**	**1-3 years**	**3-5 years**	**Over 5 years**	**Total**
Outstanding claims liabilities	956,709	1,230,362	589,010	1,011,155	3,787,236
Provision for unearned premium	545,388	158,681	48,363	41,342	793,774
Creditors arising out of reinsurance operations	603,442	-	-	-	603,442
Other creditors including taxation and social security	218,710	-	-	-	218,710
Accruals and deferred income	2,999	-	-	-	2,999
Total	**2,327,248**	**1,389,043**	**637,373**	**1,052,497**	**5,406,161**

$'000

2017	**Up to 1 year**	**1-3 years**	**3-5 years**	**Over 5 years**	**Total**
Outstanding claims liabilities	982,340	1,251,850	591,841	997,453	3,823,484
Provision for unearned premium	580,590	156,661	64,009	55,387	856,647
Creditors arising out of reinsurance operations	712,451	-	-	-	712,451
Other creditors including taxation and social security	76,677	-	-	-	76,677
Accruals and deferred income	39,697	-	-	-	39,697
Total	**2,391,755**	**1,408,511**	**655,850**	**1,052,840**	**5,508,956**

C4.3 Expected Profit Included in Future Premium ("EPIFP")

As reported on R0790 of template S.23.01 as shown in Appendix 1, the total of Expected Profit In Future Premiums (EPIFP) as at 31 December 2018 amounted to $86,765k (2017: $66,897k). The prior year is presented on a net basis and the current year is on a gross basis.

The change in presentation from net to gross was to align the QRT with the latest EIOPA guidance that was issued in 2018.

C5 Operational risk

C5.1 Operational Risk

Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, personnel or systems, or from external events.

Processes for addressing and monitoring risk

The Operational Risk Policy articulates the management of operational risk encompassing the processes for identification, assessment, mitigation and communication.

The Risk Universe categorises operational risk as a 'non-core' risk, and as such AIUK's appetite for operational risk is severely limited. Where considered material, AIUK seeks to minimise it through control or avoidance where possible.

This is primarily achieved through a collaborative approach to managing operational risks between the first and second lines of defence which combines:

- initial identification and internal challenge of key operational risks by the RM&A team;
- discussion and approval with executive risk owners and ratification of these with the AIUK Risk Committee and AIUK Board;
- regular review of the operational risks with executive risk owners and the day to day control owners in the business; and
- process for identifying emerging operational risk

Key control gaps and control failures are reported through the Quarterly UK CRO report.

We consider conduct risk as part of operational risk and have specific processes to address it including a conduct risk forum and a specific quarterly conduct risk report to the AIUK Risk Committee.

The effectiveness of these risk mitigation techniques is assessed through continual monitoring of the underlying risk profile.

C6 Other material risks

C6.1 Group Risk

The risk that events or circumstances affecting one or more other companies in the Aspen Group threaten the solvency, liquidity or reputation of the Company. The Aspen Group has a number of regulated entities within its holding company structure. As such it is exposed to risks arising from events primarily affecting other Group companies and to the risk of adverse circumstances existing in respect of one or more of those companies.

The main Group risks to the entities arise from the following relationships:

- ABL is a major reinsurer of other Group companies and AIUK is a major reinsurer of ABL. Both companies are therefore exposed to adverse underwriting results of the companies in the group they reinsure.
- ABL's, AIUK's, AAIC's and ASIC's financial strength ratings with certain rating agencies, depend on those agencies overall assessment of the Aspen Group
- The Aspen Group is subject to group regulation by the BMA and EEA sub-group regulation by the PRA whose conclusions could impact its entities regulatory status or reputation
- All Aspen entities have a dependence on AIHL for the provision of capital and may also be called upon to pay dividends to AIHL
- All entities may participate in inter-company lending between itself and other group companies.

C6.2 Emerging Risk

Other material risks are identified via the emerging risk process. Emerging risk is defined as the risk that events or issues not previously identified or fully understood impacts the operations or financial results of AIUK.

Processes for addressing and monitoring risk

This is defined in the Strategic and Emerging Risk policy. Emerging Risks are evaluated through the Group Emerging Risk Forum ("ERF"). Any key issues or actions arising from the emerging risk process are reported by exception in the quarterly CRO report. In addition to this escalation of relevant matters, the CRO produces a more detailed annual report on the activities of the Emerging Risk Forum.

C6.3 Regulatory Risk

The risk of non-compliance with regulatory requirements, including ensuring AIUK understands and complies with changes to those requirements, is managed as an operational risk. There is a residual risk that changes in regulation impact AIUK's ability to operate profitably in some jurisdictions or some lines of business.

C6.4 Taxation Risk

The risk that AIUK does not understand, plan for and manage AIUK's tax obligations is addressed as an operational risk. There is a residual risk that changes in taxation impacts AIUK's ability to operate profitably in some jurisdictions or some lines of business.

C7 Any other information

C7.1 Stress and Scenario Testing

Each year a Group wide SST and Reverse Stress Testing ("RST") exercise is conducted to assess the impact of stressed scenarios on the Group and each legal entity, including AIUK.

Aspen undertakes both stochastic and deterministic stress testing. Varying time horizons and severities are used in the scenarios which, in aggregate, cover all classes of risk, including underwriting, reserving, market, credit, liquidity, operational, Group and reputational risks.

The RM&A function, in conjunction with relevant business stakeholders reviews and revises the scenarios to be tested each year. The AIUK CRO represents AIUK to ensure that the scenarios are defined considering stresses relevant to AIUK.

These include:

- natural catastrophes;
- terrorism events;
- man-made disasters;
- economic and political events; and
- reserving scenarios.

AIUK considers natural catastrophe risks to be the greatest threat to the viability of AIUK. Financial, economic and political risk scenarios also cause substantial losses but have smaller impacts than for natural catastrophes and the impacts are spread over two to three years.

The most recent update of the most material SST scenarios shows no breaches of the regulatory capital requirement.

D Valuation for solvency purposes

The section that follows sets out information on valuation for solvency purposes. In accordance with Article 75 of the Solvency II Directive 2009/138/EC, assets, liabilities and Technical Provisions have been valued on the following basis:

- Assets have been valued at the amount for which they could be exchanged between knowledgeable willing parties in an arm's length transaction;
- Liabilities have been valued at the amount for which they could be transferred, or settled, between knowledgeable willing parties in an arm's length transaction;
- Technical Provisions have been estimated as the sum of a best estimate and a Risk Margin. The best estimate corresponds to the probability-weighted average of future cashflows, taking account of the time value of money (expected present value of future cashflows), using the relevant risk-free interest rate term structure; and
- The cash flow projection used in the calculation of the best estimate take account of all the cash inflows and outflows required to settle the insurance and reinsurance obligations over the lifetime thereof.

The following table shows a summary of the impact of the valuation adjustments of moving from UK GAAP to Solvency II valuation basis.

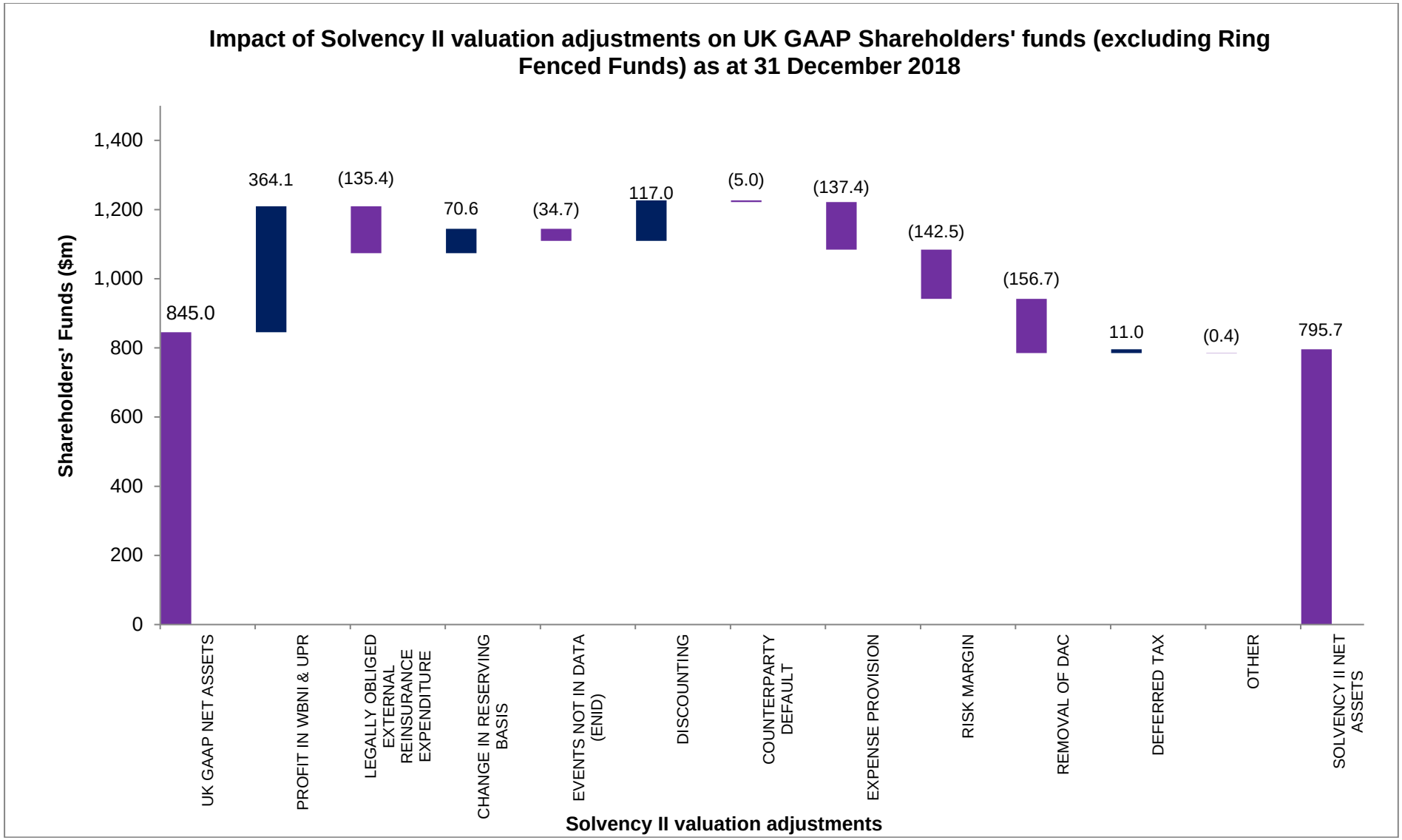
Some adjustments have no impact on net assets, such as the transfer of UK GAAP debtors and creditors to the Solvency II balance sheet, and therefore are not shown in the table below.

Own Funds - USD ($'000)	**Balance Sheet as at 31 December 2018**
Closing balance - UK GAAP	**844,962**
Technical Provision adjustments:	
Profit in Written but not Incepted (WBNI) & Unearned Premium Reserve (UPR)	364,137
Legally obliged external reinsurance expenditure	(135,433)
Change in reserving basis (removal of management margin)	70,618
Events not in data (ENID)	(34,690)
Discounting	116,989
Counterparty default	(4,961)
Expense provision	(137,442)
Risk margin	(142,462)
Subtotal	**96,756**
Other Solvency II adjustments:	
Removal of DAC	(156,675)
Deferred Tax	11,003
Revaluation of Intercompany loan	(370)
Subtotal	**(146,042)**
Closing balance - Solvency II	**795,676**

AIUK deducts non material Ring Fenced Funds in the calculation of available Own Funds.

Closing balance - Solvency II	**795,676**
Ring Fenced Funds	(62,979)
Own Funds	**732,697**

This movement in Own Funds can be summarised in the chart overleaf.


Impact of Solvency II valuation adjustments on UK GAAP Shareholders' funds (excluding Ring Fenced Funds) as at 31 December 2018
Shareholders' Funds ($m)
1,400
1,200
1,000
800
600
400
200
0
845.0
364.1
(135.4)
70.6
(34.7)
117.0
(5.0)
(137.4)
(142.5)
(156.7)
11.0
(0.4)
795.7
UK GAAP NET ASSETS
PROFIT IN WBNI & UPR
LEGALLY OBLIGED EXTERNAL REINSURANCE EXPENDITURE
CHANGE IN RESERVING BASIS
EVENTS NOT IN DATA (ENID)
DISCOUNTING
COUNTERPARTY DEFAULT
EXPENSE PROVISION
RISK MARGIN
REMOVAL OF DAC
DEFERRED TAX
OTHER
SOLVENCY II NET ASSETS
Solvency II valuation adjustments

These adjustments are combined into three sections for the purpose of the SFCR and are summarised in the table below:

$'000	UK GAAP value	Differences relating to Technical Provisions	Other valuation differences	Solvency II value
Assets other than Technical Provisions **[Section D1.1]**	3,961,056	(874,566)	(146,042)	2,940,458
Liabilities other than Technical Provisions **[Section D3.1]**	(1,043,574)	757,416	-	(286,158)
Technical Provisions **[Section D2.1]**	(2,072,520)	213,896	-	(1,858,624)
Net Assets	**844,962**	**96,756**	**(146,042)**	**795,676**

The adjustments between UK GAAP and Solvency II relate to the following:

Differences relating to technical provisions

- Assets of $874,566k (consisting of insurance and reinsurance receivables) are transferred to Solvency II technical provisions
- Liabilities of $757,416k (primarily relating to funds withheld) are transferred to Solvency II technical provisions
- Technical provisions overall are $96,756k lower when prepared under Solvency II requirements (see page 58).

Other valuation differences

- Deferred acquisition costs of $156,675k are not recognized under Solvency II.
- The deferred tax asset is $11,003k higher under Solvency II due to timing differences.
- Other loans and mortgages approximate fair value is $370k lower under Solvency II by applying a discounted cash flow analysis valuation technique.

Further details of these adjustments are provided overleaf.

D1 Assets

D1.1 Valuation of Assets

Class of Assets	UK GAAP value $'000	Differences relating to Technical Provisions $'000	Other valuation differences $'000	Reclass-ifications $'000	Solvency II value $'000
Deferred acquisition costs **[1.1a]**	156,675		(156,675)		-
Property, plant and equipment held for own use **[1.1b]**	1,264				1,264
Investments and cash and cash equivalents:					
Government bonds	1,185,822			3,480	1,189,302
Corporate Bonds	882,887			6,726	889,613
Collateralised securities	252,291			782	253,073
Investment funds	61,362			19,475	80,837
Derivatives	6,226				6,226
Deposits other than cash and cash equivalents	48,863				48,863
Cash and cash equivalents	142,085			(19,475)	122,610
Investments and cash and cash equivalents [1.1c]	**2,579,536**			**10,988**	**2,590,524**
Other Loans and Mortgages **[1.1d]**	73,904		(370)		73,534
Deposits to cedants **[1.1e]**	34,847				34,847
Insurance and intermediaries receivable **[1.1f]**	93,545	(93,545)			-
Reinsurance receivables **[1.1f]**	931,563	(781,011)			150,552
Receivables (trade not insurance) **[1.1g]**	56,955				56,955
Deferred tax asset **[1.1h]**	12,716		11,003		23,719
Any other assets, not elsewhere shown **[1.1i]**	20,051			(10,988)	9,063
TOTAL ASSETS	**3,961,056**	**(874,566)**	**(146,042)**	**-**	**2,940,458**

The UK GAAP figures are shown above using the Solvency II balance sheet presentation.

Reinsurance Technical Provisions are included in section D2.1.

D1.2 Narrative explanation of Assets (other than Technical Provisions)

Class of assets	Details
Deferred acquisition costs ("DAC") [1.1a]	DAC are not permissible under Solvency II, therefore the deferred acquisition costs and deferred ceding commissions balances have been removed from the balance sheet.
Property, plant and equipment ("PPE") held for own use [1.1b]	On 1 April 2017 AIUK transferred the majority of its fixed assets to AIUK Services leaving only a residual balance of $2.5m within AIUK. The residual balance had reduced to $1.3m at 31 December 2018 due to depreciation of the assets.

Investments and cash and cash equivalents [1.1c]	Financial instruments are measured at fair value for Solvency II purposes. The fair value measurement principles of AIUK's shares and other variable–yield securities and units in unit trusts are consistent with this Solvency II valuation policy. Cost and amortised cost as valuation methods are explicitly not allowed under Solvency II. For deposits with credit institutions, whilst AIUK's UK GAAP policy states that these are valued at amortised cost, this valuation policy is deemed to be equivalent to Solvency II fair value methodology because this basis of valuation is viewed by AIUK's directors as having regard to the likely realisable values, and also due to the short term and highly liquid nature of these investments. All financial assets are valued based on the valuation hierarchy as defined under Solvency II: 1. quoted market prices in active markets for the same assets or liabilities; 2. where the use of quoted market prices in active markets for the same assets or liabilities is not possible, quoted market prices in active markets for similar assets and liabilities with adjustments to reflect differences (where required). For assets falling into (2) above, no adjustments to reflect differences have been recognised. This is due to the fact that these assets are held on an exchange for which there is a liquid secondary market. The only differences in valuation for Solvency II for investments and cash equivalents relate to a reclassification of certain money market funds between cash and cash equivalents and investment funds of $19.5m and reclassification of accrued interest of $10.9m.
Other Loans and Mortgages [1.1d]	Because the other loans and mortgages are not traded in an active market, a discounted cash flow analysis valuation technique is used to approximate fair value. The future interest payment and bonds redemption cash flows are discounted using interest rates based on US Government bonds, with maturities which reflect the timing of bond redemptions.
Deposits to cedants [1.1e]	Deposits with ceding undertakings is valued at the net realisable cash value within the financial statements and therefore represents the fair value under a Solvency II basis.
Insurance and intermediaries receivables, Reinsurance receivables [1.1f]	The full balance of the insurance and intermediaries receivables and reinsurance receivables is reflected under UK GAAP. Under Solvency II, $874.6m of the receivables (amounts that are not-yet-due at the balance sheet date) are transferred to Solvency II Technical Provisions and form part of the valuation of Technical Provisions in section D 2 below. The remaining debtor balances totalling $150.6m of Reinsurance receivables represent the net realisable value (undiscounted amortized cost less any adjustment for expected default) of these debtors, which are considered to be due. This is the alternative valuation method permitted under Solvency II.
Receivables (trade, not insurance) [1.1g]	Receivables (trade, not insurance) are measured at fair value for Solvency II purposes. AIUK values other assets at undiscounted amortized cost less any

	adjustment for expected default. Given the short term maturity of these assets, this is considered to be a close approximation to fair value.
Deferred tax asset [1.1h]	Deferred tax is calculated on the differences between the value of assets and liabilities on a Solvency II basis and the value of those same assets and liabilities on the tax basis balance sheet. The valuation of deferred tax assets and liabilities is based on the principles prescribed by section 29 of FRS102, whereby a deferred tax asset or liability are recognised on timing differences reversing in future periods. The subsequent deferred tax asset or liability is included on the Solvency II balance sheet on an undiscounted basis. AIUK approximates a Solvency II deferred tax adjustment on the increase/ decrease in shareholders' funds from UK GAAP to Solvency II. In accordance with section 29 of FRS102, AIUK nets deferred tax assets and liabilities from balances from the same tax regime which are expected to reverse in the same period. The Management plan indicates that there are sufficient profits over the planning cycle to justify including the deferred tax asset on the balance sheet.
Other assets [1.1i]	Other assets are measured at fair value for Solvency II purposes. AIUK values other assets at undiscounted amortized cost less any adjustment for expected default. Given the short term maturity of these assets, this is considered to be a close approximation to fair value. Other assets do not represent a significant balance for AIUK.

D1.2.1 Intangible Assets

AIUK does not hold any intangible assets.

D1.2.2 Active and inactive markets and valuation methods

An active market is one in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis. AIUK's assets have been analysed to determine whether the markets they are traded in are consistent with this definition.

Investments other than cash

AIUK holds bonds and does not invest in hedge funds, private equity or other investments that requires potentially subjective valuation. Fair values are based on quoted market prices and other data provided by third-party pricing services and index providers. There are no significant estimates used in valuing these due to the nature of corporate and government bonds held which are listed on an exchange for which there is a liquid secondary market.

The fair values of equity investments are based on quoted market prices in active markets from independent pricing sources.

Cash and cash equivalents

The valuation of cash does not rely on market valuation as they are cash deposits. Cash equivalents are traded with sufficient frequency and volume that AIUK considers there is an active market for these assets. There is little judgement involved in the valuation of these items.

Other Loans and Mortgages

Other loans and mortgages are not traded in an active market, a discounted cash flow analysis valuation technique is used to approximate fair value. The future interest payment and bonds redemption cash flows are discounted using interest rates based on US Government bonds, with maturities which reflect the timing of bond redemptions.

Other assets

By their nature, most other assets are unique or specific to AIUK. Although contracts could be negotiated for the sale of receivables (debt factoring), these transactions are not frequent and, in addition, the price of one transaction would not provide sufficient evidence of the fair value of another. For other assets, AIUK has concluded that there is no active market, and as a result the amortised cost basis under UK GAAP is used as a reasonable approximation of the realisable amount.

AIUK monitors the receivables balance to determine whether using the amortised cost basis under UK GAAP would no longer be a reasonable approximation of fair value, using discounted cash flow valuation techniques.

D1.2.3 Material deferred tax assets

The following table shows the breakdown of the Solvency II deferred tax asset at 31 December 2018:

	UK GAAP $'000	Solvency II adjustment $'000	TOTAL $'000
Temporary differences related to foreign tax	890	-	890
Temporary differences related to overseas branches	11,123	-	11,123
Temporary differences related to FRS 102 transitional adjustments	(446)	-	(446)
Losses carried forward	1,149	-	1,149
Temporary differences related to Solvency II adjustments	-	11,003	11,003
TOTAL	**12,716**	**11,003**	**23,719**

Deductible temporary difference	Explanation and expiry
Temporary differences related to foreign tax	At 31 December 2018, the only deferred tax asset AIUK holds is in relation to 2010 US tax and 2017 Australian tax. Credits for 2017 Irish tax expire in 2021. Technically, deferred tax credits in respect of 2010 US tax have expired, but AIUK is entitled to use these if a provision for a potential UK tax liability materialises.
Temporary differences related to overseas branches	This comprises a US branch deferred tax asset and Australian branch deferred tax asset. The Australian DTA can be carried forward indefinitely. In respect of the United States, deferred acquisition costs and claims discounting are deferred tax liabilities. It is the unearned premium reserve ("UPR") and net operating losses ("NOLs") carried forward from 2015 through 2018 for which a deferred tax asset is recognised. 2015 NOLs expire in 2035, 2016 NOLs expire in 2036 and 2017 NOLs expire in 2037 and 2018 NOLs expire in 2038. It is considered more likely than not that the losses will be utilised before the expiry date.

	There is no restriction in respect of the UPR although if it were to contribute to a loss, which couldn't then be utilised within 20 years, the asset expires.
Temporary differences related to FRS 102 transitional adjustments	This is a liability arising from the requirement to spread re-valuation of unearned premium reserve and deferred acquisition costs balances over 10 years (starting from 2015).

Losses carried forward	This relates to UK tax losses, which have no expiry date.
Temporary differences related to Solvency II adjustments	To the extent these relate to US taxation, a deferred tax asset could give rise to US NOLs. These have an expiry period of 20 years.

D1.2.4 Related Undertakings

AIUK has no related undertakings as defined under Solvency II at 31 December 2018.

D1.2.5 Changes to valuation of assets in the period

There have been no changes to AIUK's methodology for valuing other assets in the twelve months ended 31 December 2018.

D1.2.6 Major sources of estimation uncertainty

Insurance contracts

The main source of estimation uncertainty for AIUK concerns the valuation of Technical Provisions, which are discussed in section D2 below. Estimates have to be made for expected future claims. It can take a significant amount of time before the claims cost can be established with certainty. For some contracts premium is initially written based on estimates of ultimate premiums. Estimates might be derived from underwriter experience, historical data and broker estimation. These estimates are judgemental and could result in misstatements if they differ materially to expectations.

Taxation

AIUK establishes provisions based on reasonable estimates for possible consequences of audits by the tax authorities of the countries in which it operates. The amount of such provisions is based on various factors, such as experience with previous tax audits and differing interpretations of tax regulations by the tax authority. Management estimation is required to determine the amount of deferred taxes that can be recognised, based upon likely timing and level of future taxable profits together with an assessment of the effect of future tax planning strategies.

D2 Technical Provisions ('TP')

D2.1 Valuation of Gross Technical Provisions

In accordance with Article 77 of the Solvency II Directive the value of AIUK's Technical Provisions consists of the best estimate of all future cash flows required to settle its insurance and reinsurance obligations, discounted at the risk-free rate of interest, with the addition of a Risk Margin.

The calculation of Solvency II Technical Provisions requires a number of adjustments to the UK GAAP reserve calculations.

A summary of the adjustments on Technical Provisions between UK GAAP and Solvency II are set out below.

These are split between:

- Gross Technical Provisions;
- Reinsurers share of Technical Provisions; and
- Net Technical Provisions.

There have been no material changes in assumptions for the calculation of the Technical Provisions from the previous period.

Gross Technical Provisions $'000

Line of Business	UK GAAP TP	Solvency II Claims adj [2.1a]	Removal of UPR [2.1b]	Future Premium Cash flow [2.1c]	ENID [2.1d]	Expense Provision [2.1e]	RI Default [2.1f]	Discount [2.1g]	Risk Margin [2.1h]	Solvency II TP
Credit and suretyship insurance	(351,337)	(140,879)	196,480	295,770	(6,352)	(9,981)	0	15,933	(9,523)	(9,889)
Fire and other damage to property insurance	(696,504)	(164,517)	179,922	262,700	(10,073)	(21,625)	0	25,839	(16,442)	(440,699)
General liability insurance	(1,115,641)	(129,538)	170,095	176,930	(24,105)	(31,979)	0	88,728	(23,888)	(889,399)
Marine, aviation and transport insurance	(445,046)	(56,590)	68,974	134,568	(3,786)	(15,014)	0	30,139	(7,794)	(294,549)
Miscellaneous financial loss	(1,830)	(199)	0	1,477	(47)	(44)	0	124	(4,442)	(4,960)
Motor vehicle liability insurance	(38,071)	(16,919)	12,821	34,487	(767)	(1,364)	0	6,063	(6,817)	(10,565)
Non-proportional casualty reinsurance	(1,125,707)	(35,450)	74,231	190,553	(23,292)	(32,893)	0	105,575	(41,166)	(888,150)
Non-proportional health reinsurance	(230,481)	(2,029)	12,082	27,521	(5,056)	(6,153)	0	24,336	(12,996)	(192,776)
Non-proportional marine, aviation and transport reinsurance	(293,589)	(30,411)	34,308	75,261	(4,464)	(8,824)	0	16,097	(7,839)	(219,461)
Non-proportional property reinsurance	(282,804)	(62,155)	44,860	128,483	(6,182)	(9,594)	0	9,983	(11,555)	(188,963)
TOTAL	**(4,581,010)**	**(638,690)**	**793,774**	**1,327,750**	**(84,123)**	**(137,470)**	**0**	**322,817**	**(142,462)**	**(3,139,412)**

RI Share Technical Provisions $'000

Line of business	UK GAAP TP	Solvency II Claims adj [2.1a]	Removal of UPR [2.1b]	Future Premium Cash flow [2.1c]	ENID [2.1d]	Expense Provision [2.1e]	RI Default [2.1f]	Discount [2.1g]	Risk Margin [2.1h]	Solvency II TP
Credit and suretyship insurance	123,625	95,293	(28,799)	(230,330)	4,144	0	(293)	(11,264)	0	(47,624)
Fire and other damage to property insurance	268,839	67,629	(25,577)	(181,526)	4,317	0	(350)	(12,953)	0	120,377
General liability insurance	734,354	84,917	(66,460)	(294,491)	16,444	0	(1,320)	(59,081)	0	414,363
Marine, aviation and transport insurance	245,655	27,986	(5,824)	(79,772)	2,413	0	(382)	(19,562)	0	170,515
Miscellaneous financial loss	819	118	108	(3,488)	28	0	(2)	(78)	0	(2,495)
Motor vehicle liability insurance	14,919	10,277	(149)	(22,245)	460	0	(88)	(3,611)	0	(437)
Non-proportional casualty reinsurance	638,906	10,854	(1,949)	(250,634)	13,078	0	(1,531)	(64,511)	0	344,213
Non-proportional health reinsurance	137,716	1,609	(163)	(61,607)	3,060	0	(301)	(16,004)	0	64,309
Non-proportional marine, aviation and transport reinsurance	191,024	37,208	(5,280)	(114,811)	3,007	0	(288)	(12,429)	0	98,432
Non-proportional property reinsurance	152,631	20,541	(7,709)	(42,298)	2,482	0	(158)	(6,353)	0	119,135
TOTAL	**2,508,489**	**356,432**	**(141,803)**	**(1,281,202)**	**49,432**	**0**	**(4,715)**	**(205,845)**	**0**	**1,280,789**

Net Technical Provisions $'000

Line of business	UK GAAP TP	Solvency II Claims adj [2.1a]	Removal of UPR [2.1b]	Future Premium Cash flow [2.1c]	ENID [2.1d]	Expense Provision [2.1e]	RI Default [2.1f]	Discount [2.1g]	Risk Margin [2.1h]	Solvency II TP
Credit and suretyship insurance	(227,712)	(45,586)	167,681	65,440	(2,208)	(9,981)	(293)	4,669	(9,523)	(57,513)
Fire and other damage to property insurance	(427,666)	(96,889)	154,345	81,174	(5,756)	(21,625)	(350)	12,887	(16,442)	(320,322)
General liability insurance	(381,287)	(44,622)	103,635	(117,561)	(7,661)	(31,979)	(1,320)	29,647	(23,888)	(475,035)
Marine, aviation and transport insurance	(199,391)	(28,604)	63,149	54,796	(1,373)	(15,014)	(382)	10,577	(7,794)	(124,035)
Miscellaneous financial loss	(1,011)	(81)	108	(2,011)	(19)	(44)	(2)	46	(4,442)	(7,455)
Motor vehicle liability insurance	(23,152)	(6,642)	12,672	12,242	(307)	(1,364)	(88)	2,453	(6,817)	(11,003)
Non-proportional casualty reinsurance	(486,801)	(24,596)	72,282	(60,082)	(10,214)	(32,893)	(1,531)	41,064	(41,166)	(543,937)
Non-proportional health reinsurance	(92,765)	(421)	11,919	(34,086)	(1,996)	(6,153)	(301)	8,332	(12,996)	(128,467)
Non-proportional marine, aviation and transport reinsurance	(102,565)	6,797	29,028	(39,550)	(1,456)	(8,824)	(288)	3,668	(7,839)	(121,029)
Non-proportional property reinsurance	(130,173)	(41,614)	37,151	86,185	(3,700)	(9,594)	(158)	3,630	(11,555)	(69,828)
TOTAL	**(2,072,520)**	**(282,258)**	**651,971**	**46,548**	**(34,691)**	**(137,470)**	**(4,715)**	**116,972**	**(142,462)**	**(1,858,624)**

D2.2 Narrative explanation of Technical Provisions

Adjustment	Explanation
UK GAAP Technical Provisions	Claims Provision AIUK adopts multiple techniques to estimate the required level of provisions. This assists in giving greater understanding of the trends inherent in the data being projected. The projections given by the various methodologies also assist in setting the range of possible outcomes. The most appropriate estimation technique is selected taking into account the characteristics of the class and the extent of the development of each accident year. The main projection methodologies that are used are: • Initial expected loss ratio ("IELR") method: This method calculates an estimate of ultimate losses by applying an estimated loss ratio to an estimate of ultimate earned premium for each accident year. • Bornhuetter-Ferguson ("BF") method: The BF method uses as a starting point an assumed IELR and blends in the loss ratio implied by the claims experience to date by using benchmark loss development patterns on paid claims data ("Paid BF") or reported claims data ("Reported BF"). • Loss development ("Chain Ladder"): This method uses actual loss data and the historical development profiles on older accident years to project more recent, less developed years to their ultimate position. • Exposure-based method: This method is used for specific large typically catastrophic events such as a major hurricane. AIUK exposure is identified and AIUK work with known market information and information from our cedants to determine a percentage of the exposure to be taken as the ultimate loss. Provision for unearned premium Unearned premiums are those proportions of premiums written in a year that relate to periods of risk after the reporting date computed separately for each insurance contract. Written premiums are recognised as earned over the period of the policy on a time apportionment basis having regard where appropriate, to the incidence of risk. The proportion attributable to subsequent periods is deferred as a provision for unearned premiums. Unearned outwards reinsurance premiums are those proportions of premiums written in a year that relate to periods of risk after the reporting date. Unearned reinsurance premiums are deferred over the term of the underlying direct insurance policies for risks-attaching contracts and over the term of the reinsurance contract for losses-occurring contracts. Deferred acquisition costs Acquisition costs arising from the conclusion of insurance contracts are deferred commensurate with the unearned premium provision.
Solvency II Claims adj [2.1a]	Solvency II Claims adjustments include two elements : Removal of margin for prudence UK GAAP reserves include a management margin for prudence or conservatism. For Solvency II reporting, any amounts in excess of the mean best estimate are excluded from the Technical Provision calculations.

	<u>Future loss provision</u> Future losses are accounted for on a best estimate basis. In order to do this, planned gross loss ratios are applied to gross unearned and written but not incepted ("WBNI") policies to calculate gross expected losses. Reinsurance recoveries are calculated on a similar basis.
Removal of Unearned Premium Reserve ("UPR") [2.1b]	UPR is eliminated from the balance sheet and replaced with a provision accounted for on a best estimate basis taking account of all the cash flows (i.e. losses and premium debtors) relating to unearned business. When considering which cashflows to include in the calculation of outwards reinsurance premium and recoveries in the best estimate underlying Technical Provisions AIUK's key principle is to ensure these are consistent with the inwards policies included in the same valuation subject to certain specific rules on recognising legally obliged reinsurance contracts.
Future Premium Cashflow [2.1c]	The Solvency II guidance requires that the best estimate calculation should take account of projections for all potential cash inflows and outflows required to settle insurance / reinsurance obligations. This includes premiums paid in instalments and due in the future (not-yet-due premiums). Under Solvency II, insurance contracts are recognised when AIUK becomes legally obliged to provide cover, whether the contracts have incepted or not. This differs from premium recognition under UK GAAP where contracts are recognised on inception and results in the inclusion of Written But Not Incepted (WBNI) business. The same principle is applied for outwards reinsurance – with reinsurance creditors payable with a due date post the balance sheet date recognised in the reinsurance claims provision to the extent they relate to an earned exposure and the premium provision where they relate to unearned exposure. In addition, future outwards reinsurance premium is estimated on unearned business and WBNI. Specifically for reinsurance, AIUK considers whether the reinsurance contract is an existing or legally obliged arrangement, or is to be purchased in future.
Events not in Data ("ENID") [2.1d]	Solvency II best estimates should make an allowance for "all possible events" – this should include high severity, low probability claims. Events Not In Data (ENIDs) are not explicitly modelled as part of the reserving process. AIUK performs a separate analysis once a year to derive an ENID event load. A truncated distribution methodology is used to estimate ENIDs.
Expense Provision [2.1e]	The Solvency II expense provision includes more costs than the UK GAAP current unallocated loss adjustment expenses provision as it specifically includes overheads/ admin/ investment management expenses. The Solvency II guidance requires that the best estimate includes all cash flows arising from expenses that will be incurred servicing existing policies during their lifetime. Allocated loss adjustment expenses directly assignable to individual claims are included in the claims and premium provision.

	Solvency II guidance details the following examples of expenses that will be incurred servicing all obligations from existing insurance and reinsurance contracts: • administrative expenses; • investment management expenses; • claims management expenses / handling expenses; and • acquisition expenses including commissions. Expenses include both overhead expenses and expenses which are directly assignable to individual claims, policies or transactions. AIUK's approach has been to allocate planned expenses for the following year removing expenses directly related to the acquisition of premiums (as these are considered as part of premium cash flows). Expenses are then allocated to lines of business using the mean best estimate reserves and ENID. The year on year indirect expense cash flows are then decreased in line with the run off of claims reserves using actuarial claims payment patterns. This is done on an on-going business basis so that new business is expected to support an increasing share of the overheads into the future based on the percentage reduction in claims reserves implied by the claims payment patterns. An allowance for expense inflation is included. All UK expenses are assumed to be in Pounds Sterling. Non-commission related acquisition costs on incepted contracts (e.g. underwriters' salaries) will have by definition occurred by the balance sheet date and hence are already accounted for.
RI Default [2.1f]	Solvency II requires inclusion of a provision for non-receipt of reinsurance recoveries whether caused by default or dispute. The probability of counterparty default is set to the rate used in the internal model dependent on the rating of the counterparty. A recovery rate (in the event of default) of 50% is used (this is mandated by EIOPA). The calculation is applied to the recoveries cash flows. For discounting purposes, the cash flows are deemed to be in proportion to the recovery cash flows and in the same currencies.
Discount [2.1g]	The best estimate cash flows are the probability weighted average cash flows, taking into account the time value of money using the relevant risk free interest rate term structure. A blended yield curve approach to discounting is followed. AIUK begins with the yield curves published by EIOPA for the reporting date, for each of the six major currencies, at the 50% illiquidity premium level, as advised by EIOPA for general insurance companies. AIUK uses a blended yield curve approach to discounting, taking the split into the 6 major currencies for each accident year for inwards and outwards business separately and for each reserving class separately, and multiplies the percentage list of currencies by the six yield curves to create a blended yield curve at that level of detail. Each type of provision (inwards or outwards, premiums or claims or expenses), is multiplied by its payment pattern for the accident year for the reserving class, and by the blended yield curve applying to give a discounted provision.

Risk Margin [2.1h]	The Risk Margin is a component of the Solvency II Technical Provisions that does not exist under UK GAAP accounting, which is intended to capture the difference between the best estimate of Technical Provisions and its theoretical market value. The theoretical market value is estimated using cost-of-capital principles, based on the principle of a notional portfolio transfer to a third party insurer with no insurance obligations of its own.

D2.3 Level of Uncertainty associated with Technical Provisions

The AIUK Actuarial Function ensures management receives appropriate and complete information on the extent and nature of uncertainties associated with the calculation of mean best estimates and policyholder reserves. In general terms, there are limitations on the accuracy of the estimates of Technical Provisions, on both a UK GAAP and Solvency II basis, as there is inherent uncertainty in any evaluation of loss reserves. This is because the ultimate liability for claims is subject to the outcome of processes yet to occur, for example, the attitude of claimants to the settlement of their claims, changes in the standards of liability, and the size of court awards.

There are specific areas of AIUK's current UK GAAP reserves that have additional uncertainty associated with them. In property reinsurance, there is uncertainty relating to the ultimate settlement of losses related to the explosion in the port of Tianjin, China in 2015, Superstorm Sandy in 2012 and the New Zealand earthquake losses in 2010 and 2011. The explosion in the port of Tianjin, China has likewise caused additional uncertainty in specialty reinsurance. There is also uncertainty in property reinsurance relating to the ultimate settlement of losses related to Hurricanes Harvey, Irma and Maria that occurred in the third quarter of 2017, Hurricane Florence that occurred in the third quarter of 2018 and Hurricane Michael that occurred in the fourth quarter of 2018, and the California Wildfires that occurred in the fourth quarter of 2017 and 2018. Some of these events have also impacted specialty reinsurance, marine and energy insurance and, to a lesser degree, there is a risk of litigation associated with the hurricanes which may affect casualty reinsurance. In casualty reinsurance, there are additional uncertainties associated with claims emanating from the 2008 global financial crisis and subsequent market events, and the potential for new types of claim to arise given the long-tail nature of many of the reinsurance risks.

In the insurance segment, AIUK wrote a book of financial institutions risks which have a number of notifications relating to the financial crisis in 2008 and subsequent market events. The marine and energy liability account, which is a long-tail class, experienced higher than anticipated claims development during 2013 and in 2014 experienced higher than anticipated claims development in the construction liability account and could experience further unexpected development in future years.

These factors can impact the claims adjustment processes which are dependent on the gathering of the necessary information on which to assess coverage, liability, causation and quantum.

Some of the other main areas of uncertainty include:

D2.3.1 Ultimate Premium

Ultimate premium income is subject to uncertainty arising from, for example, changes in premium receipt patterns and adjustments relating to future claims experience.

D2.3.2 Loss Ratios

For unearned exposures there is a risk that the loss ratio applied to the underlying exposure may prove to be inappropriate. In certain classes of business, such as specialty and niche segments, AIUK has a limited number of years of its own experience on which to base its analysis. This leads to greater uncertainty in the selection of both the initial expected loss ratios and the development patterns. To mitigate this, AIUK makes use of publicly available information in addition to more specific advice obtained from external actuarial consultants.

D2.3.3 Discount Rate

Other factors such as risk free discount rates may change over time which would change the value of AIUK's reserves even if all other assumptions remained the same.

D2.3.4 ENID

By their very nature, Events Not In Data are difficult to determine by type, frequency and severity. Whilst this has been allowed for within the assumptions, the risk remains that this may prove to be inadequate.

D2.3.5 Expense Provisions

Expense provisions are calculated on a going concern basis and make a number of assumptions which may also prove to be inappropriate. However, this is considered a minor risk in relation to premium and claim provisions.

D2.4 Recoverable from reinsurance contracts and special purpose vehicles

The value of recoverable from reinsurance contracts and special purpose vehicles is $1,281.0m. This is shown in section D2.1 above. Other than fully collateralized reinsurance, the substantial majority of AIUK's reinsurers have a rating of "A" (Excellent), the third highest of fifteen rating levels, or better by A.M. Best and the minimum rating of any of AIUK's material reinsurers is "A-" (Excellent), the fourth highest rating, by A.M. Best.

D2.5 Risk Margin Calculation (unaudited)

The precise formula to be used in the calculation of the Risk Margin is as follows:

$$RM = CoC \cdot \sum_{t \geq 0} \frac{SCR(t)}{\left(1 + r(t+1)\right)^{t+1}}$$

CoC = Cost-of-Capital rate in excess of risk-free = **6%** (by prescription)
r(t) = Risk-free interest rate applicable at maturity t (i.e. risk-free spot rate)
SCR(t) = Notional "SCR" of third party at time *t* to run off the obligations included within the Technical Provisions.

The following notes are made in relation to the Risk Margin:

- the SCR used allows for insurance, credit and operational risks of the third party in running off the business[1];
- diversification credit between risks (e.g. between classes, between reserve years of account and between risk types) is allowable in estimating this particular SCR;
- operational risks of the third party are assumed to be the same as for Aspen, and include the full amount of operational risk (consistent with the standard formula approach);
- the Risk Margin is subsequently allocated to class of business, as it is required to be disclosed ultimately by "Solvency II Class of Business".

The Cost-of-Capital rate is fixed at 6% under the Solvency II Regulations. The key component of the calculation is the projection of future SCRs.

[1] Additionally, "unavoidable market risk" is allowed for, if there are any assets that cannot be de-risked (e.g. converted to cash) in the hypothetical event of a portfolio transfer, though it is generally understood that this ought to be nil for the non-life insurance industry.

D2.5.1 Risks Considered within the Risk Margin SCR

The initial SCR (i.e. SCR(0)) considers the capital required for a third party to run off all legally bound business within the Technical Provisions. The risks considered within the Risk Margin SCR for AIUK include:

- the full amount of Reserving Risk (since all earned claims provisions are legally bound);
- a portion of the Underwriting Risk (to include the capital in respect of unexpired exposures and WBNI business, which are legally bound, but excluding the risk associated with any other new business to be written that wasn't legally bound at t=0);
- credit risk arising from counterparties in relation to the above insurance risk calculations, including reinsurance counterparties and premium debtors;
- operational risks associated with the third party; and
- diversification credit between the risks described above.

In order to avoid circularity, the SCR component in relation to the movement in the Risk Margin is deliberately excluded.

D2.5.2 Capital Runoff Patterns

As indicated by the Risk Margin formula, a full runoff profile of the SCR is required. Without using a nested stochastic approach (which is computationally intensive), this is not something that can be calculated directly from AIUK's ECM. AIUK therefore uses a simplification to select capital runoff patterns in order to project the future SCRs.

AIUK does not consider it appropriate to apply a single capital runoff pattern for the full amount of the SCR. In particular, underwriting risk capital is, to a large extent, held in relation to 'event risk' (i.e. the risk associated with the occurrence (or not) of loss events). At the end of the year, the occurrence of any event is generally known, and any residual risk associated with claims estimates (i.e. reserve risk) is generally of a smaller magnitude.

AIUK therefore expects the capital runoff pattern in respect of underwriting risk to be considerably shorter, and weighted significantly to the first year, in which the majority of the event risk lies.

In light of the above, AIUK's approach is to use two different capital runoff patterns: a single pattern for all the risks other than underwriting risk and a shorter capital runoff pattern for the underwriting risk.

AIUK's approach effectively results in the calculation of two separate Risk Margins, which are eventually aggregated to produce a single Risk Margin.

D2.5.3 Justification of Simplification of Risk Margin – Capital Runoff Patterns

In using reserve runoff patterns as a proxy for capital runoff patterns, AIUK makes use of the "square root method". Under this approach, capital is assumed to run off more slowly than the runoff of the underlying claims provisions. The general form of this simplification assumes that the runoff pattern for the SCR used in the Risk Margin calculation is identical to the square root of the runoff pattern of the claims provisions. Specifically, AIUK selects the runoff pattern to be the square root of the reserve runoff patterns, rather than based on the full Technical Provisions, which include premiums and expenses.

By way of example, if the claims provisions reduced after a period to 64% of their starting levels, the capital associated with those provisions would reduce to 80% of the initial capital requirement.

The exclusion of expenses is for simplicity (and these are small, so unlikely to materially change the pattern used), and the exclusion of premiums is because the claims runoff provides a better representation of the runoff of risk. It is possible, if premiums were included to have negative items within the runoff pattern, which AIUK does not consider appropriate as a feature of a capital runoff pattern.

Under Articles 56 and 57 of the European Commission's Level 2 Implementing Measures, such a simplification is allowable, subject to justification, which includes considerations of proportionality and appropriateness to risk profile.

The square root simplification was selected for the following reasons:

- Parsimony – it is a simple approach that, in AIUK's view, appropriately captures the desired risk characteristics.
- Industry standard – the square root method is a common approach adopted across the market and is consistent with both PRA and Lloyd's recommendations (Supervisory Statement issued by the PRA in April 2014 and Technical Provisions under Solvency II – Lloyd's guidance issued July 2015). While AIUK do not see the market practice as sufficient justification in itself, in light of the other considerations, this gives us assurance that the approach is not unreasonable.

AIUK acknowledges that there are some limitations to this approach (e.g. it has been suggested the square root method may misestimate the rate of decay in the tail of the pattern). However, any theoretical limitations of the Risk Margin estimation method are considered in light of the fact that the overall Risk Margin methodology is predicated on a number of much greater theoretical assumptions and limitations of the approach prescribed by the Solvency II regulations.

D2.5.4 Allocation to line of business

The Risk Margin calculation is carried out at legal entity level, followed by allocation to class of business, this allows for diversification benefit between risk types and lines of business

D2.6 Volatility adjustment

The volatility adjustment is not used by AIUK.

D2.7 Transitional risk –free interest rate term structure

The transitional risk-free interest rate term structure is not used by AIUK.

D2.8 Transitional deduction on Technical Provisions

This transitional deduction on Technical Provisions is not used by AIUK.

D3 Other liabilities

D3.1 Valuation of Liabilities (other than Technical Provisions)

Class of other liabilities	UK GAAP value $'000	Differences relating to Technical Provisions $'000	Solvency II value $'000
Derivatives **[3.1a]**	(10,396)		(10,396)
Insurance and intermediaries payable **[3.1b]**	(44,797)		(44,797)
Reinsurance payables **[3.1c]**	(952,727)	757,416	(195,311)
Payables (trade, not insurance) **[3.1d]**	(28,354)		(28,354)
Any other liabilities, not elsewhere shown **[3.1e]**	(7,300)		(7,300)
TOTAL LIABILITIES	**(1,043,574)**	**757,416**	**(286,158)**

The UK GAAP figures are shown above using the Solvency II balance sheet presentation.

D3.2 Narrative explanation of Liabilities

Class of liabilities	Details
Derivatives [3.1a]	Financial instruments are measured at fair value for Solvency II purposes. The fair value measurement principles of AUIK's derivatives are consistent with the Solvency II valuation policy.
Insurance and intermediaries payable [3.1b]	Insurance and intermediaries payables have been measured at initial recognition value in the Financial Statements. This amount is what they are expected to be settled at and therefore represents the fair value under a Solvency II basis.
Reinsurance payables [3.1c]	For Solvency II purposes $757.4m of insurance and reinsurance payables comprising the funds withheld balance with ABL are transferred to Technical Provisions and form part of the valuation of Technical Provisions in D2 above. This leaves $195.3m of Reinsurance payables that have been measured at initial recognition value in the Financial Statements. This amount is what they are expected to be settled at and therefore represents the fair value under a Solvency II basis.
Payables (trade, not insurance) [3.1d]	AIUK values payables at undiscounted amortized cost less any adjustment for expected default. Given the short term maturity of these liabilities, the UK GAAP valuation policy is considered to be a close approximation to fair value, and therefore sufficient for Solvency II purposes.
Any other liabilities, not elsewhere shown [3.1e]	AIUK uses book value as per UK GAAP. These mostly consist of accrued expenses for short term employee benefits recharged to AIUK. These are valued in accordance with section 28 of FRS 102. When an employee has rendered service during an accounting period, AIUK recognise the undiscounted amount of short-term employee benefits as a liability (accrued expense), after deducting the amounts already paid. The valuation of these under UK GAAP is consistent with Article 75 of the Solvency II Directive.

D3.2.1 Financial and operating leases

AIUK leases its office space, both within the UK and internationally through its branch network. These leases are accounted for as operating leases and no liability is recognised for these on the Balance Sheet.

The future minimum rentals payable under these (non-cancellable) operating leases are as follows:

Year ended 31 December	2018 $'000	2017 $'000
Within one year	6,172	6,031
Between one and five years	6,806	10,152
After five years	4,058	6,009
	17,036	**22,192**

D3.2.2 Material deferred tax liabilities

The deferred tax liability on a Solvency II basis for AIUK at 31 December 2018 is nil (2017: nil).

D3.2.3 Expected timing of outflows of economic benefits

Payables and other liabilities have a mean term for payment of less than two years. As these are expected to be settled in the short term no deviation risk has been applied.

D3.2.4 Employee benefits

AIUK does not have a defined benefit pension plan.

D3.2.5 Changes to valuation of liabilities in the period

There have been no changes to AIUK's methodology for valuing other liabilities in the reporting period.

D3.2.6 Major sources of estimation uncertainty

See section D1.2.6 above.

D4 Alternative methods for valuation

With the exception of Insurance and intermediaries receivables, Reinsurance receivables, Receivables (trade, not insurance) and other loans and mortgages, no other assets or liabilities have been valued using any alternative valuation methods as referred to in Article 10(5) of Solvency II Delegated Regulation.

D4.1 Financial statements valuation

AIUK uses the valuation principles of UK GAAP to prepare its financial statements. There is no-re-measurement to international accounting standards as this is not necessary to meet the criteria outlined above.

For Solvency II reporting the valuation principles presented by Article 75 of Directive 2009/138/EC are used.

D5 Any other information

AIUK has nothing to report under other information.

E Capital Management

E1 Own funds

E1.1 Objectives for managing Own Funds

The primary objective and positioning of AIUK is to provide an efficient platform from which Aspen Insurance and Aspen Re, the two underwriting segments of the Group, to offer specialty insurance and reinsurance products to their customers while providing a high level of security to policyholders. To support this objective, AIUK maintains sufficient Own Funds to cover the MCR and SCR with an appropriate buffer. There have been no changes to the objectives in 2018.

E1.2 Policies and Process

Please refer to section B3.1 for a description of AIUK's ORSA Process.

E1.3 Capital and Liquidity Plan

E1.3.1 Solvency II Own Funds

The regulatory capital is the Solvency II Own Funds. The Solvency II Own Funds based on the closing balance sheet as at 31 December 2018 consists of the following:

AIUK Solvency II Own Funds (31 December 2018):

	$'000
Ordinary Shares	614,900
Deferred Tax asset	23,719
Reconciliation Reserve (**Note 1**)	94,078
Total Solvency II Own Funds to meet SCR	**732,697**

Note 1

	$'000
Solvency II excess of assets over liabilities (after deduction of Ordinary Shares and Paid in Capital)	157,057
Ring fenced funds deduction	(62,979)
Reconciliation Reserve	**94,078**

E1.3.2 Capital requirements for 2018 and 2019

The solvency assessment of AIUK compares projected held capital measured on both a Solvency II basis and under US GAAP with AIUK's Risk Appetite over the next three years. Three years is the time horizon used for AIUK's business planning.

E1.4 Quantitative Explanation of Own Funds

Please refer to section D Valuation for Solvency Purposes which includes a chart showing the adjustments between UK GAAP and Solvency II Own Funds along with a qualitative explanation for the adjustments.

E1.5 Structure, amount and quality of basic Own Funds

Under Solvency II, Own Funds are classed as 'Basic' or 'Ancillary'. Basic Own Funds are defined as the excess of assets over liabilities, while Ancillary Own Funds are defined as any capital resources that could be called up to absorb losses.

Own Funds are further divided into three tiers. A list of own fund items which falls into these three categories as well as an explanation of the features which determine classification are contained in the Solvency II Delegated Acts. The material own fund items that make up Own Funds in AIUK (i.e. paid-in ordinary share capital and paid-in members' contributions) have been assessed against the criteria of Article 71 of the Solvency II Delegated Acts and are classified as Tier 1 based on the following fact pattern:

- they rank after all other claims in the event of winding-up proceedings regarding the insurance or reinsurance undertaking;
- they do not include features which may cause the insolvency of the insurance or reinsurance undertaking or may accelerate the process of the undertaking becoming insolvent;
- they are immediately available to absorb losses and do not hinder any recapitalisation;
- the nominal or principal are written down in such a way that all of the following are reduced: the claim of the holder of that item in the event of winding-up proceedings; the amount required to be paid on repayment or redemption of that item; the distributions on that item;
- they are undated;
- they are only repayable or redeemable at the option of the insurance or reinsurance undertaking and shall not include any incentives to repay or redeem that item;
- they provide for the suspension of repayment or redemption of that item in the event that there is non-compliance with the SCR or repayment or redemption would lead to such non-compliance until the undertaking complies with the SCR and the repayment or redemption would not lead to non-compliance with the SCR;
- they allow for the distributions in relation to that item to be cancelled, either under the legal or contractual arrangements governing the item or under national legislation, in the event that there is non-compliance with the SCR or the distribution would lead to such non-compliance until the undertaking complies with the SCR and the distribution would not lead to non-compliance with the SCR;
- they may only allow for a distribution to be made where there is non-compliance with the SCR or where distribution would lead to such non-compliance where all the following conditions are met: the supervisory authority has exceptionally waived the cancellation of dividends, the distribution does not further weaken the solvency position of the insurance or reinsurance undertaking; the MCR is complied with after the distribution is made;
- the insurance or reinsurance undertaking has full flexibility over the distributions on the basic own-fund item; and
- the basic own-fund item is free from encumbrances and is not connected with any other transaction.

AIUK has agreed that it will have access to $100m in the form of an unsecured letter of credit from National Australia Bank (issued by its parent Aspen European Holdings Limited and guaranteed by AIHL, its ultimate parent). AIUK applied to the Prudential Regulatory Authority ("PRA") for approval of this arrangement to be treated as Tier 2 Ancillary Own Funds on 26 October 2018, the PRA approved this application on 28 January 2019 and the Letter of Credit was issued on 11 February 2019. Historically, AIUK has held Tier 1 Capital with a minimal amount of Tier 3 Capital. The introduction of the $100m of Ancillary Own Funds (unaudited) brings AIUK into line with peers in terms of the proportion of Tier 2 Capital on its balance sheet.

The structure, amount and quality of AIUK's Own Funds as at 31 December 2018 and as at 31 December 2017 is set out below:

	2018 Tier 1 – Unrestricted $'000	2018 Tier 3 $'000	2018 Total $'000	2017 Tier 1 – Unrestricted $'000	2017 Tier 3 $'000	2017 Total $'000
Basic Own funds						
Ordinary Shares	614,900	-	614,900	614,900	-	614,900
Additional Paid in Capital	-	-	-	-	-	-
Deferred Tax asset	-	23,719	23,719	-	25,573	25,573
Reconciliation reserve	94,078	-	94,078	132,117	-	132,117
Total basic Own Funds	**708,978**	**23,719**	**732,697**	**747,017**	**25,573**	**772,590**
Total available Own Funds	708,978	23,719	732,697	**747,017**	**25,573**	**772,590**

There have been no new Own Fund items issued or redeemed in the year excluding the movement in the reconciliation reserve. The $100m of Ancillary Own Funds (unaudited) will be included in the 31 March 2019 submission to the PRA.

Movements in the period relate to the reconciliation reserve and the deferred tax asset.

E1.5.1 Reconciliation Reserve

The reconciliation reserve equals the total of assets less liabilities under Solvency II reduced by the following items:

- own shares included as assets on the balance sheet;
- foreseeable dividends, distributions and charges;
- the basic own fund items included in Tier 1-3; and
- restricted own fund items due to ring fencing (as described in section E 1.7.1 below).

Reconciliation reserve	**2018 $'000**	**2017 $'000**
Excess of assets over liabilities from Solvency II Balance Sheet	795,676	834,510
Less: Other basic own fund items	638,619	640,473
Less: Ring fenced funds restriction	62,979	61,920
RECONCILIATION RESERVE	**94,078**	**132,117**

There are no foreseeable dividends at 31 December 2018.

Foreseeable dividends are recognised at the latest when they are declared or approved by the AIUK Board, or other persons who effectively run the undertaking, regardless of any requirement for approval at the annual general meeting.

E1.6 Amount of Own Funds to cover the SCR and MCR

The amount of Own Funds available to cover the SCR and the MCR is summarised in the table below:

31 December 2018	Total $'000	Tier 1 – Unrestricted $'000	Tier 3 – $'000
Total available Own Funds to meet the SCR	732,697	708,978	23,719
Total available Own Funds to meet the MCR	708,978	708,978	-
Total eligible Own Funds to meet the SCR	732,697	708,978	23,719
Total eligible Own Funds to meet the MCR	708,978	708,978	-
SCR	586,834		
MCR	264,075		
Ratio of Eligible Own Funds to SCR	**125%**		
Ratio of Eligible Own Funds to MCR	**268%**		

E1.7 A description of any item deducted from own funds and a brief description of any significant restriction affecting the availability and transferability of own funds within the undertaking

E1.7.1 Restricted capital

Solvency II introduced the concept of Ring Fenced Funds ("RFFs"). The main characteristic of a RFF is the existence of a restriction on assets in relation to certain liabilities on a going concern basis.

In certain cases local regulators require AIUK's overseas branches in that country to hold assets greater than the total amount of its liabilities. As a result, any excess assets from that branch are not available to meet liabilities elsewhere in the business and are restricted under Solvency II.

AIUK reviewed all of its restrictions and determined that the regulatory capital required by local branch regulators (over and above that required to meet branch liabilities) represent RFFs. This resulted in the following RFFs at the end of 2018:

RFF	Description	Restricted Surplus $'000
Australian Branch	The Australian branch of AIUK is required to localise assets equal to the value of its technical liabilities plus an amount equal to the regulatory capital requirement. AIUK have agreed with the Australian Regulator ("APRA") to maintain within the trust an amount equal to its technical liabilities plus an agreed Regulatory Capital amount.	40,007
Canadian Branch	The Canadian branch of AIUK is required to localise assets equal to the value of its technical liabilities plus an 'Internal Target % x Minimum Capital Margin' within the Canadian trust fund.	19,915
Singapore Branch	The Singapore branch of AIUK is required to localise assets equal to the value of its technical liabilities plus the greater of SGD 5m or 120% of the total risk requirements. This is set out in the Singapore Insurance Act Section 18 and in the Insurance (Valuation and Capital) Regulations.	2,860
Zurich Insurance Branch	The Zurich insurance branch of AIUK is required to localise assets equal to the value of its technical liabilities plus a small margin of 4%.	196
Total		**62,979**

As part of its review, AIUK assessed whether these RFFs were material either individually or in aggregate and concluded they were not.

The materiality assessment considered a number of factors including the assets as a proportion of AIUK's assets and an assessment of the impact on the SCR requirement for AIUK as a whole if these risks were excluded and the SCRs of the two more significant branches (Australia and Canada) on a standalone basis. While the RFFs in each branch are ring fenced for each branch, the remaining AIUK funds remain available to meet any capital requirements of those branches. The approach of deducting the RFFs from the available Solvency II Own Funds is prudent as it does not allow for any reduction in the SCR requirement arising from liabilities in those branches

If AIUK deems any of the RFFs to be material it will calculate and report separate SCR requirements in relation to those branches.

E2 SCR and MCR

E2.1 SCR (unaudited)

Risk type ($m)	2019 SCR	2018 SCR	Movement	%
Underwriting Risk excluding Risk Margin	273	289	(16)	(6%)
Reserving Risk excluding Risk Margin	280	284	(5)	(2%)
Change in Risk Margin	18	16	2	15%
Credit Risk	118	67	51	76%
Market Risk	119	175	(55)	(32%)
Operational Risk	92	92	(0)	(0%)
Total (without diversification)	900	922	(23)	(2%)
Diversification benefit	(313)	(344)		
Diversification Benefit %	(34.8%)	(37.3%)	2.6%	
Solvency Capital Requirement	***587***	***578***	***9***	***1%***

The Solvency Capital Requirement has remained broadly unchanged from the previous year. The movements in the individual risk categories are explained in more detail below.

E2.1.1 Reasons for change in the SCR

Premium Risk

Premium risk has reduced by $16m.

This is primarily driven by a reduction in business volumes for the reinsurance segment. This decrease is partially offset by an overall reduction in outwards reinsurance protection

Reserving Risk

Reserving risk has reduced by $5m.

The small reduction is as a result of several offsetting movements. There are decreases in reserving risk due to:

- an increase in the cession for the loss portfolio transfer between AIUK and ABL from 50% to 60% on the 2013 and prior accident years.
- updating the reserves to the 2018 year-end position which leads to a small overall reduction in net reserves.

These reductions are almost fully offset by:

- an increase due to the intragroup quota share for Aspen Re America (ARA) classes being replaced with a high attaching excess of loss cover for the most recent accident year, which provides a lower amount of reinsurance cover.

Change in Risk Margin

Change in Risk Margin has remained broadly flat.

This is due to the premium and reserve risks reductions being counteracted by the increase in credit risk.

Credit risk

Credit risk has increased by $51m.

The increase in credit risk is due to the following:

- an increase in outstanding reinsurance recoverables.
- a reduction in ABL's held capital which increases the credit risk charge for AIUK in relation to exposures ceded through the intragroup reinsurance arrangements.
- the intragroup quota shares between ABL and Aspen's US entities have been replaced with intragroup stop loss arrangements. This results in a deterioration in ABL's solvency position in the tail and as a consequence AIUK's credit risk charge associated with its exposure to ABL increases further.

Market Risk

Market risk has reduced by $55m as a result of the following:

- a reduction in the size of the asset portfolio as well as a shift towards higher rated investments.
- a decrease in interest rate risk. The Economic Scenario Generator has been updated and predicts a lower projected increase in interest rates over a one year horizon. This causes asset values to decrease over a one year time horizon by a lesser extent than previously. This is partially offset by a corresponding reduction in discount benefit.

Operational Risk

Operational risk has remained flat.

Diversification Benefit

Diversification benefit has reduced by 2.6%.

This is mainly driven by the increase in credit risk not diversifying well due to:

- the outstanding recoverables increasing at the mean.
- the size of ABL's defaults increasing due the deterioration in ABL's solvency position as a result of a lower held capital and the increased incoming losses from the US entities in the tail.

E2.2 MCR

The MCR is calculated using inputs for the net (of reinsurance/SPV) Solvency II best estimate and the net (of reinsurance/SPV) written premium in the last twelve months. Factors are applied to these inputs based on the Solvency II regulations. This is used to calculate a pre-corridor MCR. A corridor of 25-45% of the SCR is then applied to calculate a post-corridor MCR. The post-corridor MCR is shown below:

Year ended 31 December	2018	2017
	$'000	$'000
'Post-corridor' MCR	**264,075**	**260,195**

E2.2.1 Reasons for changes in the MCR

The post corridor MCR is capped at 45% of the SCR. Therefore the change in the MCR in the period can be explained with reference to the change in the SCR in section E 2.1.1 above.

E3 Use of duration-based equity risk sub-module in the calculation of the SCR (unaudited)

E3.1 Duration based equity risk sub-module

This is only relevant to life insurance undertakings and therefore this section is not applicable.

E4 Differences between the standard formula and the Internal Model used (unaudited)

E4.1 Main differences in the methodologies and underlying assumptions used in the standard formula and in the Internal Model

The overall capital requirement for the standard formula is higher than for the Internal Model.

This is mainly driven by the standard formula having greater charges for Non-Life Underwriting risk and Credit Risk. This is discussed in more detail below.

Non-Life Underwriting Risk

The main driver of the difference between the standard formula and the internal model is due to the high capital charges given within the standard formula to the Non-proportional Casualty RI and Non-proportional Property RI Solvency II lines of business. Within the Internal model these lines are modelled at a greater level of granularity than the standard formula. The diversification between these more detailed class splits is not sufficiently allowed for within the standard formula calculation which only allows for within class diversification benefit using:

- Reserve to Premium risk correlations
- Geographical diversification factors

No credit is given for geographical diversification for Non-proportional lines within the standard formula.

Non-proportional Casualty RI

The claims provisions for the non-proportional casualty reinsurance class are large, making over a third of AIUK's reserves. Within the internal model the Non-Proportional Casualty Reinsurance class is modelled as seven separate classes. For example, this includes US Med Mal, Canadian PI and International Motor classes. These lines of business are very distinct from each other, writing different products as well as in different territories. As such, they are not perfectly correlated with each other and there is diversification benefit between them. As the standard formula allows no geographical diversification for this line, little credit is given for diversification between the distinct classes that make up this SII line of business.

Furthermore, the non-proportional casualty RI class is subject to the highest volatility factors for both premium and reserve risk under the standard formula calculation. This also leads to a high charge for this class.

Non-proportional Property RI

Similarly, non-proportional property RI is also modelled more granularly within the internal model with seven separate classes. These include Cat Treaty, Risk XS, Pro-Rata and Specialty RI. The risks written within these classes are geographically diverse with property risks written in different parts of the globe. This is not recognised within the standard formula calculation, which does not allow any geographical diversification for this class.

As for Non proportional casualty RI, this SII line of business is subject to the highest volatility factors which also serve to increase the capital charge given.

Credit Risk

Type 1

Both the standard formula model and the internal model, model individual counterparties where each reinsurer is assigned a credit rating and exposure value. The standard formula appears to be more penal with regards concentration of risk within single counterparties or rating groups.

Type 2

This is mainly due to a higher credit risk charge given to Type 2 credit risk which is debtor exposure such as brokers and intermediaries.

For these exposures, the standard formula applies a simple factor based approach to all debtors in aggregate with a charge of 15% being applied to debtors that are overdue by less than 3 months and a 90% charge being applied to debtors that are overdue by more than 3 months.

The internal model takes into account the risk characteristics of individual counterparties. Each broker is assigned a credit rating and exposure value which is then used to simulate broker defaults and the loss given default.

As a result of the limitations of the standard formula, AIUK's risk profile is not adequately reflected. AIUK therefore uses an Internal Model to calculate its SCR.

The Internal Model is further explained below.

E4.2 Uses of the Internal Model

The uses of the Internal Model are as follows:

- **Core use:** Any use of the Internal Model relating to measurement or monitoring of the overall capital or solvency position of the entities in scope.
- **Ancillary use:** Any use of the Internal Model not directly relating to measurement or monitoring of overall capital or solvency, but nonetheless informing and optimising business decision-making as part of a defined and ongoing business process.
- **Ad-hoc use:** Same as ancillary, except as and when required (i.e. not as part of a defined, ongoing process).

Aspen defines each use in terms of whether the Internal Model is critical to the process, enhances the process or is related to the process as follows:

- **Model critical:** The process could not function effectively without use of the model
- **Model enhanced:** The process may be enhanced by use of the model from time to time, but the model is neither the core driver nor critical to the majority of the process
- **Model related:** The process is relied upon in use test evidence but does not consume model outputs, rather supports their usage

The following table summarises the various uses of the Internal Model, together with their importance and reliance on the outputs of the Internal Model.

Use Test Process	Importance	Reliance on model
Business and Multi-year Planning	Core use	Model critical
CRO Reporting	Core use	Model critical
Own Risk & Solvency Assessment ('ORSA')	Core use	Model critical
Regulatory Reporting	Core use	Model critical
Insurance Counterparty Risk Management	Ancillary use	Model critical
Reinsurance Optimisation & Management	Ancillary use	Model critical
Reserve Setting and Monitoring	Ancillary use	Model critical

Use Test Process	Importance	Reliance on model
Investment / Asset Allocation	Ancillary use	Model enhanced
Performance Management	Ancillary use	Model enhanced
Pricing Calibration	Ancillary use	Model enhanced
Model Validation	Ancillary use	Model related
Mergers & Acquisitions	Ad-hoc use	Model enhanced
Embedding Understanding	Ad-hoc use	Model related

Links to decision making

Output from the ECM is supplied to senior management and this output is used to support the decision making in each of the processes listed above, with the importance of and the reliance on the model as shown.

E4.3 Scope of the Internal Model

E4.3.1 Risk Categories

The ECM models the following major risk categories:

- insurance risk (termed “Non-Life Underwriting Risk” under Solvency II, and includes reserving risk);
- market risk (currency risk and asset risk components);
- counterparty default risk (broker and outwards reinsurance credit risk components as well as intragroup credit risk); and
- operational risk (the operational risk category includes certain other key risk scenarios identified by Aspen’s risk management team including aspects of Group risk and liquidity risk).

The main unmodelled risk categories are:

- liquidity risk;
- strategic risk;
- emerging risk;
- regulatory risk; and
- taxation risk.

AIUK does not quantify liquidity risk within the ECM as liquidity risk tends not to impact the level of capital needed (which is what the ECM seeks to quantify). Liquidity risk is however carefully managed by the Group Chief Financial Officer and AIUK uses SST to assess its exposure to liquidity risks and to assist in determining the minimum levels of cash and cash equivalents to hold.

Strategic risk is not believed to be sufficiently quantifiable to estimate within the ECM. It is, however, evaluated qualitatively as part of the strategic planning process.

As emerging risk inherently relates to risks that are largely unknown at a point in time, it is extremely difficult to quantify within the ECM. Any risk initially identified as emerging would, if material and quantifiable, be included in a new or existing risk classification and quantified within the ECM. This is also true in relation to the potential impact of future changes in regulation or taxation which are residual risks beyond those covered by operational risk.

E4.3.2 Business Units

The Internal Model covers all business units of AIUK.

E4.4 Calculation of the probability distribution

The Internal Model is used to derive a probability distribution for economic capital.

The ECM uses stochastic “Monte Carlo” techniques to generate 50,000 independent scenarios (“simulations”) that consider all risk types and entities holistically within the same model, and allowing for realistic interactions between variables within the model.

In AIUK’s judgement, the chosen number of simulations gives a sufficient number of modelled data points to capture a wide range of outcomes representative of the entire probability distribution, whilst also providing a good degree of stability in the tail of the distribution, from which the extreme modelled scenarios that drive economic and regulatory capital requirements are simulated. Increasing the number of scenarios (for example, to twice the current number) may result in a slight increase in the stability of the simulated values in the tail of the distribution, but the benefits would be disproportionately outweighed by the increase in run-time.

For each simulation, as much detail as possible is retained to allow a deep and detailed drill-down into the drivers of risk across the risk distribution (e.g. full sets of large loss detail, catastrophe losses, clash losses, reserving changes by class and accident year). Mathematically speaking, the 50,000 resulting scenarios can be used to generate a probability distribution, from which various risk metrics can be inferred.

E4.5 Risk measure and time period used in the Internal Model

The Internal Model SCR captures the risk to AIUK’s available Own Funds, calibrated to a 1-in-200 level of confidence, over a 1-year time horizon, based on an ‘economic’ balance sheet and on valuation principles prescribed by Solvency II. This is consistent with Article 101(3) of Directive 2009/138/EC.

E4.6 Nature and appropriateness of the data used in the Internal Model

The majority of internal inputs are from spreadsheets used as part of the parameterisation process, which are maintained and controlled by the Capital Modelling Team in line with Aspen’s Operational Control Policy. Key data include business plan inputs from the outputs of the financial plans and forecasts. These plans and forecasts include, for example, the forecasted expected value of gross and net (of reinsurance) premiums, claims, expenses and other financial data for a given line of business. Further important internal data sources include the projected reserves provided by the reserving actuaries and the details of the outwards reinsurance programme provided by the outwards reinsurance team.

To ensure that the quality of data is sufficient to meet Aspen’s requirements, the key controls are identified and documented within the Data Directory. These controls are a combination of financial and procedural controls, implemented specifically to meet the data quality requirements. This includes controls to ensure the risks associated with the flow of data are mitigated. The controls are mapped to the requirements in the Data Directory, allowing for any gaps or risks to be immediately identified. Controls are broadly categorised as:

- Preventive controls: Access / Security Control, Input Validation, Analytical Controls;
- Detective Controls: Reconciliation, Expert Review, Accuracy, Appropriateness, Completeness, Consistency, Timelines.

There are a number of inputs to the Internal Model from external models or data sources. The most significant external models are the ESG and the vendor catastrophe models used for material natural catastrophe perils to which AIUK is exposed. The outputs from these models undergo extensive validation before being deemed fit for use in the Internal Model. The ESG Working Party (which has representatives from the investment team, the market risk management team and the capital modelling team) is responsible for assessing the appropriateness of the latest version of the ESG and for providing a recommendation regarding the use of the ESG in the model to the Internal Model Governance and Technical Executive Committee. Validation of vendor catastrophe models is performed by the Catastrophe Risk Management team.

To provide further independent model validation, AIUK additionally commissions an external third party review of its Internal Model approximately every three years, and as and when deemed necessary by the AIUK Risk Committee or AIUK Board.

E5 Non-compliance with the SCR and non-compliance with the MCR

AIUK has complied with the SCR and MCR throughout the period and therefore this section is not applicable.

E6 Any other information

AIUK has nothing to report under other information.

Annex 1
S.02.01.02
Balance Sheet ($000)

		Solvency II value
Assets		**C0010**
Goodwill	R0010	
Deferred acquisition costs	R0020	
Intangible assets	R0030	
Deferred tax assets	R0040	23,719
Pension benefit surplus	R0050	
Property, plant & equipment held for own use	R0060	1,264
Investments (other than assets held for index-linked and unit-linked contracts)	**R0070**	2,467,914
Property (other than for own use)	R0080	
Holdings in related undertakings, including participations	R0090	
Equities	*R0100*	-
Equities - listed	R0110	-
Equities - unlisted	R0120	
Bonds	*R0130*	*2,331,988*
Government Bonds	R0140	1,189,302
Corporate Bonds	R0150	889,613
Structured notes	R0160	
Collateralised securities	R0170	253,073
Collective Investments Undertakings	R0180	80,837
Derivatives	R0190	6,226
Deposits other than cash equivalents	R0200	48,864
Other investments	R0210	
Assets held for index-linked and unit-linked contracts	R0220	
Loans and mortgages	**R0230**	**73,534**
Loans on policies	R0240	
Loans and mortgages to individuals	R0250	
Other loans and mortgages	R0260	73,534
Reinsurance recoverables from:	**R0270**	**1,280,788**
Non-life and health similar to non-life	R0280	1,280,788
Non-life excluding health	R0290	1,216,479
Health similar to non-life	R0300	64,309
Life and health similar to life, excluding health and index-linked and unit-linked	R0310	
Health similar to life	R0320	
Life excluding health and index-linked and unit-linked	R0330	
Life index-linked and unit-linked	R0340	
Deposits to cedants	R0350	34,847
Insurance and intermediaries receivables	R0360	0
Reinsurance receivables	R0370	150,552
Receivables (trade, not insurance)	R0380	56,955
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	122,610
Any other assets, not elsewhere shown	R0420	9,063
Total assets	**R0500**	**4,221,246**

Annex 1
S.02.01.02
Balance Sheet ($000)

		Solvency II value
Liabilities		**C0010**
Technical provisions - non-life	**R0510**	**3,139,412**
Technical provisions - non-life (excluding health)	**R0520**	**2,946,636**
TP calculated as a whole	R0530	
Best estimate	R0540	2,817,171
Risk margin	R0550	129,465
Technical provisions - health (similar to non-life)	**R0560**	**192,776**
TP calculated as a whole	R0570	
Best estimate	R0580	179,780
Risk margin	R0590	12,996
TP - life (excluding index-linked and unit-linked)	**R0600**	
Technical provisions - health (similar to life)	**R0610**	
TP calculated as a whole	R0620	
Best estimate	R0630	
Risk margin	R0640	
TP - life (excluding health and index-linked and unit-linked)	**R0650**	
TP calculated as a whole	R0660	
Best estimate	R0670	
Risk margin	R0680	
TP - index-linked and unit-linked	**R0690**	
TP calculated as a whole	R0700	
Best estimate	R0710	
Risk margin	R0720	
Other technical provisions	R0730	
Contingent liabilities	R0740	
Provisions other than technical provisions	R0750	
Pension benefit obligations	R0760	
Deposits from reinsurers	R0770	
Deferred tax liabilities	R0780	
Derivatives	R0790	10,396
Debts owed to credit institutions	R0800	
Financial liabilities other than debts owed to credit institutions	R0810	
Insurance & intermediaries payables	R0820	44,796
Reinsurance payables	R0830	195,311
Payables (trade, not insurance)	R0840	28,354
Subordinated liabilities	**R0850**	
Subordinated liabilities not in BOF	R0860	
Subordinated liabilities in BOF	R0870	
Any other liabilities, not elsewhere shown	R0880	7,300
Total liabilities	**R0900**	**3,425,570**
Excess of assets over liabilities	**R1000**	**795,676**

Annex 1

S.05.01.02

Premiums, claims and expenses by line of business ($000)

		Line of Business for: non-life insurance and reinsurance obligations (direct business and accepted proportional reinsurance)											
		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**
		C0010	**C0020**	**C0030**	**C0040**	**C0050**	**C0060**	**C0070**	**C0080**	**C0090**	**C0100**	**C0110**	**C0120**
Premiums written													
Gross - Direct Business	R0110	-	-	-	-	-	22,938	122,356	222,699	35,068	-	-	(328)
Gross - Proportional reinsurance accepted	R0120	-	-	-	20,367	-	70,414	288,405	107,206	91,120	-	-	23
Gross - Non-proportional reinsurance accepted	R0130												
Reinsurers' share	R0140	-	-	-	11,761	-	53,119	254,254	240,191	113,122	-	-	274
Net	**R0200**	**-**	**-**	**-**	**8,605**	**-**	**40,234**	**156,507**	**89,714**	**13,066**	**-**	**-**	**(579)**
Premiums earned													
Gross - Direct Business	R0210	-	-	-	-	-	23,892	121,541	224,027	33,356	-	-	56
Gross - Proportional reinsurance accepted	R0220	-	-	-	20,727	-	62,564	290,661	104,755	128,987	-	-	690
Gross - Non-proportional reinsurance accepted	R0230												
Reinsurers' share	R0240	-	-	-	11,769	-	52,791	252,859	237,114	100,616	-	-	390
Net	**R0300**	**-**	**-**	**-**	**8,958**	**-**	**33,664**	**159,342**	**91,668**	**61,727**	**-**	**-**	**355**
Claims incurred													
Gross - Direct Business	R0310	-	-	-	-	-	(1,480)	65,167	165,793	32,699	-	-	(371)
Gross - Proportional reinsurance accepted	R0320	-	-	-	10,583	-	65,291	232,155	68,201	42,357	-	-	168
Gross - Non-proportional reinsurance accepted	R0330												
Reinsurers' share	R0340	-	-	-	6,412	-	43,434	129,929	189,492	48,296	-	-	(42)
Net	**R0400**	**-**	**-**	**-**	**4,171**	**-**	**20,377**	**167,393**	**44,502**	**26,759**	**-**	**-**	**(161)**
Changes in other technical provisions													
Gross - Direct Business	R0410	-	-	-	-	-	-	-	-	-	-	-	-
Gross - Proportional reinsurance accepted	R0420	-	-	-	-	-	-	-	-	-	-	-	-
Gross - Non-proportional reinsurance accepted	R0430												
Reinsurers' share	R0440	-	-	-	-	-	-	-	-	-	-	-	-
Net	**R0500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Expenses incurred	**R0550**	**-**	**-**	**-**	**4,424**	**-**	**18,616**	**88,342**	**62,291**	**32,347**	**-**	**-**	**135**
Other expenses	R1200												
Total expenses	**R1300**												

Annex 1

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Premiums, claims and expenses by line of business ($000)

		Line of Business for: accepted non-proportional reinsurance				Total
		Health	Casualty	Marine, aviation, transport	Property	
		C0130	C0140	C0150	C0160	C0200
Premiums written						
Gross - Direct Business	R0110					**402,734**
Gross - Proportional reinsurance accepted	R0120					**577,535**
Gross - Non-proportional reinsurance accepted	R0130	39,863	183,545	90,969	180,591	**494,968**
Reinsurers' share	R0140	23,314	104,215	58,087	125,070	**983,406**
Net	**R0200**	**16,549**	**79,330**	**32,883**	**55,521**	**491,831**
Premiums earned						
Gross - Direct Business	R0210					**402,872**
Gross - Proportional reinsurance accepted	R0220					**608,383**
Gross - Non-proportional reinsurance accepted	R0230	41,911	185,022	92,299	184,029	**503,261**
Reinsurers' share	R0240	23,268	105,288	57,044	125,238	**966,378**
Net	**R0300**	**18,642**	**79,734**	**35,255**	**58,792**	**548,138**
Claims incurred						
Gross - Direct Business	R0310					**261,807**
Gross - Proportional reinsurance accepted	R0320					**418,754**
Gross - Non-proportional reinsurance accepted	R0330	28,961	126,237	74,323	89,292	**318,813**
Reinsurers' share	R0340	36,924	110,080	72,688	35,100	**672,312**
Net	**R0400**	**(7,963)**	**16,157**	**1,635**	**54,193**	**327,063**
Changes in other technical provisions						
Gross - Direct Business	R0410					**-**
Gross - Proportional reinsurance accepted	R0420					**-**
Gross - Non-proportional reinsurance accepted	R0430	-	-	-	-	**-**
Reinsurers' share	R0440	-	-	-	-	**-**
Net	**R0500**	**-**	**-**	**-**	**-**	**-**
Expenses incurred	**R0550**	**9,603**	**41,696**	**20,386**	**34,545**	**312,384**
Other expenses	R1200					**-**
Total expenses	**R1300**					**312,384**

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Premiums, claims and expenses by country ($000)		Home Country	Top 5 countries (by amount of gross premiums written) - non-life obligations					Total Top 5 and home country
		C0010	C0020	C0030	C0040	C0050	C0060	C0070
	R0010	United Kingdom (GB)	United States of America (US)	Bermuda (BM)	Ireland (IE)	Australia (AU)	Germany (DE)	
		C0080	C0090	C0100	C0110	C0120	C0130	C0140
Premium written								
Gross - Direct Business	R0110	299,056	30,701	(4)	37,815	1,158	1,251	**369,977**
Gross - Proportional reinsurance accepted	R0120	75,494	250,958	54,092	998	15,405	5,474	**402,420**
Gross - Non-proportional reinsurance accepted	R0130	53,991	231,432	8,166	1,929	21,746	28,311	**345,574**
Reinsurers' share	R0140	307,213	345,462	16,520	31,212	22,272	25,654	**748,333**
Net	**R0200**	**121,327**	**167,629**	**45,734**	**9,530**	**16,037**	**9,382**	**369,638**
Premium earned								
Gross - Direct Business	R0210	293,358	28,900	(4)	44,428	398	849	**367,929**
Gross - Proportional reinsurance accepted	R0220	74,282	274,896	56,416	1,265	14,459	9,533	**430,851**
Gross - Non-proportional reinsurance accepted	R0230	61,328	228,080	7,914	1,659	21,178	28,946	**349,105**
Reinsurers' share	R0240	293,591	334,074	16,228	39,066	22,656	26,187	**731,803**
Net	**R0300**	**135,376**	**197,802**	**48,097**	**8,286**	**13,379**	**13,141**	**416,082**
Claims paid								
Gross - Direct Business	R0310	200,207	7,056	(1)	60,322	144	(37)	**267,692**
Gross - Proportional reinsurance accepted	R0320	36,319	192,104	94,962	1,459	9,460	8,531	**342,836**
Gross - Non-proportional reinsurance accepted	R0330	66,868	211,155	1,805	7,685	(30,110)	(81,907)	**175,496**
Reinsurers' share	R0340	267,497	220,855	(3,425)	78,142	4,739	4,890	**572,698**
Net	**R0400**	**35,897**	**189,461**	**100,191**	**(8,676)**	**(25,245)**	**(78,303)**	**213,326**
Changes in other technical provisions								
Gross - Direct Business	R0410	-	-	-	-	-	-	**-**
Gross - Proportional reinsurance accepted	R0420	-	-	-	-	-	-	**-**
Gross - Non-proportional reinsurance accepted	R0430	-	-	-	-	-	-	**-**
Reinsurers' share	R0440	-	-	-	-	-	-	**-**
Net	**R0500**							**-**
Expenses incurred	**R0550**	89,601	112,980	16,266	11,876	4,988	2,628	**238,340**
Other expenses	**R1200**							
Total expenses	**R1300**							**238,340**

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S.17.01.02

Non-life Technical Provisions ($000)

		Direct business and accepted proportional reinsurance											
		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**
		C0020	**C0030**	**C0040**	**C0050**	**C0060**	**C0070**	**C0080**	**C0090**	**C0100**	**C0110**	**C0120**	**C0130**
Technical provisions calculated as a whole	**R0010**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole	**R0050**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Technical Provisions calculated as a sum of BE and RM													
Best estimate													
Premium provisions													
Gross - Total	R0060	**-**	**-**	**-**	**(3,769)**	**-**	**(453)**	**5,842**	**49,583**	**(77,092)**	**-**	**-**	**(234)**
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0140	-	-	-	(1,127)	-	(9,894)	(14,268)	22,741	(31,000)	-	-	(466)
Net Best Estimate of Premium Provisions	R0150	**-**	**-**	**-**	**(2,642)**	**-**	**9,441**	**20,110**	**26,842**	**(46,092)**	**-**	**-**	**232**
Claims provisions													
Gross - Total	R0160	**-**	**-**	**-**	**7,518**	**-**	**287,208**	**418,415**	**815,937**	**77,450**	**-**	**-**	**752**
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0240	-	-	-	689	-	180,391	134,623	391,732	(16,658)	-	-	(2,029)
Net Best Estimate of Claims Provisions	R0250	**-**	**-**	**-**	**8,573**	**-**	**145,036**	**261,502**	**432,588**	**104,576**	**-**	**-**	**2,424**
Total Best estimate - gross	**R0260**	**-**	**-**	**-**	**3,748**	**-**	**286,756**	**424,258**	**865,519**	**357**	**-**	**-**	**518**
Total Best estimate - net	**R0270**	**-**	**-**	**-**	**4,186**	**-**	**116,259**	**303,903**	**451,046**	**48,015**	**-**	**-**	**3,013**
Risk margin	**R0280**	-	-	-	6,817	-	7,794	16,442	23,888	9,523	-	-	4,442
Amount of the transitional on Technical Provisions													
TP as a whole	R0290	-	-	-	-	-	-	-	-	-	-	-	-
Best estimate	R0300	-	-	-	-	-	-	-	-	-	-	-	-
Risk margin	R0310	-	-	-	-	-	-	-	-	-	-	-	-
Technical provisions - total													
Technical provisions - total	**R0320**	**-**	**-**	**-**	**10,565**	**-**	**294,549**	**440,699**	**889,408**	**9,880**	**-**	**-**	**4,960**
Recoverable from reinsurance contract/SPV and Finite Re after the adjustment for expected losses due to counterparty default - total	**R0330**	**-**	**-**	**-**	**(437)**	**-**	**170,497**	**120,355**	**414,474**	**(47,658)**	**-**	**-**	**(2,495)**
Technical provisions minus recoverables from reinsurance/SPV and Finite Re- total	**R0340**	**-**	**-**	**-**	**11,003**	**-**	**124,053**	**320,345**	**474,934**	**57,538**	**-**	**-**	**7,455**

Annex 1
S.17.01.02

Non-life Technical Provisions ($000)

		Accepted non-proportional reinsurance:				Total Non-Life obligations
		Non-proportional health reinsurance	Non-proportional casualty reinsurance	Non-proportional marine, aviation and transport reinsurance	Non-proportional property reinsurance	
		C0140	C0150	C0160	C0170	C0180
Technical provisions calculated as a whole	**R0010**	**-**	**-**	**-**	**-**	**-**
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole	**R0050**	**-**	**-**	**-**	**-**	**-**
Technical Provisions calculated as a sum of BE and RM						
Best estimate						
Premium provisions						
Gross - Total	R0060	**9,917**	**(4,596)**	**(10,163)**	**(15,749)**	**(46,713)**
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0140	(1,040)	(3,286)	(9,624)	(18,864)	**(66,828)**
Net Best Estimate of Premium Provisions	R0150	**10,957**	**(1,310)**	**(538)**	**3,116**	**20,115**
Claims provisions						
Gross - Total	R0160	**169,862**	**851,580**	**221,784**	**193,157**	**3,043,664**
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0240	65,348	347,495	108,039	137,985	**1,347,617**
Net Best Estimate of Claims Provisions	R0250	**97,115**	**506,513**	**120,085**	**72,632**	**1,751,044**
Total Best estimate - gross	**R0260**	**179,780**	**846,984**	**211,622**	**177,408**	**2,996,951**
Total Best estimate - net	**R0270**	**115,471**	**502,775**	**113,207**	**58,287**	**1,716,162**
Risk margin	**R0280**	12,996	41,166	7,839	11,555	**142,462**
Amount of the transitional on Technical Provisions						
TP as a whole	R0290	-	-	-	-	**-**
Best estimate	R0300	-	-	-	-	**-**
Risk margin	R0310	-	-	-	-	**-**
Technical provisions - total						
Technical provisions - total	**R0320**	**192,776**	**888,150**	**219,461**	**188,963**	**3,139,412**
Recoverable from reinsurance contract/SPV and Finite Re after the adjustment for expected losses due to counterparty default - total	**R0330**	**64,309**	**344,209**	**98,415**	**119,121**	**1,280,788**
Technical provisions minus recoverables from reinsurance/SPV and Finite Re- total	**R0340**	**128,467**	**543,941**	**121,046**	**69,842**	**1,858,624**

Annex 1
S.19.01.21
Non-life Insurance Claims Information ($000)

Accident year / Underwriting year	Z0010	1- Accident year

Development year

Gross Claims Paid (non-cumulative)		0 C0010	1 C0020	2 C0030	3 C0040	4 C0050	5 C0060	6 C0070	7 C0080	8 C0090	9 C0100	10 C0110	11 C0120	12 C0130	13 C0140	14 C0150	15 & + C0160
Prior	R0100																2,320
2004	R0110	71,783	262,566	114,317	56,662	34,296	31,772	17,998	16,008	6,823	7,649	13,835	6,648	7,882	2,091	3,174	
2005	R0120	77,920	422,283	301,747	158,759	108,495	53,570	18,062	19,858	23,943	16,977	15,922	9,741	4,248	610		
2006	R0130	108,463	91,713	87,416	64,826	42,090	34,311	17,554	13,919	11,345	16,128	12,236	3,946	6,346			
2007	R0140	82,670	173,704	147,913	93,799	56,434	37,277	28,784	19,960	17,047	18,264	13,419	16,834				
2008	R0150	81,296	166,506	141,097	101,434	93,634	66,152	71,094	22,432	14,722	19,147	20,222					
2009	R0160	45,811	122,506	97,652	108,187	67,094	51,294	40,531	28,542	27,212	21,086						
2010	R0170	64,909	158,698	131,103	112,938	77,630	58,335	45,424	28,623	14,938							
2011	R0180	96,252	233,279	208,353	116,542	49,328	49,257	32,084	16,405								
2012	R0190	61,289	185,517	166,249	71,314	68,424	47,475	31,747									
2013	R0200	53,557	163,955	125,744	73,385	67,297	34,690										
2014	R0210	51,440	141,610	121,103	66,030	63,241											
2015	R0220	51,577	171,737	175,584	55,166												
2016	R0230	101,496	252,919	141,835													
2017	R0240	74,904	385,476														
2018	R0250	141,974															

		In Current year C0170	Sum of years (cumulative) C0180
	R0100	2,320	2,320
	R0110	3,174	653,504
	R0120	610	1,232,135
	R0130	6,346	510,293
	R0140	16,834	706,105
	R0150	20,222	797,736
	R0160	21,086	609,915
	R0170	14,938	692,597
	R0180	16,405	801,501
	R0190	31,747	632,016
	R0200	34,690	518,628
	R0210	63,241	443,424
	R0220	55,166	454,063
	R0230	141,835	496,249
	R0240	385,476	460,379
	R0250	141,974	141,974
Total	R0260	**956,063**	**9,152,839**

Annex 1
S.19.01.21
Non-life Insurance Claims Information ($000)

Development year

Gross undiscounted Best Estimate Claims Provision		**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15 & +**
		C0010	**C0020**	**C0030**	**C0040**	**C0050**	**C0060**	**C0070**	**C0080**	**C0090**	**C0100**	**C0110**	**C0120**	**C0130**	**C0140**	**C0150**	**C0160**
Prior	R0100																22,073
2004	R0110	0	0	0	0	0	0	0	0	0	0	0	0	43,404	38,847	43,808	
2005	R0120	0	0	0	0	0	0	0	0	0	0	0	54,413	48,671	54,486		
2006	R0130	0	0	0	0	0	0	0	0	0	0	62,040	50,023	54,228			
2007	R0140	0	0	0	0	0	0	0	0	0	119,580	105,151	80,059				
2008	R0150	0	0	0	0	0	0	0	0	104,459	79,193	59,720					
2009	R0160	0	0	0	0	0	0	0	179,518	153,715	112,534						
2010	R0170	0	0	0	0	0	0	129,484	110,112	100,032							
2011	R0180	0	0	0	0	0	180,184	120,710	91,131								
2012	R0190	0	0	0	0	279,167	212,168	172,142									
2013	R0200	0	0	0	280,821	189,455	148,079										
2014	R0210	0	0	380,233	304,931	235,112											
2015	R0220	0	519,145	384,092	290,622												
2016	R0230	520,161	552,253	427,176													
2017	R0240	964,005	686,572														
2018	R0250	728,436															

		Year end (discounted data)
		C0360
	R0100	21,578
	R0110	42,218
	R0120	51,787
	R0130	50,923
	R0140	74,563
	R0150	54,568
	R0160	101,305
	R0170	92,257
	R0180	83,286
	R0190	157,375
	R0200	135,560
	R0210	216,159
	R0220	266,332
	R0230	395,073
	R0240	635,305
	R0250	665,376
Total	R0260	**3,043,664**

Annex 1
S.23.01.01

Own funds ($000)		Total	Tier 1 - unrestricted	Tier 1 - restricted	Tier 2	Tier 3
		C0010	C0020	C0030	C0040	C0050
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	**614,900**	614,900			
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	**94,078**	94,078			
Subordinated liabilities	R0140					
An amount equal to the value of net deferred tax assets	R0160	**23,719**				23,719
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					
Total basic own funds after deductions	**R0290**	**732,697**	**708,978**			**23,719**
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	**R0400**					
Available and eligible own funds						
Total available own funds to meet the SCR	**R0500**	**732,697**	**708,978**			**23,719**
Total available own funds to meet the MCR	**R0510**	**708,978**	**708,978**			
Total eligible own funds to meet the SCR	**R0540**	**732,697**	**708,978**			**23,719**
Total eligible own funds to meet the MCR	**R0550**	**708,978**	**708,978**			
SCR	**R0580**	**586,834**				
MCR	**R0600**	**264,075**				
Ratio of Eligible own funds to SCR	**R0620**	**124.86%**				
Ratio of Eligible own funds to MCR	**R0640**	**268.48%**				

		C0060
Reconciliation reserve		
Excess of assets over liabilities	R0700	**795,676**
Own shares (held directly and indirectly)	R0710	
Foreseeable dividends, distributions and charges	R0720	
Other basic own fund items	R0730	**638,619**
Adjustment for restricted own fund items in respect of matching adjustment portfolios and ring fenced funds	R0740	**62,979**
Reconciliation reserve	**R0760**	**94,078**
Expected profits		
Expected profits included in future premiums (EPIFP) - Life Business	R0770	
Expected profits included in future premiums (EPIFP) - Non- life business	R0780	86,765
Total Expected profits included in future premiums (EPIFP)	**R0790**	**86,765**

Annex 1
S.25.03.21
Solvency Capital Requirement -for undertakings on Full Internal Models ($000)

Unique number of component	components description	Calculation of the Solvency Capital Requirement
C0010	**C0020**	**C0030**
10300I	Interest rates risk	(2,697)
10400I	Equity risk	-
10700I	Spread risk	68,855
10800I	Concentration risk	60,395
10900I	Currency risk	157,515
19900I	Diversification within market risk	(164,788)
20100I	Type 1 counterparty risk	107,608
20200I	Type 2 counterparty risk	29,159
29900I	Diversification within counterparty risk	(18,924)
41000I	Health NSLT worker's compensation	55,543
41600I	Other health underwriting risk	4,244
49900I	Diversification within health underwriting risk	(100)
50150I	Premium risk	207,465
50210I	Reserve risk	245,991
50300I	Non-life catastrophe risk	218,204
50500I	Other non-life underwriting risk	16,111
59900I	Diversification within non-life underwriting risk	(276,841)
70100I	Operational risk	91,733
80400I	Other adjustments	(2,850)

Calculation of Solvency Capital Requirement		**C0100**
Total undiversified components	R0110	796,623
Diversification	R0060	(209,789)
Capital requirement for business operated in accordance with Art. 4 of Directive 2003/41/EC	R0160	
Solvency capital requirement excluding capital add-on	**R0200**	**586,834**
Capital add-ons already set	R0210	
Solvency capital requirement	**R0220**	**586,834**
Other information on SCR		
Amount/estimate of the overall loss-absorbing capacity of technical provisions	R0300	
Amount/estimate of the overall loss-absorbing capacity of deferred taxes	R0310	
Total amount of Notional Solvency Capital Requirements for remaining part	R0410	
Total amount of Notional Solvency Capital Requirements for ring fenced funds (other than those related to business operated in accordance with Art. 4 of Directive 2003/41/EC (transitional))	R0420	
Total amount of Notional Solvency Capital Requirement for matching adjustment portfolios	R0430	
Diversification effects due to RFF nSCR aggregation for article 304	R0440	
Net future discretionary benefits	R0460	

Annex 1
S.28.01.01
Minimum Capital Requirement - Only life or only non-life insurance or reinsurance activity($000)

Linear formula component for non-life insurance and reinsurance obligations

		C0010
MCR_{NL} Result	R0010	303,939

MCR calculation Non Life		Non-life activities	
		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		
Income protection insurance and proportional reinsurance	R0030		
Workers' compensation insurance and proportional reinsurance	R0040		
Motor vehicle liability insurance and proportional reinsurance	R0050	4,186	8,605
Other motor insurance and proportional reinsurance	R0060		
Marine, aviation and transport insurance and proportional reinsurance	R0070	116,259	40,211
Fire and other damage to property insurance and proportional reinsurance	R0080	303,903	156,507
General liability insurance and proportional reinsurance	R0090	451,046	92,472
Credit and suretyship insurance and proportional reinsurance	R0100	48,015	13,066
Legal expenses insurance and proportional reinsurance	R0110		
Assistance and proportional reinsurance	R0120		
Miscellaneous financial loss insurance and proportional reinsurance	R0130	3,013	0
Non-proportional health reinsurance	R0140	115,471	16,549
Non-proportional casualty reinsurance	R0150	502,775	76,595
Non-proportional marine, aviation and transport reinsurance	R0160	113,207	32,883
Non-proportional property reinsurance	R0170	58,287	55,521

Linear formula component for life insurance and reinsurance obligations

		C0040
MCR_{L} Result	R0200	0

MCR calculation Life		Life activities	
		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		
Index-linked and unit-linked insurance obligations	R0230		
Other life (re)insurance and health (re)insurance obligations	R0240		
Total capital at risk for all life (re)insurance obligations	R0250		

Overall MCR calculation		C0070
Linear MCR	R0300	**303,939**
SCR	R0310	586,834
MCR cap	R0320	**264,075**
MCR floor	R0330	**146,709**
Combined MCR	R0340	**264,075**
Absolute floor of the MCR	R0350	4,050
		C0070
Minimum Capital Requirement	**R0400**	**264,075**