Lancashire
Holdings Limited

Lancashire Holdings Limited
Consolidated financial statements for the year ended 31 December 2022

Consolidated statement of comprehensive income

For the year ended 31 December 2022

	Notes	2022 $m	2021 $m
Gross premiums written	2	**1,652.3**	1,225.2
Outwards reinsurance premiums	2	**(464.3)**	(409.1)
Net premiums written		**1,188.0**	816.1
Change in unearned premiums	2	**(223.2)**	(140.0)
Change in unearned premiums on premiums ceded	2	**23.6**	20.4
Net premiums earned		**988.4**	696.5
Net investment income	3	**43.7**	23.0
Net other investment (loss) income	3	**(4.5)**	3.8
Net realised (losses) gains and impairments	3	**(22.7)**	6.1
Share of loss of associate	16	**(6.5)**	(3.9)
Other income	5	**6.5**	18.2
Net foreign exchange (losses) gains		**(3.6)**	3.5
Total net revenue		**1,001.3**	747.2
Insurance losses and loss adjustment expenses	2, 13	**922.7**	667.6
Insurance losses and loss adjustment expenses recoverable	2, 13	**(346.3)**	(197.1)
Net insurance losses		**576.4**	470.5
Insurance acquisition expenses	2, 4	**298.8**	188.6
Insurance acquisition expenses ceded	2, 4	**(37.6)**	(31.6)
Equity based compensation	7	**8.6**	11.1
Other operating expenses	6, 7, 20	**128.7**	119.6
Total expenses		**974.9**	758.2
Results of operating activities		**26.4**	(11.0)
Financing costs	8	**29.2**	45.8
Loss before tax		**(2.8)**	(56.8)
Tax charge	9	**(0.5)**	(4.8)
Loss for the year		**(3.3)**	(61.6)
Loss for the year attributable to:			
Equity shareholders of LHL		**(3.3)**	(62.2)
Non-controlling interests		**–**	0.6
Loss for the year		**(3.3)**	(61.6)
Other comprehensive loss to be reclassified to profit or loss in subsequent periods			
Net change in unrealised losses on investments	3, 11	**(93.2)**	(31.6)
Tax credit on net change in unrealised losses on investments	11, 15	**3.9**	0.9
Other comprehensive loss		**(89.3)**	(30.7)
Total comprehensive loss for the year		**(92.6)**	(92.3)
Total comprehensive loss attributable to:			
Equity shareholders of LHL		**(92.6)**	(92.9)
Non-controlling interests	23	**–**	0.6
Total comprehensive loss for the year		**(92.6)**	(92.3)
Loss per share			
Basic	22	**($0.01)**	($0.26)
Diluted	22	**($0.01)**	($0.26)

Consolidated balance sheet

As at 31 December 2022

	Notes	2022 $m	2021 $m
Assets			
Cash and cash equivalents	10, 18	**548.8**	517.7
Accrued interest receivable		**11.3**	7.1
Investments	11, 12, 18	**2,204.9**	2,048.1
Inwards premiums receivable from insureds and cedants	14	**688.3**	490.6
Reinsurance assets			
• Unearned premiums on premiums ceded		**141.4**	117.8
• Reinsurance recoveries	13	**592.1**	418.8
• Other receivables	14	**96.8**	38.2
Other receivables	14	**30.1**	18.8
Corporation tax receivable		**1.1**	–
Investment in associate	12, 16	**57.2**	118.7
Property, plant and equipment		**1.1**	0.8
Right-of-use assets	20	**20.3**	13.4
Deferred acquisition costs		**180.8**	121.6
Intangible assets	17	**172.4**	157.9
Total assets		**4,746.6**	4,069.5
Liabilities			
Insurance contracts			
• Losses and loss adjustment expenses	13	**1,780.8**	1,291.1
• Unearned premiums		**821.1**	597.9
• Other payables		**52.9**	20.3
Amounts payable to reinsurers		**268.2**	205.6
Deferred acquisition costs ceded		**32.9**	27.0
Other payables		**44.1**	37.4
Corporation tax payable		**–**	1.6
Deferred tax liability	15	**9.3**	12.2
Lease liabilities	20	**23.3**	17.9
Long-term debt	18	**446.1**	445.7
Total liabilities		**3,478.7**	2,656.7
Shareholders' equity			
Share capital	19	**122.0**	122.0
Own shares	19	**(34.0)**	(18.1)
Other reserves	19	**1,221.9**	1,221.6
Accumulated other comprehensive (loss) income	11	**(86.4)**	2.9
Retained earnings		**44.4**	83.9
Total shareholders' equity attributable to equity shareholders of LHL		**1,267.9**	1,412.3
Non-controlling interests	23	**–**	0.5
Total shareholders' equity		**1,267.9**	1,412.8
Total liabilities and shareholders' equity		**4,746.6**	4,069.5

The consolidated financial statements were approved by the Board of Directors on 9 February 2023 and signed on its behalf by:

Peter Clarke
Director/Chair

Natalie Kershaw
Director/CFO

Consolidated statement of changes in shareholders' equity

For the year ended 31 December 2022

	Notes	Share capital $m	Own shares $m	Other reserves $m	Accumulated other comprehensive (loss) income $m	Retained earnings $m	Shareholders' equity attributable to equity shareholders of LHL $m	Non-controlling interests $m	Total shareholders' equity $m
Balance as at 31 December 2020		122.0	(21.2)	1,221.6	33.6	182.5	1,538.5	0.4	1,538.9
Total comprehensive loss for the year		–	–	–	(30.7)	(62.2)	(92.9)	0.6	(92.3)
Share repurchases	19	–	(6.9)	–	–	–	(6.9)	–	(6.9)
Distributed by the trust	19	–	9.9	(10.9)	–	–	(1.0)	–	(1.0)
Shares donated to the trust	19		0.1	(0.1)	–	–	–	–	–
Dividends paid on common shares	19	–	–	–	–	(36.4)	(36.4)	–	(36.4)
Dividends paid to minority interest holders	23	–	–	–	–	–	–	(0.5)	(0.5)
Net deferred tax	15	–	–	(0.5)	–	–	(0.5)	–	(0.5)
Equity based compensation		–	–	11.5	–	–	11.5	–	11.5
Balance as at 31 December 2021		122.0	(18.1)	1,221.6	2.9	83.9	1,412.3	0.5	1,412.8
Total comprehensive loss for the year		**–**	**–**	**–**	**(89.3)**	**(3.3)**	**(92.6)**	**–**	**(92.6)**
Share repurchases	19	**–**	**(23.3)**	**–**	**–**	**–**	**(23.3)**	**–**	**(23.3)**
Distributed by the trust	19	**–**	**8.1**	**(8.9)**	**–**	**–**	**(0.8)**	**–**	**(0.8)**
Shares donated to the trust	19	**–**	**(0.7)**	**0.7**	**–**	**–**	**–**	**–**	**–**
Dividends on common shares	19	**–**	**–**	**–**	**–**	**(36.2)**	**(36.2)**	**–**	**(36.2)**
Repurchase of shares from non-controlling interest	23	**–**	**–**	**(0.6)**	**–**	**–**	**(0.6)**	**(0.5)**	**(1.1)**
Net deferred tax	15	**–**	**–**	**0.1**	**–**	**–**	**0.1**	**–**	**0.1**
Equity based compensation		**–**	**–**	**9.0**	**–**	**–**	**9.0**	**–**	**9.0**
Balance as at 31 December 2022		**122.0**	**(34.0)**	**1,221.9**	**(86.4)**	**44.4**	**1,267.9**	**–**	**1,267.9**

Statement of consolidated cash flows

For the year ended 31 December 2022

	Notes	2022 $m	2021 $m
Cash flows from operating activities			
Loss before tax		**(2.8)**	(56.8)
Adjustments for:			
Tax paid		**(2.1)**	(3.2)
Depreciation	6, 20	**3.1**	3.3
Interest expense on long-term debt	8	**25.8**	25.8
Interest expense on lease liabilities	20	**0.8**	1.1
Interest income	3	**(46.1)**	(34.1)
Net amortisation of fixed maturity securities		**(0.2)**	7.0
Redemption cost on senior and subordinated loan notes	8	**–**	12.8
Net realised / unrealised losses on interest rate swaps	8	**–**	3.4
Equity based compensation	7	**8.6**	11.1
Foreign exchange gains		**(4.9)**	(0.4)
Share of loss of associate	16	**6.5**	3.9
Net other investment loss (income)		**3.8**	(4.7)
Net realised losses (gains) and impairments	3	**22.7**	(6.1)
Changes in operational assets and liabilities			
• Insurance and reinsurance contracts		**313.1**	285.6
• Other assets and liabilities		**(4.5)**	(4.9)
Net cash flows from operating activities		**323.8**	243.8
Cash flows used in investing activities			
Interest received		**50.0**	42.7
Purchase of property, plant and equipment		**(0.7)**	(0.7)
Purchase of underwriting capacity	17	**(4.2)**	(0.2)
Internally generated intangible asset	17	**(10.3)**	(3.2)
Investment in associate	23	**55.0**	4.6
Purchase of investments		**(1,130.2)**	(1,348.5)
Proceeds on sale of investments		**845.5**	1,118.5
Net cash flows used in investing activities		**(194.9)**	(186.8)
Cash flows (used in) from financing activities			
Interest paid		**(25.8)**	(20.8)
Interest rate swap	8	**–**	(3.4)
Lease liabilities paid	20	**(3.6)**	(4.0)
Proceeds from issue of long-term debt	18	**–**	445.4
Redemption of long-term debt	18	**–**	(339.6)
Dividends paid	19	**(36.2)**	(36.4)
Dividends paid to minority interest holders	23	**–**	(0.5)
Repurchase of shares from non-controlling interest	23	**(1.1)**	–
Share repurchases	19	**(23.3)**	(6.9)
Distributions by trust		**(0.8)**	(1.0)
Net cash flows (used in) from financing activities		**(90.8)**	32.8
Net increase in cash and cash equivalents		**38.1**	89.8
Cash and cash equivalents at beginning of year		**517.7**	432.4
Effect of exchange rate fluctuations and other items on cash and cash equivalents		**(7.0)**	(4.5)
Cash and cash equivalents at end of year	10	**548.8**	517.7

Accounting policies

The statutory accounts for the years ended 31 December 2022 and 31 December 2021 have been reported on by the Company's auditor and were (i) unqualified and (ii) did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying their report. The Annual Report and Accounts, including the auditor's report, will be published by the Company on its website on 13 March 2023.

Summary of significant accounting policies

The basis of preparation, use of judgements and estimates, consolidation principles and significant accounting policies adopted in the preparation of these consolidated financial statements are set out below.

Basis of preparation

Going concern basis of accounting

The consolidated financial statements are prepared on a going concern basis using accounting policies consistent with IFRS Standards as adopted by the EU.

In assessing the Group's going concern position as at 31 December 2022, the Directors have considered a number of factors. These include the current balance sheet and liquidity position, the level and composition of the Group's capital and solvency ratios, the Group's ability to service its long-term debt financing arrangements, the current performance against the Group's strategic and financial business plan, the Group's dividend distribution policy, and the current market environment, including consideration for climate change and the ongoing conflict in Ukraine. In addition, the ORSA report is a key document informing the going concern assessment that is submitted to the Board on a quarterly and annual basis.

The Group's financial forecasts reflect the outcomes that the Directors consider most likely, based on the information available at the date of signing these consolidated financial statements. To assesses the Group's going concern, the financial stability of the Group was modelled for a period of at least 12 months and a number of sensitivity, stress and scenario tests were applied. This included, among other analysis, a best estimate forecast as well as various scenarios. This incorporated different magnitudes of reserve releases and attritional, large and catastrophe loss events plus optimistic and pessimistic investment return scenarios. To further stress the financial stability of the Group, additional testing was performed. This included modelling the breakeven capital requirements of our regulators and rating agencies, the impact of potential management actions to reduce the Group's exposure to climate change-related risks, the occurrence of a number of high severity loss events impacting the Group in 2023, alongside an investment shock and finally a reverse stress test scenario designed to render the business model unviable. The testing identified that even under the more severe but plausible stress scenarios, the Group had more than adequate liquidity and solvency headroom.

Based on the going concern assessment performed as at 31 December 2022, the Directors consider there to be no material uncertainties that may cast significant doubt over the Group's ability to continue to operate as a going concern. The Directors have formed a judgement that there is a reasonable expectation that the Group has adequate resources to continue in operational existence in the foreseeable future: a period of at least 12 months from the date of signing these consolidated financial statements.

Use of judgements and estimates

The preparation of the Group's consolidated financial statements requires management to make judgements and estimates that affect the reported amounts of revenue, expenses, assets, liabilities and the accompanying financial statement disclosures. In the course of preparing the consolidated financial statements no key judgements have been made in the process of applying the Group's accounting policies that do not include a related element of estimation uncertainty.

The key assumptions and other sources of estimation uncertainty as at 31 December 2022, that have a significant risk of resulting in a material adjustment to the carrying amount of assets and liabilities in the next financial year, are described below. Assumptions and estimates are based on parameters available when the consolidated financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change or circumstances may arise, that are beyond the control of the Group. Such changes are reflected in the assumptions when they occur.

The most significant judgements and estimates made by management are in relation to losses and loss adjustment expenses, both gross and net of outwards reinsurance recoverable. These are discussed on page 140, within the risk disclosures section from page 145 and within note 13.

Less significant estimates are made in determining the fair value of certain financial instruments and judgement is applied in determining impairment charges. The estimation of the fair value, specifically for 'Level (iii)' investments, is discussed on page 141 and in note 11. In addition, a portion of gross premiums written is based on estimates of the ultimate premiums expected to be received (see the premium and acquisition costs accounting policy on page 140). Judgement is involved in determining the ultimate estimates in order to establish the appropriate premium value and, ultimately, the cash to be received.

The consolidated balance sheet includes indefinite life intangible assets and internally generated intangible assets. Whilst not significant, estimates and assumptions made by management in performing annual impairment tests on these intangible assets are also subject to estimation uncertainty (see note 17).

Other basis of preparation

Where IFRS 4, Insurance Contracts is silent, as it is in respect of certain aspects relating to the measurement of insurance products, the IFRS framework allows reference to another comprehensive body of accounting principles. In such instances, the Group’s management determines appropriate measurement bases, to provide the most useful information to users of the consolidated financial statements, using their judgement and considering U.S. GAAP.

The consolidated balance sheet is presented in order of decreasing liquidity. All amounts, excluding share data or where otherwise stated, are in millions of U.S. dollars.

Changes in accounting standards

There were no new standards that became effective in the year ended 31 December 2022 that have had a material impact on the Group.

Future accounting changes

The Group will apply IFRS 17, Insurance Contracts and IFRS 9, Financial Instruments: Classification and Measurement for the first time on 1 January 2023.

Estimated financial impact of the adoption of IFRS 17 and IFRS 9

The cumulative after tax impact of adopting IFRS 17 will be a reduction to the Group's opening retained earnings and resulting shareholders' equity, as at 1 January 2022. The Group estimates this to be in the range of $17 million to $22 million.

IFRS 17 will create timing differences (see discussion below on onerous losses and discounting) in how insurance contracts are recognised over their lifetime. This may impact the financial reporting period in which profits are recognised but will not amend the overall profitability of the insurance contract. There is no change in the Group's underwriting strategy, fundamentals or risk appetite as a result of adopting IFRS 17.

The adoption of IFRS 9 will result in a $2.9 million, net of tax reclassification adjustment between opening accumulated other comprehensive income and opening retained earnings, as at 1 January 2022. This reclassification adjustment does not impact opening shareholders' equity.

The estimated financial impact disclosed above is still preliminary and may change. IFRS 17 and IFRS 9 are principles based accounting standards. The assumptions, accounting policy choices, judgements and estimation techniques used to interpret these standards continue to be refined as the Group embeds the related new accounting systems, processes and internal controls. The actual financial impact of adopting IFRS 17 and IFRS 9 will first be reported in the Group's consolidated financial statements for the six months ending 30 June 2023.

IFRS 17, insurance contracts

IFRS 17, issued in May 2017, including amendments issued in June 2020, specifies the financial reporting for insurance contracts and supersedes IFRS 4, Insurance Contracts. IFRS 17 is effective for accounting periods beginning on or after 1 January 2023.

The standard includes a number of significant changes regarding the measurement and disclosure of insurance contracts both in terms of liability measurement and profit recognition.

The IFRS 17 general measurement model requires insurance contract liabilities to be measured using:

- probability-weighted estimates of future cash flows;
- discounting;
- a risk adjustment for non-financial risk; and
- a contractual service margin representing the unearned profit that will be recognised over the coverage period.

IFRS 17 is a principles-based accounting standard and the valuation of insurance contract liabilities will continue to be the largest area of estimation uncertainty. This will, however, include additional elements such as the consideration of the cashflows within the contract boundary, discounting and the risk adjustment calculation. There are a number of accounting policy choices that are allowed under the standard and this will require the application of judgement and an increased use of estimation techniques. Management have applied judgement in interpreting the standard in areas such as determining the applicable measurement model, the approach to discounting and the level of aggregation.

The Group has performed an assessment and determined that it will be eligible to apply the simplified model (PAA) to its portfolios and groups of contracts as the measurement of the liability for remaining coverage is not expected to differ materially from that calculated under the general measurement model. For reinsurance contracts held, the Group will apply the PAA (adapted to reflect the features of reinsurance contracts held that differ from insurance contracts issued) to simplify the measurement of a group of reinsurance contracts held. The PAA principally simplifies the measurement of the liability for remaining coverage, replacing the fulfilment cashflow plus contractual service margin approach of the GMM with a measurement based on net of acquisition cost premiums received less those recognised through revenue. For reinsurance contracts held, the measurement of the carrying amount of the asset for remaining coverage is simplified instead of adjusting the contractual service margin.

For contracts measured under the PAA, acquisition cash flows can be recognised as an expense when incurred or included in the cash flows in the measurement of the liability for remaining coverage. The Group will include the cash flows in the measurement of the liability for remaining coverage.

The two largest valuation adjustments that the Group expects to see when adopting IFRS 17 include:

- establishing a directly attributable expense reserve. This is due to the IFRS 17 requirement that all future cash flows related to the fulfilment of insurance contracts be captured within portfolios and applied to groups of insurance contracts. This will replace, at an increased amount, the existing ULAE provision. After initial recognition this reserve should stabilise; and
- discounting the liability for incurred claims. As not all cash flows are expected to be paid or received in one year or less from the date claims are incurred, the Group is required to discount the estimate of future cash flows included in the liability for incurred claims. As current discount rates are applied, this is subject to a degree of volatility.

The Group anticipates applying the bottom-up approach when deriving its discount rates for discounting the liability for incurred claims. This approach requires the use of an appropriate (liquid) risk-free yield curve plus a specific illiquidity premium above the risk-free yield curve. The Group has elected to recognise changes in the effect of discounting as part of insurance finance income or expense in the consolidated income statement. Yield curve information will be sourced from a third-party service provider. The Group writes predominantly short tail business and has not identified any significant financing component in the liability for remaining coverage and has therefore applied judgement to determine that there is no requirement to discount these balances.

Other, smaller, individually immaterial, valuation adjustments on adoption of IFRS 17 will arise from:

- the requirement to revalue all component parts of insurance contract assets and liabilities at current foreign exchange rates. Under IFRS 4 unearned premium and deferred acquisition costs are considered non-monetary assets and are not currently retranslated at the balance sheet date;
- including expected premiums in the estimates of future cash flows. Under IFRS 4, for the majority of the Group's excess of loss contracts, premiums written are recorded based on the minimum and deposit or flat premium, as defined in the contract. Subsequent adjustments to the minimum and deposit premium are recognised in the period in which they are determined;
- the requirement to recognise immediately an onerous loss component and, if applicable reinsurance coverage is in place, a loss recovery component, on the initial recognition of an onerous group of contracts; and
- the requirement to include an element of non-performance risk in the cash flow assumptions when measuring reinsurance contracts held balances under IFRS 17. Under IFRS 4, the Group has not previously recognised a bad debt provision on losses recoverable from reinsurers.

Under IFRS 17, insurance contracts that are subject to similar risks and that are managed together are classified into a portfolio of insurance contracts. Each portfolio of insurance contracts is then divided into a minimum of three groups:

- A group of contracts that are onerous at initial recognition;
- A group of contracts that at initial recognition have no significant possibility of becoming onerous; and
- A group of the remaining contracts in the portfolio.

A group of contracts that are considered onerous at initial recognition will result in a loss being recognised immediately in the consolidated statement of comprehensive income. In the consolidated balance sheet, we would be required to recognise a loss component in the liability for remaining coverage. A loss recovery component will be recognised if there is appropriate reinsurance coverage in place.

A risk adjustment for non-financial risk will be determined to reflect the compensation that the Group would require for bearing non-financial risk and its degree of risk aversion. The risk adjustment for non-financial risk under IFRS 17 is not expected to differ materially from the reserve margin under IFRS 4 as the fundamentals of our reserving will remain consistent. The risk adjustment for non-financial risk will be subject to discounting and the confidence level will be inferred.

IFRS 17 will result in a number of presentation differences compared to the existing IFRS 4 consolidated financial statements:

- The insurance service result will comprise insurance revenue, insurance service expense, net expenses from reinsurance contracts held and insurance finance income or expense;
- Reinsurance contracts held are required to be presented separately from insurance contracts issued;
- The reporting of gross premiums written is no longer applicable under IFRS 17 and insurance revenue will equate more closely to gross earned premium. Reinstatement premiums will be recognised against insurance service expense while commissions paid to cedants will be recognised as a deduction from insurance revenue. Non-distinct investment components, which are defined as amounts that are repayable in all circumstances, are required to be excluded from insurance revenue and expenses;
- A portion of operating expenses will be included in insurance service expense; and
- On the face of the balance sheet all re(insurance) related balances will be presented in either insurance liabilities/assets or reinsurance assets/liabilities.

IFRS 17 has been endorsed by the EU and UK. The Group anticipates applying the fully retrospective transition approach when adopting IFRS 17, which will result in a restatement of the Group's comparative information for insurance contracts in scope of IFRS 17.

IFRS 9, financial instruments: classification and measurement

IFRS 9 is effective for annual periods beginning on or after 1 January 2018. The amendments to IFRS 4, Insurance Contracts, issued in 2016, provide a temporary exemption from applying IFRS 9. The Group continues to qualify for, and has elected to apply, the temporary exemption available to companies whose predominant activity is to issue insurance contracts. The exemption lasts until the implementation date of IFRS 17 and addresses the accounting consequences of applying IFRS 9 to insurers prior to the adoption of IFRS 17. In addition, the Group elected, under the amendments of the initial application of IFRS 17 and IFRS 9 - Comparative Information - issued in December 2021, to apply the classification overlay to all financial assets. The Group aims to apply this narrow scope amendment using the classification and measurement categories on the initial application date of IFRS 9, being 1 January 2023 and has also elected to apply the impairment requirements of IFRS 9 for comparative periods.

The Group will therefore apply IFRS 9 retrospectively and restate comparative information for financial instruments in scope of IFRS 9, except for the determination of the business model within which a financial asset is held. This assessment will be made on the basis of the facts and circumstances that existed as at 1 January 2023.

IFRS 9 introduces new classification and measurement requirements for financial instruments: an expected credit loss impairment model that replaces the IAS 39 incurred loss model and new hedge accounting requirements. Applying the new requirements of IFRS 9, all investments held by the Group will be classified as at FVTPL mandatory, because they are managed on a fair value basis. As a result, all investments currently disclosed in note 11 as AFS will be reclassified as at FVTPL mandatory with changes in unrealised gains (losses) currently recorded within accumulated other comprehensive (loss) income to be reclassified and recorded within net investment income in profit or loss. The reclassification from AFS to FVTPL mandatory will not result in a change in the carrying value of the investments disclosed in note 11. The change in classification from AFS to FVTPL mandatory will result in balances within accumulated other comprehensive (loss) income being reclassified to retained earnings on the date of transition. The Group expects the impact of the expected credit loss model to be immaterial.

Consolidation principles

The consolidated financial statements comprise the financial statements of the Company and its subsidiaries as at and for the year ended 31 December 2022. Subsidiaries are fully consolidated from the date of acquisition, being the date on which the Group obtains control, and continue to be consolidated until the date when such control ceases. Intercompany balances, profits and transactions are eliminated. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the subsidiary and has the ability to affect those returns through its power over the subsidiary.

The Group participates in two syndicates at Lloyd's, which are managed by the Group's managing agent subsidiary. In view of the several liability of underwriting members at Lloyd's, the Group recognises its proportion of all the transactions undertaken by the syndicates in which it participates within its consolidated statement of comprehensive income. Similarly, the Group's proportion of the syndicates' assets and liabilities has been reflected in its consolidated balance sheet. This proportion is calculated by reference to the Group's participation as a percentage of each syndicate's total capacity for each year of account.

Subsidiaries' accounting policies are generally consistent with the Group's accounting policies. Where they differ, adjustments are made on consolidation to bring accounting policies in line.

Associate

Investments in which the Group has significant influence over the operational and financial policies of the investee are recognised at cost and thereafter accounted for using the equity method. Under this method, the Group records its proportionate share of income from such investments in its consolidated statement of comprehensive income for the period. Adjustments are made to associate accounting policies, where necessary, in order to be consistent with the Group's accounting policies.

Foreign currency

Functional currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which operations are conducted (the 'functional currency'). The consolidated financial statements are presented in U.S. dollars (the 'presentation currency').

Transactions and balances

Foreign currency transactions are recorded in the functional currency for each entity using the exchange rates prevailing at the dates of the transactions, or at the average rate for the period when this is a reasonable approximation. Monetary assets and liabilities denominated in foreign currencies are revalued at period end exchange rates. The resulting exchange differences on revaluation are recorded in the consolidated statement of comprehensive income within net foreign exchange gains (losses). Non-monetary assets and liabilities denominated in a foreign currency are carried at historic rates. Non-monetary assets and liabilities carried at estimated fair value and denominated in a foreign currency are translated at the exchange rate at the date the estimated fair value was determined.

Foreign operations

The results and financial position of all the Group entities that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- assets and liabilities are translated at the closing rate on the balance sheet date;
- income and expenses are translated at average exchange rates for the period; and
- all resulting foreign exchange differences are recognised in other comprehensive income and as a separate component of shareholders' equity.

On disposal of foreign operations, cumulative exchange differences previously recognised in other comprehensive income are recognised in profit or loss as part of the gain or loss on disposal.

Intangible assets

The Group's intangible assets comprise indefinite life intangible assets and internally generated intangible assets.

The Group's indefinite life intangible assets comprise syndicate participation rights and goodwill. The cost of syndicate participation rights and goodwill acquired in a business combination is their fair value as at the date of acquisition. Additional syndicate participation rights may be purchased from time to time and are recorded at the cost on the date of the syndicate capacity auction. Goodwill and syndicate participation rights are considered to have an indefinite useful life and are not amortised. They are carried at cost less any accumulated impairment losses. Intangible assets with an indefinite useful life are tested annually for impairment at the CGU level by comparing the net present value of the future cash flow stream of the CGU to the carrying value of the CGU and related intangible assets. The useful life of an indefinite life intangible asset is reviewed annually to determine if the assessment continues to be supportable.

Internally generated intangible assets represent directly attributable costs incurred in the development phase of implementing a cloud based target operating model. An internally generated intangible asset is recognised if it can be demonstrated that there is an intent, available resource and technical feasibility to complete the intangible asset so that it is available for use and that it will generate probable future economic benefits. The costs must be capable of being measured reliably. They are carried at cost less any accumulated impairment losses. Intangible assets not yet available for use are tested annually for impairment at the CGU level by comparing the net present value of the future cash flow stream of the CGU to the carrying value of the CGU and related intangible assets.

Internally generated intangible assets available for use are considered to have a finite life. Applying the cost model, intangible assets with finite lives are amortised over their estimated useful economic life and assessed for impairment whenever there are indicators of impairment.

Insurance contracts

Classification

Insurance contracts are those contracts that transfer significant insurance risk at the inception of the contract. Contracts that do not transfer significant insurance risk are accounted for as investment contracts. Insurance risk is transferred when an insurer agrees to compensate a policyholder if a specified uncertain future event adversely affects the policyholder.

Premiums and acquisition costs

Premiums are first recognised as written at the later of a contract's binding or inception date. The Group writes both excess of loss and pro-rata (proportional) contracts. For the majority of excess of loss contracts, premiums written are recorded based on the minimum and deposit or flat premium, as defined in the contract. Subsequent adjustments to the minimum and deposit premium are recognised in the period in which they are determined. For pro-rata contracts and excess of loss contracts where no deposit is specified in the contract, premiums written are recognised based on estimates of ultimate premiums provided by the insureds or ceding companies. Initial estimates of premiums written are recognised in the period in which the contract incepts, or the period in which the contract is bound if later. Subsequent adjustments, based on reports of actual premium by the insureds or ceding companies, or revisions in estimates, are recorded in the period in which they are determined.

Premiums written are earned evenly over the term of the underlying risk period of the insurance contract, except where the period of risk differs significantly from the contract period. In these circumstances, premiums are recognised over the period of risk in proportion to the amount of insurance protection provided. The portion of the premium related to the unexpired portion of the risk period is reflected in unearned premiums.

Where contract terms require the reinstatement of coverage after an insured's or ceding company's loss, the estimated mandatory reinstatement premiums are recorded as premiums written when a specific loss event occurs. Reinstatement premiums are not recorded for losses included within the provision for IBNR that do not relate to a specific loss event.

Inwards premiums receivable from insureds and cedants are recorded net of commissions, brokerage, premium taxes and other levies on premiums, unless the contract specifies otherwise. These balances are regularly reviewed for impairment, with any impairment loss recognised as an expense in the period in which it is determined.

Acquisition costs represent commissions, brokerage, profit commissions and other variable costs that relate directly to the successful securing of new contracts and the renewing of existing contracts. They are generally deferred over the period in which the related premiums are earned to the extent they are recoverable out of expected future revenue margins. All other acquisition costs are recognised as an expense when incurred.

Outwards reinsurance

Outwards reinsurance premiums comprise the cost of reinsurance contracts held entered into. Outwards reinsurance premiums are accounted for in the period in which the contract incepts, or the period in which the contract is bound if later. The provision for the reinsurers' share of unearned premiums represents that part of reinsurance premiums ceded which are estimated to be earned in future financial periods. Unearned reinsurance commissions are recognised as a liability using the same principles.

Any amounts recoverable from reinsurers are estimated using the same methodology as for the underlying losses. The Group monitors the creditworthiness of its reinsurers on an ongoing basis and assesses any reinsurance assets for impairment, with any impairment loss recognised as an expense in the period in which it is determined.

Losses

Losses comprise losses and loss adjustment expenses paid in the period and changes in the provision for outstanding losses and ACR, including the provision for IBNR and related expenses. Losses and loss adjustment expenses are charged to profit or loss as they are incurred.

Losses and loss adjustment expenses represent the estimated ultimate cost of settling all insurance claims arising from events which have occurred up to the balance sheet date, including a provision for IBNR. The Group does not discount its liabilities for unpaid losses. Outstanding losses are initially set on the basis of reported losses received from third parties. ACR are determined where management's best estimate of the reported loss is greater than that reported and are allocated with IBNR in the Group's financial reporting. Estimated IBNR reserves may also consist of a provision for additional development in excess of losses reported by insureds or ceding companies, as well as a provision for losses which have occurred but which have not yet been reported by insureds or ceding companies. IBNR reserves are estimated by management using various actuarial methods as well as a combination of the Group's own loss experience, historical insurance industry loss experience, underwriters' experience, estimates of pricing adequacy trends and management's professional judgement.

A portion of the Group's business is in classes with high attachment points of coverage, including property catastrophe excess of loss. Reserving for losses in such programmes is inherently complicated in that losses in excess of the attachment level of the Group's policies are characterised by high severity and low frequency and other factors which could vary significantly as losses are settled. This limits the volume of industry loss experience available from which to reliably predict ultimate losses following a loss event.

The estimation of the ultimate loss and loss adjustment expense liability is a complex process which incorporates a significant amount of judgement. It is reasonably possible that uncertainties inherent in the reserving process, delays in insureds or ceding companies reporting losses to the Group, together with the potential for unforeseen adverse developments, could lead to a material change in estimated losses and loss adjustment expenses.

Liability adequacy tests

At each balance sheet date, the Group performs a liability adequacy test to determine if there is an overall excess of expected claims over unearned premiums for the period of unexpired risk by using current best estimates of future cash outflows generated by its insurance contracts, plus any investment income thereon. If, as a result of these tests, the carrying amount of the Group's insurance liabilities is found to be inadequate, the deficiency is charged to income for the period, initially by writing off deferred acquisition costs and subsequently by establishing a provision.

Financial instruments

Cash and cash equivalents

Cash and cash equivalents are carried in the consolidated balance sheet at amortised cost and include cash in hand, deposits held on call with banks and other short-term, highly-liquid investments with a maturity of three months or less at the date of purchase. Carrying amounts approximate fair value due to the short-term nature and high liquidity of the instruments.

Interest income earned on cash and cash equivalents is recognised on the effective interest rate method. The carrying value of accrued interest income approximates estimated fair value due to its short-term nature and high liquidity.

Investments

The Group's fixed maturity securities include quoted and unquoted investments that are classified as either AFS or at FVTPL and are carried at fair value. The classification of the Group's financial assets is determined at the time of initial purchase and depends on the nature of the investment. A financial asset is classified at FVTPL if it is managed and evaluated on a fair value basis or if acquired principally for the purpose of selling in the short term, or if it forms part of a portfolio of financial assets in which there is evidence of short-term profit taking. Equity securities classified as AFS are those that are neither classified as held for trading nor designated at FVTPL. Fixed maturity securities classified as AFS are those that are intended to be held for an indefinite period, however, these securities are also managed on a fair value basis. The composition, duration and allocation of these investments are reviewed by management on a regular basis in order to respond to needs for liquidity, changes in interest rates and other market conditions.

The Group has elected to designate certain fixed maturity securities, index linked securities, exchange traded funds and its private investment funds at FVTPL upon initial recognition. This category includes instruments in which the cash flows are linked to the performance of an underlying pool of securities. Presentation of these securities in the FVTPL category is consistent with how management monitors and evaluates the performance of these securities.

The Group's hedge funds are unquoted investments classified at FVTPL and are carried at fair value. Fair values are determined using a combination of the most recent NAVs provided by each fund's independent administrator and the estimated performance provided by each hedge fund manager.

Regular way purchases and sales of investments are recognised at fair value including, in the case of investments not carried at FVTPL, transaction costs attributable to the acquisition of that investment on the trade date and are subsequently carried at fair value. The fair values of quoted and unquoted investments are determined based on bid prices from recognised exchanges, broker-dealers, recognised indices or pricing vendors. Unrealised gains and losses from changes in the fair value of AFS investments are included in accumulated other comprehensive income in shareholders' equity. Changes in fair value of investments classified at FVTPL are recognised in the consolidated statement of comprehensive income within net other investment income.

Investments are derecognised when the Group has transferred substantially all of the risks and rewards of ownership. On derecognition of an AFS investment, previously recorded unrealised gains and losses are recycled from accumulated other comprehensive (loss) income in shareholders' equity and included in the consolidated statement of comprehensive income as a realised gain or loss within net realised gains (losses) and impairments.

Amortisation and accretion of premiums and discounts on AFS fixed maturity securities are calculated using the effective interest rate method and are recognised in current period net investment income. Interest income is recognised on the effective interest rate method. The carrying value of accrued interest income approximates estimated fair value due to its short-term nature and high liquidity. Dividends on equity securities are recorded as income on the date the dividends become payable to the holders of record.

The Group regularly reviews the carrying value of its AFS investments for evidence of impairment. Such evidence would include a prolonged decline in estimated fair value below cost or amortised cost, where other factors, such as expected cash flows, do not support a recovery in value. If an impairment is deemed appropriate, the difference between cost or amortised cost and estimated fair value is removed from accumulated other comprehensive income in shareholders' equity and charged to current period profit or loss. Impairment losses on fixed maturity securities may be subsequently reversed through profit or loss while impairment losses on equity securities are not subsequently reversed through profit or loss.

Derivative financial instruments

Derivatives are classified as financial assets or liabilities at FVTPL. They are initially recognised at fair value on the date a contract is entered into, the trade date, and are subsequently carried at fair value. Derivative instruments with a positive estimated fair value are recorded as derivative financial assets and those with a negative fair value are recorded as derivative financial liabilities.

Derivative financial instruments include exchange-traded future and option contracts, forward foreign currency contracts, interest rate swaps, credit default swaps and interest rate swaptions. They derive their value from the underlying instrument and are subject to the same risks as that underlying instrument, including liquidity, credit and market risk. Fair values are based on exchange or broker-dealer quotations, where available, or discounted cash flow models, which incorporate the pricing of the underlying instrument, yield curves and other factors. Changes in the estimated fair value of derivative instruments are recognised in the consolidated statement of comprehensive income within net other investment income. The Group does not currently apply hedge accounting to any derivative contracts. For discounted cash flow techniques, estimated future cash flows are based on management's best estimates and the discount rate used is an appropriate market rate.

Derivative financial assets and liabilities are offset and the net amount is reported in the consolidated balance sheet only to the extent there is a legally enforceable right of offset and there is an intention to settle on a net basis, or to realise the assets and liabilities simultaneously. Derivative financial assets and liabilities are derecognised when the Group has transferred substantially all of the risks and rewards of ownership or the liability is discharged, cancelled or expired.

Other income

Other income is measured based on the consideration specified in a contract and excludes amounts collected on behalf of third parties.

Nature of services

The table below shows the nature, specific performance obligation and significant payment terms for the services within the scope of IFRS 15, Revenue from Contracts with Customers.

Services	Nature, timing of satisfaction of performance obligation and significant payment terms
LCM underwriting fees	The Group recognises underwriting fees over the underwriting cycle based on the underlying exposure of the covered contracts. Underwriting fees are received on or before the collateral funding date, which is prior to commencement of the underwriting cycle.
LCM profit commission	The Group recognises profit commission following the end of the underwriting cycle based on the underlying performance of the covered contracts and as collateral is released. Profit commissions may only be received once the profit commission hurdle has been met.
LSL consortium management fees	The Group recognises consortium fees over the risk period based on the underlying exposure of the covered contracts. Consortium fees are received quarterly.
LSL consortium profit commission	The Group recognises profit commission in line with the underlying performance of covered contracts once the year of account closes, which is also when the profit commissions are received.
LSL managing agency fees	The Group recognises managing agency fees in line with services provided for each year of account. Managing agency fees are received quarterly.
LSL managing agency profit commission	The Group recognises profit commission on open years of account when measurement is highly probable. Profit commissions are received once the year of account closes.
LSL coverholder fee income	The Group recognises coverholder fee income in line with services provided. Coverholder fee income is received quarterly.

Long-term debt

Long-term debt is recognised initially at fair value, net of transaction costs incurred. Thereafter it is held at amortised cost, with the amortisation calculated using the effective interest rate method. Derecognition occurs when the obligation has been extinguished.

Property, plant and equipment

Property, plant and equipment is carried at historical cost, less accumulated depreciation and any impairment in value. Depreciation is calculated to write off the cost over the estimated useful economic life on a straight-line basis as follows:

IT equipment	33% per annum
Office furniture and equipment	20% to 33% per annum
Leasehold improvements	20% per annum

The assets' residual values, useful lives and depreciation methods are reviewed, and adjusted if appropriate, at each balance sheet date.

An item of property, plant or equipment is derecognised on disposal or when no future economic benefits are expected to arise from the continued use of the asset.

Gains and losses on the disposal of property, plant and equipment are determined by comparing proceeds with the carrying amount of the asset, and are included in the consolidated statement of comprehensive income. Costs for repairs and maintenance are charged to profit or loss as incurred.

Leases

The Group assesses whether a contract is, or contains, a lease at the inception of a contract for all contracts that have been entered into or modified on or after 1 January 2019. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The Group recognises a right-of-use asset and a lease liability at the lease commencement date. The Group is not a lessor to any lease contracts.

The lease liability is initially measured at the present value of the future lease payments at the lease commencement date. Lease payments are discounted using the rate implicit in the lease, if readily determinable, or the Group's incremental borrowing rate. Lease payments included in the measurement of the lease liability comprise:

- Fixed lease payments;
- Variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date; or
- Payments in respect of purchase options, lease termination options or lease extension options that the Group is reasonably certain to exercise.

The lease liability is subsequently measured by increasing the lease carrying amount to reflect the interest due on the lease liability using the effective interest rate method and by reducing the carrying amount to reflect the lease payments made.

The Group re-measures the lease liability and the related right-of-use asset whenever:

- The lease term changes as a result of the Group changing its assessment of whether it will exercise a purchase, extension or termination option, in which case the lease liability is re-measured by discounting the revised lease payments using a revised discount rate;
- The lease payments change due to changes in an index or rate or a change in expected payment under a guaranteed residual value, in which case the lease liability is re-measured by discounting the revised lease payments using the initial discount rate; or
- A lease contract is modified and the lease modification is not accounted for as a separate lease, in which case the lease liability is re-measured by discounting the revised lease payments using a revised discount rate.

The right-of-use asset is initially measured at cost, which comprises the initial measurement of the corresponding lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of any costs to be incurred at expiration of the lease agreement.

Right-of-use assets are subsequently measured at cost less accumulated depreciation and any impairment losses. Straight-line depreciation is calculated from the commencement date of the lease to the earlier of either the end date of the lease term or the useful life of the underlying asset.

Both the right-of-use assets and lease liabilities are presented as separate financial statement line items on the consolidated balance sheet.

Employee benefits

Equity compensation plans

The Group currently operates a RSS under which nil-cost options have been granted. The fair value of the equity instruments granted is estimated on the date of grant. The estimated fair value is recognised as an expense pro-rata over the vesting period of the instrument, adjusted for the impact of any non-market vesting conditions. No adjustment to vesting assumptions is made in respect of market vesting conditions.

At each balance sheet date, the Group revises its estimate of the number of RSS nil-cost options that are expected to become exercisable. It recognises the impact of the revision of original estimates, if any, as equity based compensation expense in the consolidated statement of comprehensive income, and a corresponding adjustment is made to other reserves in shareholders' equity over the remaining vesting period.

On exercise, the differences between the expense charged to the consolidated statement of comprehensive income and the actual cost to the Group, if any, is transferred within the components of other reserves in shareholders' equity.

Pensions

The Group operates a defined contribution plan. On payment of contributions to the plan there is no further obligation for the Group. Contributions are recognised as employee benefits in the consolidated statement of comprehensive income in the period when the services are rendered.

Tax

Income tax represents the sum of tax currently payable and any deferred tax. The tax payable is calculated based on taxable profit for the period using tax rates and tax laws enacted or substantively enacted at the year end reporting date and any adjustments to tax payable in respect of prior periods. Taxable profit for the period can differ from that reported in the consolidated statement of comprehensive income due to non-taxable income and certain items which are not tax deductible or which are deferred to subsequent periods.

Deferred tax is recognised on all temporary differences between the carrying value of the assets and liabilities in the consolidated balance sheet and their tax base, except when the deferred tax liability arises from the initial recognition of goodwill. Deferred tax assets or liabilities are accounted for using the balance sheet liability method. Deferred tax assets are recognised to the extent that realising the related tax benefit through future taxable profits is likely and are reassessed each year for recognition.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes relate to the same fiscal authority.

Where the current estimated fair value of equity based compensation awards differs from the estimated fair value at the time of grant, adjusted where applicable for dividends, the related corporation tax and deferred tax charge or credit is recognised directly in other reserves.

The Group determines, based on its tax compliance and transfer pricing study, the probability/certainty of the tax treatments being accepted by the taxation authorities and accounts for these in line with its determination.

Own shares

Own shares include shares repurchased under share repurchase authorisations and held in treasury, plus shares repurchased and held in trust, for the purposes of employee equity-based compensation schemes. Own shares are deducted from shareholders' equity. No gain or loss is recognised on the purchase, sale, cancellation or issue of own shares and any consideration paid or received is recognised directly in equity.

Risk disclosures

For the year ended 31 December 2022

Risk disclosures: introduction

The Group is exposed to risks from several sources, classified into six primary risk categories. These are insurance risk, market risk, liquidity risk, credit risk, operational risk and strategic risk. The primary risk to the Group is insurance risk.

The primary objective of the Group's ERM framework is to ensure that the capital resources held are matched to the risk profile of the Group and that the balance between risk and return is considered as part of all key business decisions. The Group has formulated, and keeps under review, a risk appetite which is set by the Board of Directors. The Group's appetite for risk will vary from time to time to reflect the potential risks and returns that present themselves. However, protecting the Group's capital and maximising risk-adjusted returns for investors over the long term are constants. The risk appetite of the Group is central to how the business is run and permeates into the risk appetites that the individual operating entity boards of directors have adopted. These risk appetites are expressed through detailed risk tolerances at both a Group and an operating entity level. Risk tolerances represent the maximum amount of capital, generally on a modelled basis, that the Group and its entities are prepared to expose to certain risks.

The Board of Directors is responsible for setting and monitoring the Group's risk appetite and tolerances, whereas the individual entity boards of directors are responsible for setting and monitoring entity level risk tolerances. All risk tolerances are subject to at least an annual review and consideration by the respective boards of directors. The LHL Board and individual entity boards of directors review actual risk levels versus tolerances, emerging risks and any risk learning events at least quarterly. In addition, on a monthly basis, management assesses the modelled potential catastrophe losses against the risk tolerances and ensures that risk levels are managed in accordance with them.

Emerging risks

Climate change

The Group is exposed to both climate-related risks and opportunities. The two major categories of risk being transition risk and physical risk.

Transition risks are those relating to the transition to a lower carbon economy and include risks such as policy and legal risk, technology risk, market risk and reputation risk. Physical risks are those relating to the physical impacts of climate change which can be acute (those from increased frequency and severity of climate related events) or chronic (due to longer-term shifts in climate patterns). As a (re)insurance company, the Group is more significantly affected by physical risk through its exposure to acute and chronic climate change. The potential financial impact from these climate-related risks is assessed through scenario testing and mitigated by the Group's strategic and risk management decisions around managing these risks. A risk radar has been prepared to illustrate the risks identified and the likelihood and magnitude of these risks; this diagram can be found on page 65. The risk assessment also considers the products currently offered by the Group and how these might change over time during the transition to a lower carbon economy. A table summarising potential opportunities, their timeframe, likelihood and magnitude is included on page 66. The Group's current assessment of risk in relation to climate change is discussed in more detail within the TCFD report of this Annual Report and Accounts on pages 67 to 69.

The Group's process in identifying, assessing and managing climate risk with respect to insurance risk, investment risk and business plan risk is discussed further below in our risk disclosures.

Ongoing conflict in Ukraine

We continue to closely monitor our exposure with regards to the ongoing conflict in Ukraine, which remains a complex and fluid situation. We believe that any potential losses would be within our risk tolerances.

Economic capital models

The Group maintains economic capital models at the LICL, LUK and syndicate levels. These models are primarily focused on insurance risks, however they are also used to model other risks including market, credit and operational risks. The syndicate models are vetted by Lloyd's as part of its own capital and solvency regulations.

The economic capital models produce data in the form of stochastic distributions for all classes, including non-elemental classes. The distributions include the mean outcome and the result at various return periods, including very remote events. Projected financial outcomes for each insurance class are calculated, as well as the overall portfolio including diversification credit. Diversification credit arises as individual risks are generally not strongly correlated and are unlikely to all produce profits or losses at the same time.

A. Insurance risk

The Group underwrites worldwide, predominantly short-tail, insurance and reinsurance contracts that transfer insurance risk, including risks exposed to both natural and man-made catastrophes. The Group's exposure in connection with insurance contracts is, in the event of insured losses, whether premiums will be sufficient to cover the loss payments and expenses. Insurance and reinsurance markets are cyclical and premium rates and terms and conditions vary by line of business depending on market conditions and the stage of the cycle. Market conditions are impacted by capacity and recent loss events, and broader economic cycle impacts amongst other factors. The Group's underwriters assess likely losses using their experience and knowledge of past loss experience, industry trends and current circumstances. This allows them to estimate the premiums sufficient to meet likely losses and expenses and desired levels of profitability.

The Group considers insurance risk at an individual contract level, at a segment level, at a geographic level and at an aggregate portfolio level. This ensures that careful risk selection, limits on concentration and appropriate portfolio diversification are accomplished. The level of insurance risk tolerance per peril is set by the Board and the boards of directors at individual entity level.

A number of controls are deployed to manage the amount of insurance exposure assumed:

- the Group has a rolling three-year strategic plan that helps establish the over-riding business goals that the Board of Directors aims to achieve;
- a detailed business plan is produced annually, which includes expected premiums and combined ratios by class and considers risk-adjusted profitability, capital usage and requirements. The plan is approved by the Board of Directors and is monitored, reviewed and updated on an ongoing basis;
- for LSL, the syndicates' business forecasts and business plans are subject to review and approval by Lloyd's;
- economic capital models are used to measure occurrence risks, aggregate risks and correlations between classes and other non-insurance risks;
- each authorised class has a predetermined normal maximum line structure;
- each underwriter has a clearly defined limit of underwriting authority;
- the Group and individual operating entities have predetermined tolerances on probabilistic and deterministic losses of capital for certain single events;
- risk levels versus tolerances are monitored on a regular basis;
- a daily underwriting call is held for LICL and LUK to peer review insurance proposals, opportunities and emerging risks ;
- a daily post-binding review process with exception reporting to management based on underwriting authority operates at LSL;
- sophisticated pricing and aggregation models are utilised in certain areas of the underwriting process;
- a number of modelling tools are deployed to model catastrophes and resultant losses to the portfolio and the Group; and
- reinsurance may be purchased to mitigate both frequency and severity of losses on a facultative, excess of loss treaty or proportional treaty basis.

Some of the Group's business provides coverage for natural catastrophes (e.g. hurricanes, earthquakes, wildfires and floods) and is subject to potential seasonal variation and the effects of climate change. A proportion of the Group's business is exposed to large catastrophe losses in North America, Europe and Japan as a result of windstorms. The level of windstorm activity, and landfall thereof, during the North American, European and Japanese wind seasons may materially impact the Group's loss experience. The North American and Japanese wind seasons are typically June to November and the European wind season November to March. The Group also bears exposure to large losses arising from other non-seasonal natural catastrophes, such as earthquakes, tsunamis, droughts, floods and tornadoes, from risk losses throughout the year and from war, terrorism and political risk and other events. The Group's associate bears exposure to catastrophe losses and any significant loss event could potentially result in impairment in the value of the Group's investment in associate.

Climate change may expose the Group to the risk of heightened severity and frequency of weather-related losses. Climate related risks are identified and assessed as part of the usual risk identification and management process which includes but is not limited to: discussions with risk owners and with subject matter experts across the Group, discussions at the Emerging Risk Working Forum, the CCWG, and the ESG Co-ordination Committee. Climate-related risks specific to the (re)insurance portfolios are identified and assessed as part of the day-to-day underwriting process by individual underwriters in their analysis of specific risk information, and more broadly in the context of the wider portfolio during the daily UMCC and the fortnightly RRC meetings. These reviews include: the physical location of assets insured, weather related perils that have impacted the location and their historical frequency and severity, as well as expected short and long-term changes. The annual individual entity underwriting strategy days and the annual Group catastrophe underwriting strategy day assess climate-related risks of both current and anticipated future risks, which include but are not limited to transition risk arising from a decline in the value of assets to be insured, changing energy costs, and liability risks that could arise from climate-related litigation. Physical, transition and liability risks are considered by business segment and geographical location, and the expected impact from the risks identified is considered with respect to both magnitude and timescale.

We manage climate risk by using stochastic models from third-party vendors which have a long history of data quality governance. We adapt these models based upon our views of climate risk, as well as our clients' exposure data, to create aggregate loss scenarios. During 2022 we have increased our modelling capabilities to include additional secondary perils. Underwriting guidelines support the underwriting process and provide guidance to assist underwriters in their decision making. Performance against guidelines is monitored via the UMCC and related reporting. We have clear tolerances and preferences in place to actively manage exposures, and the Board regularly monitors our PMLs.

The Group accepts risks for periods primarily of one year, which mitigates the impact of climate risk. The Group has the ability to re-evaluate the portfolio on an annual basis and therefore reprice physical risk and reset exposure levels to consider new data regarding the frequency and severity of elemental catastrophe events.

Catastrophe management

The Group actively monitors risk levels and manages catastrophe risk accumulations using reinsurance and PML based risk tolerances, which are monitored as part of our climate-related risks as outlined on page 68. The Group's exposures to certain peak zone elemental losses, as a percentage of tangible capital, including long-term debt, are shown below. Net loss estimates are before income tax and net of reinstatement premiums and outwards reinsurance on a first occurrence return period basis. The exposure to catastrophe losses that would result in an impairment to the investment in associate is included in the figures below.

As at 31 December 2022		100 year return period[2] estimated net loss		250 year return period[2] estimated net loss	
		$m	% of tangible capital	$m	% of tangible capital
Zones	**Perils**				
Gulf of Mexico[1]	Hurricane	**301.2**	**19.5**	**348.0**	**22.6**
California	Earthquake	**248.0**	**16.1**	**291.9**	**18.9**
Non-Gulf of Mexico – U.S.	Hurricane	**217.2**	**14.1**	**362.5**	**23.5**
Pan-European	Windstorm	**181.2**	**11.8**	**218.4**	**14.2**
Japan	Typhoon	**144.5**	**9.4**	**180.3**	**11.7**
Japan	Earthquake	**121.6**	**7.9**	**172.1**	**11.2**
Pacific North West	Earthquake	**29.5**	**1.9**	**137.5**	**8.9**

1. Landing hurricane from Florida to Texas.
2. Estimated net loss balances presented in the table are unaudited.

As at 31 December 2021		100 year return period[2] estimated net loss		250 year return period[2] estimated net loss	
		$m	% of tangible capital	$m	% of tangible capital
Zones	**Perils**				
Gulf of Mexico[1]	Hurricane	309.0	18.2	558.2	32.8
California	Earthquake	160.5	9.4	325.4	19.1
Non-Gulf of Mexico – U.S.	Hurricane	206.8	12.2	600.5	35.3
Pan-European	Windstorm	154.1	9.1	228.5	13.4
Japan	Typhoon	118.3	7.0	131.7	7.7
Japan	Earthquake	89.9	5.3	143.3	8.4
Pacific North West	Earthquake	26.8	1.6	139.0	8.2

1. Landing hurricane from Florida to Texas.
2. Estimated net loss balances presented in the table are unaudited.

There can be no guarantee that the modelled assumptions and techniques deployed in calculating these figures are accurate. There could also be an unmodelled loss which exceeds these figures. In addition, the models contain loss scenarios which could cause a larger loss to capital than the modelled expectation from the above return periods.

Details of annual gross premiums written by geographic area of risks insured are provided below:

	2022		2021	
	$m	%	$m	%
U.S. and Canada	**639.6**	**38.7**	465.2	38.0
Worldwide – multi territory	**616.1**	**37.3**	424.8	34.7
Europe	**140.5**	**8.5**	138.8	11.3
Rest of world	**256.1**	**15.5**	196.4	16.0
Total gross premiums written	**1,652.3**	**100.0**	1,225.2	100.0

Details of annual gross premiums written by business segment are provided below:

	2022		2021	
	$m	%	$m	%
Reinsurance	**842.1**	**51.0**	561.0	45.8
Insurance	**810.2**	**49.0**	664.2	54.2
Total gross premiums written	**1,652.3**	**100.0**	1,225.2	100.0

Comparative figures for the year ended 31 December 2021 have been re-presented in conformity with the current year view.

I. Reinsurance segment

The Group's reinsurance segment comprises the following management groups:

Property reinsurance

Property catastrophe treaty covers elemental risks and is written on an excess of loss treaty basis. The property catastrophe excess of loss portfolio is written within the U.S. and also internationally. Cover is offered for specific perils and regions or countries.

Property risk excess of loss is written on an excess of loss basis through UNL treaty arrangements, predominantly covering fire and allied perils in addition to natural catastrophe exposure. The portfolio is written on a worldwide basis, with particular focus on the U.S. market.

Other property treaty business includes property proportional which is written predominantly within the U.S. on a quota share basis.

The Group is exposed to large natural catastrophe losses, such as windstorm and earthquake losses, primarily from assuming property catastrophe excess of loss risks. Exposure to such events is controlled and measured by setting limits on stochastic modelling exposures in certain classes per geographic zone and through loss modelling. The accuracy of the latter exposure analysis is limited by the quality of data and the effectiveness of the modelling. It is possible that a catastrophic event significantly exceeds the expected modelled event loss.

Casualty reinsurance

The casualty treaty book is written predominantly on a quota share basis with a limited amount of excess of loss sold. The book is made up of predominantly U.S. exposure in general casualty and professional lines with some smaller specialty casualty deals and excess casualty.

Financial lines treaty encompasses our mortgage book as well as a small amount of non-mortgage credit. The mortgage book is split between quota share and excess of loss structures. It is made up of predominantly U.S exposure on GSE and PMI reinsurance with a small amount in Australia.

The vast majority of the Accident and Health treaty reinsurance business is excess of loss, either facultative or treaty. The distribution is global but with a focus on the U.S., Canada, UK and EU. There is very little exposure in Asia, Australasia, Africa or South America. Typical coverage offered is death & disablement, medical expenses, evacuation and repatriation, and other limited ancillary expenses.

Specialty reinsurance

Property retrocession is written on an excess of loss basis through treaty arrangements and covers elemental risks. Cover may be on a worldwide or regional basis and may cover specific risks or all catastrophe perils. Coverage may be given on a UNL basis, meaning that loss payments are linked directly to the ceding company's own loss, or on a UNL basis warranted on an overall industry loss, as measured by third party index providers, known as ILW coverage.

The energy and marine treaty book is written predominantly on an excess of loss basis and comprises similar exposures to those underwritten out of our insurance operation with a focus on 'Blue Chip' clients.

Aviation treaty provides excess of loss catastrophe cover to the insurers of the world's major airlines and aircraft manufacturers and includes cover for the aircraft themselves as well as losses arising from passenger and third-party liability claims against airlines and/or manufacturers.

For property treaty and specialty reinsurance, outwards reinsurance may be purchased to mitigate exposures to large natural catastrophe losses. Reinsurance may also be purchased to reduce the Group's worldwide exposure to large risk losses. Reinsurance is typically purchased on an excess of loss basis, however ILWs or proportional treaty arrangements may be entered into.

II. Insurance segment

The Group's insurance segment comprises the following management groups:

Aviation insurance

Aviation airline comprises aviation deductible and aviation hull and liability. Aviation deductible business is a specialist area with small individual limits normally up to $1.0 million and covers the deductible the airline would normally have for each and every loss under the terms of their airline policy. Aviation hull and liability provides cover to the airlines directly and includes cover for the aircraft themselves as well as losses arising from passenger and third-party liability claims against airlines and/or manufacturers.

AV52 is written on a risk-attaching excess of loss basis and provides coverage for third-party liability, excluding own passenger liability, resulting from acts of war or hijack of aircraft. Cover excludes countries whose governments provide a backstop coverage, but does include some U.S. commercial airlines.

Aviation war covers loss or damage to aviation assets from war, terrorism and similar causes.

Reinsurance may be purchased to mitigate exposures to an AV52 event loss. Reinsurance is typically purchased on a treaty excess of loss basis. Proportional treaty reinsurance is typically used to reduce the Group's exposure to aviation deductible and the aviation hull and liability business and AV52 business.

Casualty insurance

Accident & health is a combination of open-market placements, some binding authorities and broker lineslips, with the focus being Group and commercial personal accident and disability. The distribution is global but with a focus on the U.S., Canada, UK and EU. There is very little exposure in Asia, Australasia, Africa or South America. Typical coverage offered is death & disablement, medical expenses, evacuation and repatriation, and other limited ancillary expenses.

The casualty insurance book is currently made up of a small number of consortia opportunities, where established Lloyd's leads write on our behalf. The exposure is currently worldwide and includes both primary and excess exposures for a broad range of middle market risks.

Energy and marine insurance

Energy risks are written mostly on a direct basis and may be ground-up or for primary or excess layers on either a first loss or full value basis.

Energy upstream comprises upstream energy and energy construction policies which are typically package policies which may include physical damage, business interruption and third-party liability sections. Coverage can include fire and explosion and elemental risks. Individual assets covered can be high value and are therefore mostly written on a subscription basis, meaning that coverage is placed with multiple risk carriers. Construction energy upstream contracts generally cover all risks of platform and drilling units under construction at yards and offshore, during towing and installation. Onshore construction contracts are generally not written.

Downstream energy risks are generally those with an operational hydrocarbon risk – either processing and/or storage and/or transmission – and may also include the production of chemicals and intermediates. Policies typically cover property for physical damage (including natural catastrophe) and machinery breakdown perils plus consequential business interruption exposure and may be written on a proportional or excess of loss basis, often with loss limits set at a level commensurate with a modelled estimated maximum loss scenario. The portfolio encompasses a global spread of accounts. Critical natural catastrophe coverage is usually sub-limited, with underwriting assessment employing industry-accepted modelling tools to assess this exposure where possible. The sector provides cover for operational assets, albeit some construction risk is covered where it is not deemed the policy's primary exposure. Third-party liabilities are not covered except where required under legislation for small sub-limited property damage.

Power generation comprises power, energy downstream renewables and energy nuclear. Power business can be written either ground-up or on a primary or excess basis. The core composition of the portfolio is operational conventional thermal power generation, renewable energy and associated transmission and distribution assets. Within the various energy sub-classes are also elements of energy renewables business written, which can cover the construction and subsequent operational phases of various renewable energy types. These cover a broad spectrum of power generation across the offshore and onshore renewable industry, including wind (offshore and onshore), solar, hydropower, geothermal and biomass. Nuclear in this context is written via a binding authority of a large multi-national nuclear pool. A limited amount of reinsurance contracts are also written covering nuclear insurance pools.

The Group writes energy liability business on a stand-alone basis, across the energy sector. Asset types span the full spectrum of energy risks from upstream, midstream, to downstream and power, including renewable energy both on and offshore. Unlike the liability contained within the energy packages policies, stand-alone energy liability is written on a layered, excess of loss basis and can be written on a primary or excess basis. Coverage is worldwide and provides for variety of damages and loss to third parties, arising from elemental and non-elemental events. Our portfolio is focused on the upstream operating sector but will include all phases of upstream risk from exploration, construction, operating through to decommissioning along with the many contractors and subcontractors that service the upstream sector. Midstream, Downstream and Power coverage will remain focused on the operation of physical assets rather than construction, servicing, or demolition. Renewables are most commonly wind or solar and our underwriting focus remains on the operators of these assets rather than construction, installation or servicing.

Cargo and specie is an international account and is written either on a direct basis or by way of reinsurance. It covers the (re)insurance of commodities or goods in transit. Typically, transit cover is provided on an all-risks basis for marine perils for the full value of the goods concerned, although higher value or capacity business may be written on a layered basis. Static cover is also provided for losses to cargo, from both elemental and non-elemental causes, whilst static at points along its route. In addition, the cargo account can include specie and fine art, vault risks, artwork on exhibition and marine war business relating to cargo in transit.

Marine liability is split into two main sections. The first is the general marine liability portfolio which encompasses a broad a spectrum of third-party risks emanating from global maritime industry and trade. The second area concerns Protection and Indemnity and is dominated by the reinsurance of the International Group of Protection and Indemnity Clubs and covers marine liabilities arising from their members' activities.

Marine hull and war comprises marine hull, marine builders risk and marine war. Marine hull is generally written on a direct basis and covers marine risks on a worldwide basis, primarily for physical damage. Most policies are written on a ground-up basis. Marine builders' risk covers the building of ocean-going vessels in specialised yards worldwide and their testing and commissioning. Marine war is mostly direct insurance of the loss of vessels from war, piracy or terrorist attack, with a very limited amount of facultative reinsurance. Marine excess of loss is written on a treaty basis and covers ocean and inland marine risks.

The largest expected exposure in the marine class is from physical loss rather than from elemental loss events, although there is exposure to elemental perils and to the costs for removal of wrecks.

Reinsurance may be purchased to protect a portion of loss from elemental and non-elemental energy and marine claims, and from the accumulation of smaller, attritional losses. Reinsurance is typically purchased on an excess of loss basis but, from time to time, proportional treaty arrangements may be entered into. Reinsurance may be purchased on a facultative or treaty basis.

Property insurance

Property direct and facultative is a worldwide book of largely commercial property business, written both in the open market and under delegated authorities. The account spans small individual locations to Fortune 500 accounts but with a bias towards small to medium-sized risks. Policies are generally provided both for non-elemental and elemental perils, although not all risks include both elemental and non-elemental coverage. Coverage is generally written on a full value, primary or excess of loss basis, although the very largest accounts are currently seldom written at the primary level.

Construction is a worldwide book targeted on SME construction risks, with limited appetite for the larger civil engineering project. It is written in the open market and under delegated authorities and whilst not exclusively so, the territorial focus is on North America and Australia. As with Property direct and facultative, policies are exposed to both non-elemental and elemental perils. Coverage includes Contractors/Erection All Risks, Frame, Plant & Equipment, Machinery Breakdown and associated third party liability.

Reinsurance may also be purchased to reduce the Group's worldwide exposure to large risk losses. Reinsurance is typically purchased on an excess of loss basis, however ILWs or proportional treaty arrangements may be entered into.

Specialty insurance

Terrorism business can be written either ground-up or for primary or excess layers, with cover provided for U.S. and worldwide property risks, but typically excluding nuclear, chemical, biological and cyber coverage in most territories. Cover is generally provided to medium to large commercial and industrial enterprises. Policies are typically written for scheduled locations and exposure is controlled by setting limits on aggregate exposure within a 'blast zone' radius. The term of these contracts is often multi-year reflecting the term of the underlying exposures. Some national pools are also written, which may include nuclear, chemical and biological coverage and may have an element of life coverage.

Property political risk cover is written either ground-up or on an excess of loss basis. Coverage that the Group provides in the political risk book is split between confiscation perils coverage and sovereign obligor coverage. Confiscation perils coverage protects against CEND and may be extended to include other perils. Sovereign obligors coverage protects against the non-payment or non-honouring of an obligation by a sovereign or quasi-sovereign entity. Cover is provided to medium to large commercial and industrial clients as well as bank and commodity trading clients. The term of these contracts is often multi-year reflecting the term of the underlying exposures. We have introduced a capability to selectively write Credit Insurance as a complementary product to our core Political Risk and Public Obligor portfolio. This is focused on a limited number of established client relationships and would target business in geographies that add diversification to the existing portfolio.

Reinsurance may also be purchased to reduce the Group's worldwide exposure to large risk losses. Reinsurance is typically purchased on an excess of loss basis, however ILWs or proportional treaty arrangements may be entered into.

Reinsurance

The Group, in the normal course of business and in accordance with its risk management practices, seeks to reduce certain types of losses that may arise from events that could cause unfavourable underwriting results by entering into reinsurance arrangements. Reinsurance does not relieve the Group of its obligations to policyholders. Under the Group's reinsurance security policy, reinsurers are assessed and approved as appropriate security based on their financial strength ratings, amongst other factors. The RSC considers reinsurers that are not rated or do not fall within the predefined rating categories on a case-by-case basis, and may require collateral to be posted to support such obligations. There are specific guidelines for these collateralised contracts. The RSC monitors the Group's reinsurers on an ongoing basis and formally reviews the Group's reinsurance arrangements at least quarterly. Exposure to the Group's reinsurance counterparties, compared to the Board-approved tolerances, is reported to the Board of Directors on a quarterly basis.

Reinsurance protection is typically purchased on an excess of loss basis, however it may also include ILW covers or proportional treaty arrangements. The mix of reinsurance cover is dependent on the specific loss mitigation requirements, market conditions and available capacity. Reinsurance may also be purchased to optimise the risk-adjusted return of the underwriting portfolio. The structure varies between types of peril and sub-class. The Group regularly reviews its catastrophe and other exposures and may purchase reinsurance in order to reduce the Group's net exposure to a large natural catastrophe loss and/or to reduce net exposures to other large losses. The Group can purchase both facultative and treaty reinsurance with varying cover and attachment points. The reinsurance coverage is not intended to be available to meet all potential loss circumstances. The Group will retain some losses, as the cover purchased is unlikely to transfer the totality of the Group's exposure. Any loss amount which exceeds the reinsurance programme would be retained by the Group. Some parts of the reinsurance programme have limited reinstatements, therefore the number of claims which may be recovered from second or subsequent losses in those particular circumstances is limited.

Insurance liabilities

For most insurance and reinsurance companies, the most significant judgement made by management is the estimation of losses and loss adjustment expenses. The estimation of the ultimate liability arising from claims made under insurance and reinsurance contracts is a critical estimate for the Group, particularly given the nature of the business written.

Loss reserves are not permitted until the occurrence of an event which may give rise to a claim. As a result, only loss reserves applicable to losses incurred up to the reporting date are established, with no allowance for the provision of a contingency reserve to account for expected future losses or for the emergence of new types of latent claims. Claims arising from future events can be expected to require the establishment of substantial reserves from time to time. All of the Group's reserves are reported on an undiscounted basis.

Losses and loss adjustment expenses are maintained to cover the Group's estimated liability for both reported and unreported claims. Reserving methodologies that calculate an actuarial best estimate for the ultimate losses, along with a reserve margin, are utilised. This represents the management best estimate of ultimate loss and loss adjustment expenses. The Group's internal actuaries review the reserving assumptions and methodologies on a quarterly basis with loss estimates being subject to a semi-annual independent review by external actuaries. The results of the independent review are presented to the Group's Audit Committee. The Group has also established Reserve Committees at the operating entity level, which have responsibility for the review of large claims and IBNR levels, their development and any changes in reserving methodology and assumptions.

The extent to which the reserving process relies on management's judgement is dependent on a number of factors including whether the business is insurance or reinsurance, whether it is short-tail or long-tail and whether the business is written on an excess of loss or pro-rata basis.

Insurance versus reinsurance

Loss reserve calculations, whether reserving for direct insurance business or for reinsurance classes are not precise in that they deal with the inherent uncertainty of assumptions regarding future reporting and development patterns, frequency and severity trends, claims settlement practices, potential changes in the legal environment and other factors, such as inflation. The estimates and judgements relied on in making loss reserve calculations are based on a number of factors and may be revised as additional experience or other data becomes available.

Loss reserve calculations are also reviewed as new or improved methodologies are developed and as laws or regulations change. Furthermore, as a business operating within a broker market, management must rely on loss information reported to brokers by other insurers and their loss adjusters, who must estimate their own losses at the policy level, often based on incomplete and changing information. The information management receives varies by cedant and may include paid losses, estimated case reserves and an estimated provision for IBNR reserves. Additionally, reserving practices and the quality of data reporting may vary among ceding companies, which adds further uncertainty to management's estimates of the ultimate losses.

Short-tail versus long-tail

In general, claims relating to short-tail risks, such as the majority of risks underwritten by the Group, are reported more promptly than those relating to long-tail risks, including the majority of casualty risks. The timeliness of reporting can be affected by such factors as the nature of the event causing the loss, the location of the loss and whether the losses are from policies in force with insureds, primary insurers, reinsurers or vendor binding authorities.

Excess of loss versus proportional

For excess of loss contracts, which make up the majority of the Group's business, management is aided by the fact that each policy has a defined limit of liability arising from one event. Once that limit has been reached, there is no further exposure to additional losses from that policy for the same event. For proportional business, an initial estimated loss and loss expense ratio is generally used. This is based upon information provided by the insured or ceding company and/or their broker and management's historical experience of that treaty, if any, and the estimate is adjusted as actual experience becomes known.

Time lags

There is a time lag inherent in reporting from the original claimant to the primary insurer or binding authority holder to the broker and then to the reinsurer. Also, the combination of low claims frequency and high severity across many of our classes makes the available data more volatile and less useful for predicting ultimate losses. In the case of proportional contracts, reliance is placed on an analysis of a contract's historical experience, industry information, and the professional judgement of underwriters in estimating reserves for these contracts. In addition, if available, reliance is placed partially on ultimate loss ratio forecasts as reported by insureds or cedants, which are normally subject to a quarterly or six-month time lag.

Uncertainty

As a result of the time lag described above, an estimate must be made of IBNR reserves, which consists of a provision for additional development in excess of the case reserves reported by insureds or ceding companies, as well as a provision for claims which have occurred but which have not yet been reported by insureds or ceding companies. Due to the degree of reliance that is necessarily placed on insureds or ceding companies for claims reporting, the associated time lag, the low frequency/high severity nature of much of the business that the Group underwrites, and the varying reserving practices among ceding companies, reserve estimates are highly dependent on management judgement and are therefore uncertain. During the loss settlement period, which may be years in duration, additional facts regarding individual claims and trends, including inflation often will become known, and current laws and case law may change as well as regulatory directives, with a consequent impact on reserving.

For certain catastrophic events there are greater uncertainties underlying the assumptions and associated estimated reserves for losses and loss adjustment expenses. Complexity resulting from problems such as policy coverage issues, multiple events affecting one geographic area and the resulting impact on claims adjusting (including the allocation of claims to the specific event and the effect of demand surge on the cost of building materials and labour) by, and communications from, insureds or ceding companies, can cause delays to the timing with which the Group is notified of changes to loss estimates.

The breakdown of losses and loss adjustment expenses between notified outstanding losses, ACR and IBNR is shown in note 13. The majority of the IBNR estimate relates to catastrophe events from 2017-2022, in addition to potential claims on non-elemental risks where timing delays in insured or cedant reporting may mean losses could have occurred of which the Group was not made aware by the balance sheet date.

B. Market risk

The Group is at risk of loss due to movements in market factors. The main risks include:

i. Insurance market risk;
ii. Investment risk;
iii. Debt risk; and
iv. Currency risk.

These risks, and the management thereof, are described below.

I. Insurance Market Risk

The Group is exposed to insurance market risk from several sources, including the following:

- the advent or continuation of a soft market, which may result in a stabilisation or decline in premium rates and/or terms and conditions for certain lines, or across all lines;

- the actions and reactions of key competitors, which may directly result in volatility in premium volumes and rates, fee levels and other input costs;
- market events, including unusual inflation in rates, may result in a limit in the availability of cover, causing political intervention or national remedies;
- failure to maintain broker, binding authority and client relationships, leading to a limited or substandard choice of risks inconsistent with the Group's risk appetite;
- changes in regulation including capital, governance or licensing requirements; and
- changes in the geopolitical environment.

The most important method to mitigate insurance market risk is to maintain strict underwriting standards. The Group manages insurance market risk in numerous ways, including the following:

- reviews and amends underwriting plans and outlook as necessary;
- reduces exposure to market sectors where conditions have reached unattractive levels;
- purchases appropriate, cost-effective reinsurance cover to mitigate exposures;
- closely monitors changes in rates and terms and conditions;
- ensures through continuous capital management that it does not allow surplus capital to drive underwriting appetite;
- holds a daily underwriting call for LICL and LUK to discuss, inter alia, market conditions and opportunities;
- reviews all new and renewal business post-underwriting for LSL;
- reviews outputs from the economic capital models to assess up-to-date profitability of classes and sectors;
- holds a fortnightly RRC meeting to discuss risk and reinsurance;
- holds a quarterly UURC meeting to review underwriting strategy; and
- holds regular meetings with regulators.

Insurance contract liabilities are not directly sensitive to the level of market interest rates, as they are undiscounted and contractually non-interest bearing.

II. Investment risk

Movements in investments resulting from changes in interest and inflation rates and currency exchange rates, amongst other factors, may lead to an adverse impact on the value of the Group's investment portfolio.

Investment guidelines are established by the Investment Committee of the Board of Directors to manage this risk. Investment guidelines set parameters within which the Group's external investment managers must operate. Important parameters include guidelines on permissible asset classes, duration ranges, credit quality, currency, maturity, sectors, geographical, sovereign and issuer exposures. Compliance with guidelines is monitored on a monthly basis. Any adjustments to the investment guidelines are approved by the Investment Committee and the Board of Directors. In addition, the Group's investment guidelines restricts investments in companies which rely on thermal coal for power generation or derive revenues from oil sands or Arctic oil/gas, as well as investments in fixed maturity securities with high carbon intensity ratings. A Climate VaR is monitored versus the MSCI benchmark quarterly through analysis of the underlying securities as measured by MSCI for the Group's Level (i) and Level (ii) securities. 93.9% of the Group's externally managed portfolio are managed by signatories of the UNPRI.

The Group's fixed maturity portfolios are managed by five external investment managers. The Group also has credit funds, principal protected funds, private investment funds and a diversified low volatility multi-strategy portfolio of hedge funds. The performance of the managers is monitored on an ongoing basis.

Within the Group's investment guidelines are subsets of guidelines for the portion of funds required to meet near-term obligations and cash flow needs following an extreme event. These guidelines add a further degree of requirements, including fewer allowable asset classes, higher credit quality, shorter duration and higher liquidity. The primary objectives for this portion of assets are capital preservation and providing liquidity to meet insurance and other near-term obligations. In addition to cash managed internally, funds held in the investment portfolio to cover this potential liability are designated as the core and core plus portfolios and the portfolio duration is matched to the duration of the insurance liabilities, within an agreed range. The core and core plus portfolios are invested in fixed maturity securities, fixed maturity funds and cash and cash equivalents. The combined core and core plus portfolios may, at times, contain assets significantly in excess of those required to meet insurance liabilities or other defined funding needs.

Assets in excess of those required to be held in the core and core plus portfolios are typically held in the surplus portfolio. The surplus portfolio is invested in fixed maturity securities, principal protected products, derivative instruments, cash and cash equivalents, private investment funds, hedge funds and index linked securities. In general, the duration of the surplus portfolio is slightly longer than the core or core plus portfolios.

The Group reviews the composition, duration and asset allocation of its investment portfolio on a regular basis in order to respond to changes in interest rates and other market conditions. If certain asset classes are anticipated to produce a higher return within management's risk tolerance, an adjustment in asset allocation may be made. Conversely, if the risk profile is expected to move outside of tolerance levels, adjustments may be made to reduce the risks in the portfolio.

The investment portfolio is currently structured to perform similarly in risk-on and risk-off environments. The Group endeavours to limit losses in risk-on, risk-off and interest rate hike scenarios. The Group models various periods of significant stress in order to better understand the investment portfolio's risks and exposures. The scenarios represent what could, and most likely will, occur (albeit not in the exact form of the scenarios, which are based on historic periods of volatility). The Group also monitors the portfolio impact of more severe disaster scenarios consisting of extreme shocks.

The Investment Committee performs a strategic asset allocation study on a bi-annual basis, which assesses the Group's overall strategy and to determine alternative asset allocations to achieve the best risk-adjusted return within our risk tolerances. Additionally, the Investment Committee

meets quarterly to monitor the management of the investments of the Group against the asset allocations, risk tolerance and risk preference levels, and the approved investment guidelines. As part of this the Investment Committee receives information on ESG and carbon intensity scores for the fixed income portfolio and the Climate VaR versus the MSCI benchmark at the 1.5°C, 2°C and 3°C Paris Accord level. The IRRC meets quarterly to ensure that the Group's strategic and tactical investment actions are consistent with investment risk preferences, appetite, risk and return objectives and tolerances. The IRRC also helps further develop the risk tolerances to be incorporated into the ERM framework.

The investment mix is as follows:

As at 31 December 2022	Core $m	Core plus $m	Surplus $m	Total $m
• Short-term investments	**14.3**	**6.5**	**0.7**	**21.5**
• Fixed maturity funds	**29.4**	**–**	**–**	**29.4**
• U.S. treasuries	**251.3**	**350.0**	**48.9**	**650.2**
• Other government bonds	**13.2**	**–**	**25.7**	**38.9**
• U.S. municipal bonds	**3.8**	**15.3**	**3.5**	**22.6**
• U.S. government agency debt	**2.8**	**22.9**	**33.3**	**59.0**
• Asset backed securities	**29.6**	**68.3**	**63.0**	**160.9**
• U.S. government agency mortgage backed securities	**11.2**	**13.9**	**15.9**	**41.0**
• Non-agency mortgage backed securities	**–**	**1.0**	**13.0**	**14.0**
• Non-agency commercial mortgage backed securities	**–**	**–**	**24.2**	**24.2**
• Bank loans	**–**	**–**	**128.9**	**128.9**
• Corporate bonds	**264.7**	**390.9**	**96.7**	**752.3**
Total fixed maturity securities – AFS	**620.3**	**868.8**	**453.8**	**1,942.9**
Fixed maturity securities – at FVTPL	**–**	**–**	**22.0**	**22.0**
Private investment funds – at FVTPL	**–**	**–**	**108.1**	**108.1**
Hedge funds – at FVTPL	**–**	**–**	**103.9**	**103.9**
Index linked securities – at FVTPL	**–**	**–**	**28.2**	**28.2**
Other investments	**–**	**–**	**(0.2)**	**(0.2)**
Total investments	**620.3**	**868.8**	**715.8**	**2,204.9**

As at 31 December 2021	Core $m	Core plus $m	Surplus $m	Total $m
• Short-term investments	23.3	21.2	–	44.5
• Fixed maturity funds	17.6	–	–	17.6
• U.S. treasuries	223.5	289.0	51.7	564.2
• Other government bonds	11.7	–	47.1	58.8
• U.S. municipal bonds	4.1	14.8	5.4	24.3
• U.S. government agency debt	4.2	29.9	21.1	55.2
• Asset backed securities	9.3	19.5	75.3	104.1
• U.S. government agency mortgage backed securities	10.3	8.6	66.6	85.5
• Non-agency mortgage backed securities	–	4.6	28.6	33.2
• Agency commercial mortgage backed securities	–	–	0.1	0.1
• Non-agency commercial mortgage backed securities	–	–	20.1	20.1
• Bank loans	–	–	110.2	110.2
• Corporate bonds	244.2	327.0	91.2	662.4
Total fixed maturity securities – AFS	548.2	714.6	517.4	1,780.2
Fixed maturity securities – at FVTPL	–	–	28.9	28.9
Private investment funds – at FVTPL	–	–	105.7	105.7
Hedge funds – at FVTPL	–	–	102.9	102.9
Index linked securities – at FVTPL	–	–	30.5	30.5
Other investments	–	–	(0.1)	(0.1)
Total investments	548.2	714.6	785.3	2,048.1

The concentration of the Group's fixed maturity securities by country and sector is as follows:

As at 31 December 2022	Financials $m	Industrial $m	Utility $m	Government & Government Agencies $m	Structured[1] $m	Other[2] $m	Total $m
United States	211.3	426.9	18.8	772.6	118.3	20.8	1,568.7
United Kingdom	39.1	11.8	–	1.5	0.7	–	53.1
Cayman Islands	–	–	–	–	47.4	–	47.4
Canada	21.5	14.3	0.5	10.5	–	–	46.8
Jersey	–	–	–	–	25.8	–	25.8
Japan	14.0	9.8	–	–	–	–	23.8
Netherlands	9.3	7.7	3.6	–	–	–	20.6
France	13.9	2.5	–	0.6	2.1	–	19.1
Spain	10.7	–	–	–	–	–	10.7
Switzerland	10.0	0.6	–	–	–	–	10.6
Sweden	8.9	–	–	0.6	–	–	9.5
Mexico	2.8	4.2	0.5	2.0	–	–	9.5
Finland	8.1	–	–	–	–	–	8.1
Qatar	1.6	–	–	5.2	–	–	6.8
Germany	3.6	2.8	–	–	–	–	6.4
Other	19.3	23.6	1.5	18.8	4.7	30.1	98.0
Total	374.1	504.2	24.9	811.8	199.0	50.9	1,964.9

1. Structured products excludes any Government structured products.
2. Other includes overseas deposits and short-term investments.

As at 31 December 2021	Financials $m	Industrial $m	Utility $m	Government & Government Agencies $m	Structured[1] $m	Other[2] $m	Total $m
United States	206.3	359.8	27.4	719.3	113.9	33.9	1,460.6
United Kingdom	29.5	12.0	–	5.0	10.5	2.3	59.3
Canada	15.8	12.7	0.4	20.8	5.2	–	54.9
France	5.2	4.5	–	1.1	12.0	8.3	31.1
Japan	15.5	8.6	–	1.1	0.7	–	25.9
Netherlands	4.7	5.7	–	1.1	0.8	–	12.3
Sweden	9.6	–	–	0.6	1.0	–	11.2
Australia	6.2	0.7	–	2.6	1.3	–	10.8
Switzerland	5.5	2.8	–	–	2.0	–	10.3
Cayman Islands	0.9	–	–	0.3	8.2	–	9.4
Germany	5.9	1.5	–	–	1.9	–	9.3
Mexico	3.3	4.0	0.2	1.5	–	–	9.0
Qatar	1.7	–	–	6.2	–	–	7.9
United Arab Emirates	5.3	0.9	–	–	–	–	6.2
India	–	4.0	0.7	1.5	–	–	6.2
Other	22.5	16.0	1.6	27.0	–	17.6	84.7
Total	337.9	433.2	30.3	788.1	157.5	62.1	1,809.1

1. Structured products excludes any Government structured products.
2. Other includes overseas deposits and short-term investments.

The Group's net asset value is directly impacted by movements in the fair value of investments held. Values can be impacted by movements in interest rates, credit ratings, exchange rates, the current economic environment and outlook.

Interest rate risk

The Group's investment portfolio is mainly comprised of fixed maturity securities and cash and cash equivalents. Fixed maturity funds are overseas deposits held by the syndicates in trust for the benefit of the policyholders in those overseas jurisdictions. They consist of high quality, short duration fixed maturity securities. The Group also has a hedge fund portfolio as well as principal protected notes and has invested in private investment funds. The estimated fair value of the Group's fixed maturity portfolio is generally inversely correlated to movements in market interest rates. If market interest rates fall, the fair value of the Group's fixed maturity securities would tend to rise and vice versa.

The sensitivity of the price of fixed maturity securities, and certain derivatives, to movements in interest rates is indicated by their duration. The greater a security's duration, the greater its price volatility to movements in interest rates. The sensitivity of the Group's fixed maturity and derivative investment portfolio to interest rate movements is detailed below, assuming linear movements in interest rates:

As at 31 December	2022 $m	2022 %	2021 $m	2021 %
Immediate shift in yield (basis points)				
100	**(34.1)**	**(1.7)**	(36.6)	(2.0)
75	**(25.6)**	**(1.3)**	(27.4)	(1.5)
50	**(17.1)**	**(0.9)**	(18.3)	(1.0)
25	**(8.5)**	**(0.4)**	(9.1)	(0.5)
(25)	**9.4**	**0.5**	9.2	0.5
(50)	**18.8**	**1.0**	18.4	1.0
(75)	**28.2**	**1.4**	27.7	1.5
(100)	**37.6**	**1.9**	36.9	2.0

The Group mitigates interest rate risk on the investment portfolio by establishing and monitoring duration ranges in its investment guidelines. The Group may manage duration through the use of interest rate futures and swaptions from time to time. The duration of the core portfolio is matched to the modelled duration of the insurance reserves, within a permitted range. The permitted duration range for the core plus portfolio is between zero and four years and for the surplus portfolio is between one and five years.

The overall duration for fixed maturities, managed cash and cash equivalents and certain derivatives is 1.6 years (31 December 2021 – 1.8 years).

In addition to duration management, the Group monitors VaR to measure potential losses in the estimated fair values of its cash and invested assets and to understand and monitor risk. The VaR calculation is performed using variance/covariance risk modelling to capture the cash flows and embedded optionality of the portfolio. Securities are valued individually using standard market pricing models. These security valuations serve as the input to many risk analytics, including full valuation risk analyses, as well as parametric methods that rely on option-adjusted risk sensitivities to approximate the risk and return profiles of the portfolio.

The principal VaR measure that is produced is an annual VaR at the 99th percentile confidence level. Under normal conditions, the portfolio is not expected to lose more than the VaR metric listed in the table below, 99% of the time over a one-year time horizon. The appropriateness of this measure is considered by the Investment Committee on behalf of the Board of Directors on an annual basis.

The Group's annual VaR calculations are as follows:

As at 31 December	2022 $m	2022 % of shareholders' equity	2021 $m	2021 % of shareholders' equity
99th percentile confidence level[1]	**111.6**	**8.8**	50.4	3.6

1. Including the impact of internal foreign exchange hedges.

The calculation methodology places emphasis on recent securities price volatility to determine VaR figures. Given interest rate volatility contributes to the majority of VaR factors, the significant moves in interest rates during the year ended 31 December 2022 and more importantly the most recent volatility, the calculated VaR has increased meaningfully during the year. In addition, the investment portfolio has increased in size relative to Shareholders' equity which has also contributed to the increase in VaR. Despite the increase, the total VaR is still considered within acceptable limits.

Price risk

Price risk is the risk that the fair value of our investment portfolio will fluctuate because of changes in market prices (other than those arising from interest rate or foreign exchange rate risk), whether those changes are caused by factors specific to the individual investment or other market factors.

The Group's price risk exposure relates to our hedge funds, private investment funds and index linked securities. Listed investments that are quoted in an active market are recognised at quoted bid price, which is deemed to be the approximate exit price. If the market for the investment is not considered to be active, then the Group establishes fair value using valuation techniques (refer to note 11). This includes comparison to orderly transactions between market participants, reference to benchmarks or other indices to assess reasonableness and other valuation techniques that are commonly used by market participants.

A 10% downward correction at 31 December 2022 would reduce our hedge funds, private investment funds and index linked securities by approximately $24.0 million (31 December 2021 - $23.9 million).

Derivative financial instruments

The Group uses derivative financial instruments primarily to mitigate exposure to foreign currency risk, interest rate risk and credit risk. The Group's investment guidelines permit the investment managers to utilise exchange-traded futures and options contracts, OTC instruments including interest rate swaps, credit default swaps, interest rate swaptions and forward foreign currency contracts.

The net (losses) gains on the Group's derivative financial instruments recognised in the consolidated statement of comprehensive income are as follows:

As at 31 December 2022	Net realised (losses) gains $m	Net foreign exchange (losses) gains $m	Financing (losses) $m
Interest rate futures	**0.1**	–	–
Forward foreign currency contracts	–	**(3.0)**	–
Interest rate swaps	**(2.4)**	**0.2**	–
Total	**(2.3)**	**(2.8)**	–

As at 31 December 2021	Net realised (losses) gains $m	Net foreign exchange (losses) gains $m	Financing (losses) $m
Interest rate futures	(0.5)	–	–
Forward foreign currency contracts	–	(0.6)	–
Interest rate swaps	0.3	–	(3.4)
Total	(0.2)	(0.6)	(3.4)

The estimated fair values of the Group's derivative instruments are as follows:

	2022			2021		
As at 31 December	Other investments $m	Other receivables $m	Other payables $m	Other investments $m	Other receivables $m	Other payables $m
Forward foreign currency contracts	**(0.2)**	**2.5**	**(0.4)**	(0.3)	0.6	(0.6)
Interest rate swaps	–	–	–	(0.3)	–	–
Credit default swaps	–	–	–	0.5	–	–
Total	**(0.2)**	**2.5**	**(0.4)**	(0.1)	0.6	(0.6)

A. Futures

Futures provide the Group with participation in market movements, determined by the underlying instrument on which the futures contract is based, without holding the instrument itself or the individual securities. This allows efficient and less costly access to the exposure than would be available by the exclusive use of individual fixed maturity and money market securities. Exchange-traded futures contracts may also be used as substitutes for ownership of the physical securities.

All futures contracts are held on a non-leveraged basis. An initial margin is provided, which is a deposit of cash and/or securities in an amount equal to a prescribed percentage of the contract value. The fair value of futures contracts is estimated daily and the margin is adjusted accordingly with unrealised gains and/or losses settled daily in cash and/or securities. A realised gain or loss is recognised when the contract is closed.

Futures contracts expose the Group to market risk to the extent that adverse changes occur in the estimated fair values of the underlying securities. Exchange-traded futures are, however, subject to a number of safeguards to ensure that obligations are met. These include the use of clearing houses (thus reducing counterparty credit risk), the posting of margins and the daily settlement of unrealised gains and losses. The amount of credit risk is therefore considered low. The investment guidelines restrict the maximum notional futures position as a percentage of the investment portfolio's estimated fair value.

The Group's exposure to interest rate futures is as follows:

	2022			2021		
As at 31 December	Notional long $m	Notional short $m	Net notional long (short) $m	Notional long $m	Notional short $m	Net notional long (short) $m
Interest rate futures	–	–	–	44.1	36.8	7.3

B. Options

Exchange-traded options on U.S. treasury futures and Euro dollar futures are used to manage exposure to interest rate risk and also to hedge duration. Exchange-traded options are held on a similar basis to futures and are subject to similar safeguards. Options are contractual arrangements that give the purchaser the right, but not the obligation, to either buy or sell an instrument at a specific set price at a predetermined future date. The Group may enter into option contracts that are secured by holdings in the underlying securities or by other means which permit immediate satisfaction of the Group's obligations. The notional amount of options is $nil as at 31 December 2022 and 2021.

The investment guidelines also restrict the maximum notional options exposure as a percentage of the investment portfolio's estimated fair value.

C. Forward foreign currency contracts

A forward foreign currency contract is a commitment to purchase or sell a foreign currency at a future date, at a defined rate. The Group may utilise forward foreign currency contracts to gain exposure to a certain currency or market rate or manage the impact of fluctuations in foreign currencies on the value of its foreign currency denominated investments, debt, insurance related currency exposures and/or expenses.

Forward contracts expose the Group to credit, market and liquidity risks. Credit risk arises from the potential inability of counterparties to perform under the terms of the contract. The Group is exposed to market risk to the extent that adverse changes occur in the exchange rate of the underlying foreign currency. Liquidity risk represents the possibility that the Group may not be able to rapidly adjust the size of its forward positions at a reasonable price in times of high volatility and financial stress. These risks are mitigated by requiring a minimum counterparty credit quality, restricting the maximum notional exposure as a percentage of the investment portfolio's estimated fair value and restricting exposures to foreign currencies, individually and in aggregate, as a percentage of the investment portfolio's estimated fair value.

The notional amount of a derivative contract is the underlying quantity upon which payment obligations are calculated. A long position is equivalent to buying the underlying currency whereas a short position is equivalent to having sold the underlying currency.

The Group has the following open forward foreign currency contracts:

	2022			2021		
As at 31 December	Notional long $m	Notional short $m	Net notional long (short) $m	Notional long $m	Notional short $m	Net notional long (short) $m
Canadian Dollar	**–**	**22.8**	**(22.8)**	–	36.2	(36.2)
Euro	**42.7**	**3.8**	**38.9**	19.2	21.0	(1.8)
Australian Dollar	**–**	**13.8**	**(13.8)**	–	9.3	(9.3)
Japanese Yen	**5.2**	**–**	**5.2**	–	–	–
Danish Krone	**–**	**0.2**	**(0.2)**	–	3.9	(3.9)
Sterling	**93.5**	**0.8**	**92.7**	45.2	7.6	37.6
Total	**141.4**	**41.4**	**100.0**	64.4	78.0	(13.6)

D. Swaps

Interest rate swaps, traded primarily OTC, are used to manage interest rate exposure, portfolio duration or to capitalise on anticipated changes in interest rate volatility without investing directly in the underlying securities. Interest rate swap agreements entail the exchange of commitments to pay or receive interest, such as an exchange of floating rate payments for fixed rate payments, with respect to a notional amount of principal. These agreements involve elements of credit and market risk. Such risks include the possibility that there may not be a liquid market, that the counterparty may default on its obligation to perform, or that there may be unfavourable movements in interest rates. These risks are mitigated through defining a minimum counterparty credit quality and a maximum notional exposure to interest rate swaps as a percentage of the investment portfolio's estimated fair value. The notional amount of interest rate swaps held in the investment portfolio was $nil as at 31 December 2022 (31 December 2021 – $1.3 million). The notional amount of interest rate swaps held for hedging purposes was $nil as at 31 December 2022 and 2021.

The Group may utilise credit default swaps to add or reduce credit risk to an individual issuer, or a basket of issuers, without investing directly in their securities. The Group held credit default swaps of $nil as at 31 December 2022 (31 December 2021 – $13.4 million).

During the year ended 31 December 2021, the Group entered into an interest rate swap, in the form of a 'Treasury lock'. This was in order to hedge the 10-year treasury rate on the issuance of the $450.0 million fixed-rate reset junior subordinated Notes (see note 18), between the date that the Group announced the issuance of the Notes, and the finalisation of the transaction on 11 March 2021. The 10-year treasury reference rate reduced over the relevant period and a net payment was made of $3.4 million.

III. Debt risk

During the year ended 31 December 2021, the Group issued $450.0 million in aggregate principal amount of 5.625% fixed-rate reset junior subordinated notes, repayable on 18 September 2041 (see note 18). The fixed interest rate will reset on 18 September 2031 at a rate per annum equal to the prevailing five year treasury rate plus a credit spread of 4.08% and a relevant 100 basis point step up.

The Group is exposed to interest rate risk in the future if prevailing rates at the time of reset are materially different from the existing rates on the debt issue.

IV. Currency risk

The Group underwrites from multiple locations and risks are assumed on a worldwide basis. Risks assumed are predominantly denominated in U.S. dollars.

The Group is exposed to currency risk to the extent its assets are denominated in different currencies to its liabilities. Exchange gains and losses can impact profit or loss.

The Group hedges monetary non-U.S. dollar liabilities primarily with non-U.S. dollar assets, but may also use derivatives to mitigate foreign currency exposures. The Group's main foreign currency exposure relates to its insurance obligations, cash holdings, investments, premiums receivable and dividends payable. The Group uses forward foreign currency contracts for the purposes of managing currency exposures.

The Group's assets and liabilities, categorised by currency at their translated carrying amount, are as follows:

Assets	U.S.$ $m	Sterling $m	Euro $m	Japanese Yen $m	Other $m	Total $m
Cash and cash equivalents	**434.6**	**23.5**	**35.6**	**10.3**	**44.8**	**548.8**
Accrued interest receivable	**11.2**	–	–	–	**0.1**	**11.3**
Investments	**2,160.8**	**3.0**	**(0.3)**	–	**41.4**	**2,204.9**
Inwards premiums receivable from insureds and cedants	**544.8**	**49.8**	**46.5**	**7.5**	**39.7**	**688.3**
Reinsurance assets	**748.4**	**19.6**	**55.5**	**2.1**	**4.7**	**830.3**
Other receivables	**11.2**	**17.8**	–	–	**1.1**	**30.1**
Corporation tax receivable	**0.1**	**1.3**	–	–	**(0.3)**	**1.1**
Investment in associate	**57.2**	–	–	–	–	**57.2**
Property, plant and equipment	**0.5**	**0.6**	–	–	–	**1.1**
Right-of-use assets	**0.9**	**19.2**	–	–	**0.2**	**20.3**
Deferred acquisition costs	**138.7**	**11.8**	**12.9**	**1.6**	**15.8**	**180.8**
Intangible assets	**153.8**	**18.6**	–	–	–	**172.4**
Total assets as at 31 December 2022	**4,262.2**	**165.2**	**150.2**	**21.5**	**147.5**	**4,746.6**

Liabilities	U.S.$ $m	Sterling $m	Euro $m	Japanese Yen $m	Other $m	Total $m
Losses and loss adjustment expenses	**1,463.5**	**91.3**	**148.2**	**22.4**	**55.4**	**1,780.8**
Unearned premiums	**651.9**	**48.9**	**57.7**	**11.7**	**50.9**	**821.1**
Insurance contracts – other payables	**26.0**	**5.2**	**0.5**	**(0.1)**	**21.3**	**52.9**
Amounts payable to reinsurers	**241.2**	**1.8**	**19.1**	**2.1**	**4.0**	**268.2**
Deferred acquisition costs ceded	**26.2**	**0.8**	**4.6**	**0.4**	**0.9**	**32.9**
Other payables	**11.5**	**25.8**	–	–	**6.8**	**44.1**
Deferred tax liability	**12.5**	**(3.2)**	–	–	–	**9.3**
Lease liabilities	**1.0**	**22.1**	–	–	**0.2**	**23.3**
Long-term debt	**446.1**	–	–	–	–	**446.1**
Total liabilities as at 31 December 2022	**2,879.9**	**192.7**	**230.1**	**36.5**	**139.5**	**3,478.7**

Assets	U.S.$ $m	Sterling $m	Euro $m	Japanese Yen $m	Other $m	Total $m
Cash and cash equivalents	419.7	27.7	23.1	4.0	43.2	517.7
Accrued interest receivable	6.9	–	0.1	–	0.1	7.1
Investments	2,015.6	3.6	(0.6)	–	29.5	2,048.1
Inwards premiums receivable from insureds and cedants	377.9	53.2	39.0	7.1	13.4	490.6
Reinsurance assets	480.2	38.2	51.3	2.8	2.3	574.8
Other receivables	8.6	10.2	–	–	–	18.8
Investment in associate	118.7	–	–	–	–	118.7
Property, plant and equipment	0.7	0.1	–	–	–	0.8
Right-of-use assets	1.8	11.6	–	–	–	13.4
Deferred acquisition costs	88.4	7.3	18.4	1.7	5.8	121.6
Intangible assets	153.8	4.1	–	–	–	157.9
Total assets as at 31 December 2021	3,672.3	156.0	131.3	15.6	94.3	4,069.5

Liabilities	U.S.$ $m	Sterling $m	Euro $m	Japanese Yen $m	Other $m	Total $m
Losses and loss adjustment expenses	1,025.3	77.2	93.1	26.2	69.3	1,291.1
Unearned premiums	448.7	35.1	72.6	15.1	26.4	597.9
Insurance contracts – other payables	15.3	3.5	1.0	–	0.5	20.3
Amounts payable to reinsurers	154.8	27.2	17.3	2.8	3.5	205.6
Deferred acquisition costs ceded	19.7	0.4	6.3	0.4	0.2	27.0
Other payables	16.2	20.8	–	–	0.4	37.4
Corporation tax payable	–	1.6	–	–	–	1.6
Deferred tax liability	12.5	(0.3)	–	–	–	12.2
Lease liabilities	2.0	15.9	–	–	–	17.9
Long-term debt	445.7	–	–	–	–	445.7
Total liabilities as at 31 December 2021	2,140.2	181.4	190.3	44.5	100.3	2,656.7

The impact on net income of a proportional foreign exchange movement of 10.0% up and 10.0% down against the U.S. dollar at the year end spot rates would be an increase or decrease of $4.5 million (2021 – $3.9 million).

C. Liquidity risk

Liquidity risk is the risk that cash may not be available to pay obligations when they are due without incurring an unreasonable cost. The Group's main exposures to liquidity risk are with respect to its insurance and investment activities. The Group is exposed if proceeds from financial assets are not sufficient to fund obligations arising from its insurance contracts. The Group can be exposed to daily calls on its available investment assets, principally to settle insurance claims and to fund trust accounts following a large catastrophe loss.

Exposures in relation to insurance activities are as follows:

- large catastrophic events, or multiple medium-sized events in quick succession, resulting in a requirement to pay a large value of claims within a relatively short time frame or fund trust accounts;
- failure of insureds or cedants to meet their contractual obligations with respect to the payment of premiums in a timely manner; and
- failure of reinsurers to meet their contractual obligations with respect to the payment of claims in a timely manner.

Exposures in relation to investment activities are as follows:

- adverse market movements and/or a duration mismatch to obligations, resulting in investments being disposed of at a significant realised loss; and
- an inability to liquidate investments due to market conditions.

The maturity dates of the Group's fixed maturity portfolio are as follows:

As at 31 December 2022	Core $m	Core plus $m	Surplus $m	Total $m
Less than one year	**159.5**	**212.1**	**20.9**	**392.5**
Between one and two years	**175.2**	**245.2**	**25.2**	**445.6**
Between two and three years	**113.9**	**155.3**	**69.4**	**338.6**
Between three and four years	**73.2**	**80.6**	**50.8**	**204.6**
Between four and five years	**21.1**	**28.2**	**48.2**	**97.5**
Over five years	**36.6**	**64.2**	**145.2**	**246.0**
Asset backed and mortgage backed securities	**40.8**	**83.2**	**116.1**	**240.1**
Total fixed maturity securities	**620.3**	**868.8**	**475.8**	**1,964.9**

As at 31 December 2021	Core $m	Core plus $m	Surplus $m	Total $m
Less than one year	119.0	144.7	18.5	282.2
Between one and two years	198.1	255.4	25.4	478.9
Between two and three years	102.3	133.3	38.6	274.2
Between three and four years	61.9	89.6	40.8	192.3
Between four and five years	30.2	33.6	55.1	118.9
Over five years	17.1	25.3	177.2	219.6
Asset backed and mortgage backed securities	19.6	32.7	190.7	243.0
Total fixed maturity securities	548.2	714.6	546.3	1,809.1

The maturity profile of the insurance contracts and financial liabilities of the Group is as follows:

	Years until liability becomes due – undiscounted values					
As at 31 December 2022	**Balance sheet $m**	**Less than one $m**	**One to three $m**	**Three to five $m**	**Over five $m**	**Total $m**
Losses and loss adjustment expenses	**1,780.8**	**879.7**	**595.1**	**184.2**	**121.8**	**1,780.8**
Insurance contracts – other payables	**52.9**	**38.7**	**13.3**	**0.9**	**–**	**52.9**
Amounts payable to reinsurers	**268.2**	**268.2**	**–**	**–**	**–**	**268.2**
Other payables	**44.1**	**44.1**	**–**	**–**	**–**	**44.1**
Lease liabilities	**23.3**	**3.6**	**6.6**	**6.8**	**12.3**	**29.3**
Long-term debt[1]	**446.1**	**25.3**	**50.6**	**50.6**	**551.3**	**677.8**
Total	**2,615.4**	**1,259.6**	**665.6**	**242.5**	**685.4**	**2,853.1**

1. The maturity profile of long-term debt includes interest.

	Years until liability becomes due – undiscounted values					
As at 31 December 2021	Balance sheet $m	Less than one $m	One to three $m	Three to five $m	Over five $m	Total $m
Losses and loss adjustment expenses	1,291.1	676.6	425.1	114.3	75.1	1,291.1
Insurance contracts – other payables	20.3	13.7	6.6	–	–	20.3
Amounts payable to reinsurers	205.6	205.6	–	–	–	205.6
Other payables	37.4	37.4	–	–	–	37.4
Lease liabilities	17.9	3.7	6.4	5.1	6.1	21.3
Long-term debt[1]	445.7	25.3	50.6	50.6	576.6	703.1
Total	2,018.0	962.3	488.7	170.0	657.8	2,278.8

1. The maturity profile of long-term debt includes interest.

Actual maturities of the above may differ from contractual maturities because certain borrowers have the right to call or prepay certain obligations with or without call or prepayment penalties. While the estimation of the ultimate liability for losses and loss adjustment expenses is complex and incorporates a significant amount of judgement, the timing of payment of losses and loss adjustment expenses is also uncertain and cannot be predicted as simply as for other financial liabilities. Actuarial and statistical techniques, past experience and management's judgement have been used to determine a likely settlement pattern.

As at 31 December 2022, cash and cash equivalents were $548.8 million (31 December 2021 – $517.7 million). The Group manages its liquidity risks via its investment strategy to hold high-quality, liquid securities, sufficient to meet its insurance liabilities and other near-term liquidity requirements. The creation of the core and core plus portfolios with their subset of guidelines aims to ensure funds are readily available to meet potential insurance liabilities in an extreme event plus other near-term liquidity requirements. In addition, the Group has established asset allocation and maturity parameters within the investment guidelines such that the majority of the investments are in high quality assets which could be converted into cash promptly and at minimal expense. The Group monitors market changes and outlook and reallocates assets as it deems necessary.

As at 31 December 2022, the Group considers that it has more than adequate liquidity to pay its obligations as they fall due.

D. Credit risk

Credit risk is the risk that a counterparty may fail to pay, or repay, a debt or obligation. The Group is exposed to credit risk on its fixed maturity investment portfolio and derivative instruments, its inwards premiums receivable from insureds and cedants, and on any amounts recoverable from reinsurers.

Credit risk on the fixed maturity portfolio is mitigated through the Group's policy to invest in instruments of high-credit-quality issuers and to limit the amounts of credit exposure with respect to particular ratings categories and any one issuer. Securities rated below an S&P or equivalent rating of BBB-/Baa3 may comprise no more than 15.0% of shareholders' equity. In addition, no one issuer, with the exception of U.S. government and agency securities, other G10 government guaranteed securities (excluding Italy) and Australian sovereign debt, should exceed 5.0% of shareholders' equity. The Group is therefore not exposed to any significant credit concentration risk on its investment portfolio, except for fixed maturity securities issued by the U.S. government and government agencies and other highly-rated governments.

Credit risk on exchange-traded derivative instruments is mitigated by the use of clearing houses to reduce counterparty credit risk, requiring the posting of margins and settling of unrealised gains and losses daily. Credit risk on OTC derivatives is mitigated by monitoring the creditworthiness of the counterparties and by requiring collateral amounts exceeding predetermined thresholds to be posted for positions which have accrued gains.

Credit risk on inwards premiums receivable from insureds and cedants is managed by conducting business with reputable broking organisations, with whom the Group has established relationships, and by rigorous cash collection procedures. The Group also has a broker approval process in place. Binding authorities are subject to standard market controls including credit control. Credit risk from reinsurance recoverables is primarily managed by the review and approval of reinsurer security.

The table below presents an analysis of the Group's major exposures to counterparty credit risk, based on their rating. The table includes amounts due from policyholders and unsettled investment trades. The quality of these receivables is not graded but, based on management's historical experience, there is limited default risk associated with these amounts.

As at 31 December 2022	Cash and fixed maturity securities $m	Inwards premiums receivable and other receivables $m	Reinsurance recoveries $m
AAA	**572.0**	–	–
AA+, AA, AA-	**905.9**	**0.5**	**4.6**
A+, A, A-	**622.4**	**93.3**	**533.4**
BBB+, BBB, BBB-	**284.4**	**1.0**	**2.1**
Other[1]	**129.0**	**720.4**	**52.0**
Total	**2,513.7**	**815.2**	**592.1**

1. Reinsurance recoveries classified as 'other' include $42.0 million of reserves that are fully collateralised.

As at 31 December 2021	Cash and fixed maturity securities $m	Inwards premiums receivable and other receivables $m	Reinsurance recoveries $m
AAA	355.6	–	–
AA+, AA, AA-	816.0	–	2.8
A+, A, A-	754.4	28.2	369.2
BBB+, BBB, BBB-	280.4	2.1	2.2
Other[1]	120.4	517.3	44.6
Total	2,326.8	547.6	418.8

1. Reinsurance recoveries classified as 'other' include $38.2 million of reserves that are fully collateralised.

As at 31 December 2022, the average credit quality of the fixed maturity portfolio was A+ (31 December 2021 – A+).

The following table shows inwards premiums receivable that are past due but not impaired:

	2022 $m	2021 $m
Less than 90 days past due	**71.2**	59.1
Between 91 and 180 days past due	**10.3**	13.7
Over 180 days past due	**14.5**	8.2
Total	**96.0**	81.0

As at 31 December 2022 there has been no change in our counterparty credit risk exposure, however, it is an area we continue to monitor given the ongoing conflict in Ukraine. Provisions of $8.7 million (31 December 2021 – $7.0 million) have been made for impaired or irrecoverable balances and $4.1 million (2021 – $1.4 million) was charged to the consolidated statement of comprehensive income in respect of the provision for bad debts of which $2.4 million (2021 – $nil) has been written off.

E. Operational risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, personnel, systems or external events. The Group and its subsidiaries have identified and evaluated their key operational risks and these are incorporated in the risk registers and modelled within the subsidiaries' capital models. The Group has also established, and monitors compliance with, internal operational risk tolerances. The RRC reviews operational risk on at least an annual basis and operational risk is covered in the Group CRO's quarterly ORSA report to the LHL Board and entity boards and in the LSL RCCC reporting.

In order to manage operational risks, the Group has implemented a robust governance framework. Policies and procedures are documented and identify the key risks and controls within processes. Key risk indicators have been established and are monitored on a regular basis and a formal loss event and near-miss reporting process has been implemented. The Group's internal audit function provides independent feedback with regard to the accuracy and completeness of key risks and controls, and independently verifies the effective operation of these through substantive testing. All higher risk areas are subject to an annual audit while compliance with tax operating guidelines is reviewed quarterly. Frequency of consideration for audit for all other areas varies from quarterly at the most frequent to a minimum of once every four years, on a rotational basis.

The operational cyber risk that comes with employees working from home is managed through enhanced monitoring of network activity, targeted staff training, a quarterly risk and control affirmation process, annual testing of business continuity plans and disaster recovery plans, and our cyber security incident response plan.

F. Strategic risk

The Group has identified several strategic risks. These include:

- the risks that either the poor execution of the business plan or an inappropriate business plan in itself results in a strategy that fails to adequately reflect the trading environment, resulting in an inability to optimise performance, including reputational risk;
- the risks of failing to maintain adequate capital, accessing capital at an inflated cost or the inability to access capital. This includes unanticipated changes in vendor, regulatory and/or rating agency models that could result in an increase in capital requirements or a change in the type of capital required;
- the risks of succession planning, staff retention and key man risks; and
- the risks of organisational stretch as the Group grows, in terms of volume of business written and number of employees, as well as from transformation programmes to ensure the Group has appropriate systems and infrastructure and data in place to support the business.

I. Business plan risk

The Group addresses the risks associated with the planning and execution of the business plan through a combination of the following:

- an iterative annual forward-looking business planning process with cross departmental involvement;
- evaluation and approval of the annual business plan by the Board of Directors;
- regular monitoring of actual versus planned results;
- periodic review and re-forecasting as market conditions change; and
- evaluation of climate change and the potential short, medium and long-term implications/considerations for the business.

The forward-looking business planning process covers a three-year period from 2023 to 2025 and applies a number of sensitivity, stress and scenario tests. These tests include consideration of climate change risks. The sensitivity and stress testing identified that even under the more extreme stress scenarios the Group had more than adequate liquidity and solvency headroom.

II. Capital management risk

The total capital of the Group is as follows:

As at 31 December	2022 $m	2021 $m
Shareholders' equity	**1,267.9**	1,412.3
Long-term debt	**446.1**	445.7
Total capital	**1,714.0**	1,858.0
Intangible assets	**(172.4)**	(157.9)
Total tangible capital	**1,541.6**	1,700.1

Risks associated with the effectiveness of the Group's capital management are mitigated as follows:

- regular monitoring of current and prospective regulatory and rating agency capital requirements;
- regular discussion with the LSL management team regarding Lloyd's capital requirements;
- oversight of capital requirements by the Board of Directors;
- ability to purchase sufficient, cost-effective reinsurance;
- maintaining contact with vendors, regulators and rating agencies in order to stay abreast of upcoming developments; and
- participation in industry groups such as the International Underwriters Association, the Association of Bermuda Insurers and Reinsurers and the Lloyd's Market Association.

The Group reviews the level and composition of capital on an ongoing basis with a view to:

- maintaining sufficient capital for underwriting opportunities and to meet obligations to policyholders;
- maximising the risk-adjusted return to shareholders within predetermined risk tolerances;
- maintaining adequate financial strength ratings; and
- meeting internal, rating agency and regulatory capital requirements.

Capital is increased or returned as appropriate. The retention of earnings generated leads to an increase in capital. Capital raising can include debt or equity and returns of capital may be made through dividends, share repurchases, a redemption of debt or any combination thereof. Other capital management tools and products available to the Group may also be utilised. All capital actions require approval by the Board of Directors.

Internal methods have been developed to review the profitability of classes of business and their estimated capital requirements plus the capital requirements of the combination of a wide range of other risk categories. These approaches are used by management in decision making.

The Group's long-term debt held as at 31 December 2022 and 31 December 2021 is approved as 'Tier 2 Ancillary Capital' by the Bermuda Monetary Authority.

The Group's aim is to maximise risk-adjusted returns for its shareholders across the cycle through a purposeful and sustainable business culture. The return is measured by management in terms of the Change in FCBVS in the period (see APM on page 189). This aim is a long-term goal, acknowledging that management expects both higher and lower results in the shorter term. The cyclicality and volatility of the insurance market is expected to be the largest driver of this pattern. Management monitors these peaks and troughs by adjusting the Group's portfolio to make the most effective use of available capital and seeking to maximise the risk-adjusted return.

The primary source of capital used by the Group is equity shareholders' funds and borrowings (note 18). As a holding company, LHL relies on dividends from its operating entities to provide the cash flow required for debt service and dividends to shareholders. The operating entities' ability to pay dividends and make capital distributions is subject to the legal and regulatory restrictions of the jurisdictions in which they operate.

Both the Group and LICL are regulated by the BMA and are required to monitor their enhanced capital requirement under the BMA's regulatory framework, which has been assessed as equivalent to the Solvency II regime. The Group and LICL's capital requirement are calculated using the BSCR standard formula model. For the years ended 31 December 2022 and 2021, both the Group and LICL were more than adequately capitalised under the BMA's regulatory regime.

The Group's UK regulated insurance companies are required to comply with the Solvency II regime and are regulated by the PRA and FCA. LSL is also regulated by Lloyd's. Under Solvency II, the basis for assessing capital and solvency comprises a market-consistent economic balance sheet and an SCR, determined using either an internal model or the standard formula.

LUK calculates its SCR using the standard formula. LUK's Solvency II own funds are primarily comprised of Tier 1 items for the years ended 31 December 2022 and 2021. Tier 1 capital is the highest-quality capital under Solvency II with the greatest loss-absorbing capacity, comprising share capital and retained earnings. For the years ended 31 December 2022 and 2021, LUK was more than adequately capitalised under the Solvency II regime. The Group is closely monitoring consultations and proposals related to changes to the UK Solvency regime post the UK's departure from the EU on 31 December 2020. A number of material changes were contained within the consultation published by the PRA in November 2022. The consultation is open until May 2023 with a view to implementing new requirements from December 2024. Whilst the areas under review are not currently expected to have a material impact on the solvency position of any of the Group's UK regulated entities there will be a change in the reporting requirements.

The Group's underwriting capacity in its Lloyd's syndicates must be supported by providing a deposit in the form of cash, securities or LOCs, which are referred to as FAL. The capital framework at Lloyd's requires each managing agent to calculate the capital requirement for each syndicate they manage. Solvency II internal models are used to determine capital requirements for Syndicate 2010 and Syndicate 3010 based on the uSCR. Lloyd's has the discretion to take into account other factors at syndicate or member level to uplift the calculated uSCR. This may include perceived deficiencies in the internal model result as well as the need to maintain Lloyd's overall security rating. Currently, as a minimum, Lloyd's applies a 35.0% uplift to each syndicate's uSCR to arrive at the ECA.

Lloyd's then uses each syndicate's ECA as a basis for determining member level capital requirements, which is backed by FAL. For the 2023 calendar year the Group's corporate member's FAL requirement was set at 83.5% (2022 – 74.0%) of underwriting capacity supported. Further solvency adjustments are made to allow for open year profits and losses of the syndicates on which the corporate member participates. The Group has a FAL requirement of £544.5 million as at 31 December 2022 (31 December 2021 – £344.0 million).

For the years ended 31 December 2022 and 2021 the capital requirements of all the Group's regulatory jurisdictions were met.

III. Retention risk

Risks associated with succession planning, staff retention and key man risks are mitigated through a combination of resource planning processes and controls, including:

- the identification of key personnel with appropriate succession plans;
- the identification of key team profit generators and function holders with targeted retention packages;
- documented recruitment procedures, position descriptions and employment contracts;
- resource monitoring and the provision of appropriate compensation, including equity based compensation which vests over a defined time horizon; and
- training schemes.

Notes to the accounts

1. General information

The Group is a provider of global specialty insurance and reinsurance products with operations in London, Bermuda and Australia. LHL was incorporated under the laws of Bermuda on 12 October 2005. On 16 March 2009, LHL (registered number 37415) was added to the Official List and its common shares were admitted to trading on the main market of the LSE; previously LHL's shares were listed on AIM, a subsidiary market of the LSE. Since 21 May 2007, LHL's shares have had a secondary listing on the BSX. LHL's head office and registered office is Power House, 7 Par-la-Ville Road, Hamilton HM 11, Bermuda.

The consolidated financial statements for the year ended 31 December 2022 include the Company's subsidiary companies, the Company's investment in associate, and the Group's share of the syndicates' assets and liabilities and income and expenses. A full listing of the Group's related parties can be found in note 23.

2. Segmental reporting

Management and the Board of Directors review the Group's business primarily by its two principal segments: reinsurance and insurance. These segments are therefore deemed to be the Group's operating segments for the purposes of segmental reporting. Operating segment performance is measured by the net underwriting profit or loss and the combined ratio.

All amounts reported are transactions with external parties and associates. There are no significant inter-segmental transactions and there are no significant insurance or reinsurance contracts that insure or reinsure risks in Bermuda, the Group's country of domicile.

The Group's operating segments for the purpose of segmental reporting have been revised in the current year. The revenue and expenses previously reported in the property and casualty reinsurance, property and casualty insurance, aviation, energy and marine segments are now reported within reinsurance and insurance segments. This reflects an internal management restructuring that occurred in the second half of 2022 and is in place as at 31 December 2022. Lines of business, written primarily, but not exclusively, on a reinsurance or insurance basis, are now reported under a Head of Reinsurance and Head of Insurance based on the products that they manage. Comparative figures for the year ended 31 December 2021 have been re-presented in conformity with the current year view.

Revenue and expense by operating segment

For the year ended 31 December 2022	Reinsurance segment $m	Insurance segment $m	Total $m
Gross premiums written by geographic area			
U.S. and Canada	385.3	254.3	639.6
Worldwide – multi territory	347.2	268.9	616.1
Europe	50.0	90.5	140.5
Rest of world	59.6	196.5	256.1
Total	842.1	810.2	1,652.3
Outwards reinsurance premiums	(213.3)	(251.0)	(464.3)
Change in unearned premiums	(149.2)	(74.0)	(223.2)
Change in unearned premiums on premiums ceded	15.9	7.7	23.6
Net premiums earned	495.5	492.9	988.4
Insurance losses and loss adjustment expenses	(546.7)	(376.0)	(922.7)
Insurance losses and loss adjustment expenses recoverable	194.7	151.6	346.3
Insurance acquisition expenses	(136.0)	(162.8)	(298.8)
Insurance acquisition expenses ceded	5.0	32.6	37.6
Net underwriting profit	12.5	138.3	150.8
Net unallocated income and expenses			(153.6)
Loss before tax			(2.8)
Net loss ratio	71.0%	45.5%	58.3%
Net acquisition cost ratio	26.4%	26.4%	26.4%
Expense ratio	–	–	13.0%
Combined ratio	97.4%	71.9%	97.7%

2. Segmental reporting continued

Revenue and expense by operating segment

For the year ended 31 December 2021	Reinsurance segment $m	Insurance segment $m	Total $m
Gross premiums written by geographic area			
U.S. and Canada	274.9	190.3	465.2
Worldwide – multi territory	174.2	250.6	424.8
Europe	48.7	90.1	138.8
Rest of world	63.2	133.2	196.4
Total	561.0	664.2	1,225.2
Outwards reinsurance premiums	(175.6)	(233.5)	(409.1)
Change in unearned premiums	(81.1)	(58.9)	(140.0)
Change in unearned premiums on premiums ceded	(2.2)	22.6	20.4
Net premiums earned	302.1	394.4	696.5
Insurance losses and loss adjustment expenses	(434.0)	(233.6)	(667.6)
Insurance losses and loss adjustment expenses recoverable	160.2	36.9	197.1
Insurance acquisition expenses	(64.5)	(124.1)	(188.6)
Insurance acquisition expenses ceded	8.2	23.4	31.6
Net underwriting (loss) profit	(28.0)	97.0	69.0
Net unallocated income and expenses			(125.8)
Loss before tax			(56.8)
Net loss ratio	90.6%	49.9%	67.6%
Net acquisition cost ratio	18.6%	25.5%	22.5%
Expense ratio	–	–	17.2%
Combined ratio	109.2%	75.4%	107.3%

3. Investment return

The total investment return for the Group is as follows:

For the year ended 31 December 2022	Net investment income and net other investment (loss) income[1] $m	Net realised (losses) gains and impairments $m	Net change in unrealised losses on AFS[2] $m	Total investment return $m
Fixed maturity securities – AFS	**38.9**	**(19.3)**	**(93.2)**	**(73.6)**
Fixed maturity securities – at FVTPL	**(0.3)**	**–**	**–**	**(0.3)**
Index linked securities - at FVTPL	**(2.3)**	**–**	**–**	**(2.3)**
Hedge funds – at FVTPL	**(1.5)**	**(1.1)**	**–**	**(2.6)**
Private investment funds – at FVTPL	**(0.6)**	**–**	**–**	**(0.6)**
Other investments	**0.2**	**(2.3)**	**–**	**(2.1)**
Cash and cash equivalents	**4.8**	**–**	**–**	**4.8**
Total investment return	**39.2**	**(22.7)**	**(93.2)**	**(76.7)**

1. Net unrealised gains/(losses) on our FVTPL investments are included within net investment income and net other investment income.
2. In 2023, when we apply IFRS 9, the net change in unrealised gains /(losses) on AFS will be classified within net investment income and net other investment income.

For the year ended 31 December 2021	Net investment income and net other investment (loss) income[1] $m	Net realised (losses) gains and impairments $m	Net change in unrealised losses on AFS[2] $m	Total investment return $m
Fixed maturity securities – AFS	22.9	2.7	(31.6)	(6.0)
Fixed maturity securities – at FVTPL	1.7	(0.1)	–	1.6
Index linked securities – at FVTPL	0.5	–	–	0.5
Hedge funds – at FVTPL	(0.6)	3.7	–	3.1
Private investment funds – at FVTPL	2.3	–	–	2.3
Other investments	(0.1)	(0.2)	–	(0.3)
Cash and cash equivalents	0.1	–	–	0.1
Total investment return	26.8	6.1	(31.6)	1.3

1. Net unrealised gains/(losses) on our FVTPL investments are included within net investment income and net other investment income.
2. In 2023, when we apply IFRS 9, the net change in unrealised gains /(losses) on AFS will be classified within net investment income and net other investment income.

Net investment income includes $46.1 million (2021 – $34.1 million) of interest income on our AFS investment portfolio and cash and cash equivalents. Net realised (losses) gains and impairments includes impairment losses of $2.5 million (2021 – $nil million) recognised on fixed maturity securities.

Refer to pages 155 to 156 in the risk disclosures section for the fair values of the Group's derivative instruments. Realised gains and losses on futures and options contracts are included in net realised (losses) gains and impairments.

Included in net investment income and net other investment (loss) income is $4.7 million (2021 – $4.8 million) of investment management, accounting and custodian fees.

4. Net insurance acquisition expenses

For the year ended 31 December	2022 $m	2021 $m
Insurance acquisition expenses	**358.0**	221.2
Changes in deferred insurance acquisition expenses	**(59.2)**	(32.6)
Insurance acquisition expenses ceded	**(43.5)**	(39.0)
Changes in deferred insurance acquisition expenses ceded	**5.9**	7.4
Total net insurance acquisition expenses	**261.2**	157.0

5. Other income

For the year ended 31 December	2022 $m	2021 $m
Lancashire Capital Management		
• underwriting fees	**3.1**	10.6
• profit commission	**0.9**	5.2
Lancashire Syndicates		
• managing agency fees	**1.1**	1.1
• consortium fees	**1.1**	0.6
• consortium profit commission	**0.1**	0.7
• coverholder commission income	**0.2**	–
Total other income	**6.5**	18.2

As at 31 December 2022, contract assets in relation to other income amounted to $1.3 million (31 December 2021 – $0.7 million).

6. Results of operating activities

Results of operating activities are stated after charging the following amounts:

For the year ended 31 December	2022 $m	2021 $m
Depreciation on owned assets	**0.4**	0.6
Auditor's remuneration		
• Group audit fees	**4.1**	2.1
• Other services	**0.4**	0.4
Total	**4.9**	3.1

During 2022 and 2021, KPMG LLP provided non-audit services in relation to the Group's half-year reporting review, Solvency II reporting and Lloyd's reporting. In addition non-audit services in relation to the long-term debt refinancing was provided in the prior year. Fees for non-audit services provided in 2022 totalled $0.4 million (2021 – $0.4 million).

7. Employee benefits

For the year ended 31 December	2022 $m	2021 $m
Wages and salaries	**54.6**	49.2
Pension costs	**4.2**	4.3
Bonus and other benefits	**15.2**	15.0
Total cash compensation	**74.0**	68.5
RSS – performance	**0.5**	3.7
RSS – ordinary	**7.4**	6.0
RSS – bonus deferral	**0.7**	1.4
Total equity based compensation	**8.6**	11.1
Total employee benefits	**82.6**	79.6

Equity based compensation

The Group's equity based compensation scheme is its RSS. All outstanding and future RSS grants have an exercise period of ten years from the grant date.

The fair value of any TSR component of the nil-cost options is estimated using a stochastic model. For all other components the Black-Scholes model is used to estimate the fair value.
The following table lists the assumptions used in the stochastic model for the RSS awards granted during the years ended 31 December 2022 and 2021:

Assumptions	2022	2021
Dividend yield	**–**	–
Expected volatility[1]	**28.1%**	28.0%
Risk-free interest rate[2]	**1.3%**	0.1%
Expected average life of options	**3.0 years**	3.0 years
Share price	**$6.72**	$8.92

1. The expected volatility of the LHL share price is calculated based on the movement in the share price over a period prior to the grant date, equal in length to the expected life of the award.
2. The risk-free interest rate is consistent with three–year UK government bond yields on the date of grant.

The calculation of the equity based compensation expense assumes forfeitures due to employee turnover of 10.0% per annum prior to vesting, with subsequent adjustments to reflect actual experience.

RSS – Performance

The performance RSS options vest three years from the date of grant and are dependent on certain performance criteria. A maximum of 85.0% (2021 – 85.0%) of the performance RSS options will vest only on the achievement of a change in FCBVS in excess of a required amount. A maximum of 15.0% (2021 – 15.0%) of the performance RSS options will vest only on the achievement of an absolute TSR in excess of a required amount. An amount equivalent to the dividends paid between the grant date and the exercise date accrues and is paid at the time of exercise, pro-rata according to the number of RSS options that vest.

	Total number of restricted shares
Outstanding as at 31 December 2020	2,749,396
Granted	1,386,635
Exercised	(377,522)
Forfeited	(14,615)
Lapsed	(480,182)
Outstanding as at 31 December 2021	3,263,712
Granted	**1,166,257**
Exercised	**(387,722)**
Forfeited	**(186,988)**
Lapsed	**(457,700)**
Outstanding as at 31 December 2022	**3,397,559**
Exercisable as at 31 December 2021	104,346
Exercisable as at 31 December 2022	**140,323**

	2022 Total restricted shares	2021 Total restricted shares
Weighted average remaining contractual life	**8.1 years**	9.0 years
Weighted average fair value at date of grant during the year	**$5.59**	$7.99
Weighted average share price at date of exercise during the year	**$6.59**	$9.12

RSS – Ordinary

The ordinary RSS options vest three years from the date of grant and do not have associated performance criteria. An amount equivalent to the dividends paid between the grant date and the exercise date accrues and is paid at the time of exercise.

	Total number of restricted shares
Outstanding as at 31 December 2020	2,619,125
Granted	1,035,202
Exercised	(561,366)
Forfeited	(208,990)
Outstanding as at 31 December 2021	2,883,971
Granted	**1,994,874**
Exercised	**(548,748)**
Forfeited	**(153,132)**
Outstanding as at 31 December 2022	**4,176,965**
Exercisable as at 31 December 2021	520,249
Exercisable as at 31 December 2022	**634,373**

7. Employee benefits continued

	2022 Total restricted shares	2021 Total restricted shares
Weighted average remaining contractual life	**8.0 years**	8.4 years
Weighted average fair value at date of grant during the year	**$6.69**	$8.92
Weighted average share price at date of exercise during the year	**$6.02**	$9.35

RSS – Bonus deferral

The vesting periods of the bonus deferral RSS options range from one to three years from the date of grant and do not have associated performance criteria. An amount equivalent to the dividends paid between the grant date and the exercise date accrues and is paid at the time of exercise.

	Total number of restricted shares
Outstanding as at 31 December 2020	250,605
Granted	183,185
Exercised	(83,638)
Outstanding as at 31 December 2021	350,152
Granted	**46,648**
Exercised	**(114,196)**
Forfeited	**(14,056)**
Outstanding as at 31 December 2022	**268,548**

Exercisable as at 31 December 2021	59,329
Exercisable as at 31 December 2022	**63,247**

	2022 Total restricted shares	2021 Total restricted shares
Weighted average remaining contractual life	**7.2 years**	8.9 years
Weighted average fair value at date of grant during the year	**$6.04**	$8.92
Weighted average share price at date of exercise during the year	**$6.45**	$8.84

RSS – Lancashire syndicates limited acquisition

The vesting periods of the LSL acquisition RSS options ranged from three to five years and were dependent on certain performance criteria. These options vested in full on 31 December 2018. An amount equivalent to the dividends paid between the grant date and the exercise date accrues and is paid at the time of exercise, pro-rata according to the number of RSS options that vested.

	Total number of restricted shares
Outstanding as at 31 December 2021 and 2020	64,742
Exercised	**(33,387)**
Outstanding as at 31 December 2022	**31,355**

Exercisable as at 31 December 2021	64,742
Exercisable as at 31 December 2022	**31,355**

	2022 Total restricted shares	2021 Total restricted shares
Weighted average remaining contractual life	**0.9 years**	1.9 years
Weighted average fair value at date of grant	**$13.01**	$13.01
Weighted average share price at date of exercise during the year	**$5.59**	–

8. Financing costs

For the year ended 31 December	2022 $m	2021 $m
Interest expense on long-term debt	**25.8**	25.8
Redemption cost on senior and subordinated loan notes	**–**	12.8
Interest rate swap	**–**	3.4
Interest expense on lease liabilities	**0.8**	1.1
Other financing costs	**2.6**	2.7
Total	**29.2**	45.8

The increased financing cost during the prior year ended 31 December 2021 was driven by $18.7 million of one-off costs associated with the refinancing of the long-term debt.

Refer to note 18 for details of long-term debt and financing arrangements.

9. Tax

Bermuda

LHL, LICL and LCM have received an undertaking from the Bermuda government exempting them from all Bermuda local income, withholding and capital gains taxes until 31 March 2035. At the present time no such taxes are levied in Bermuda.

United Kingdom

The UK subsidiaries of LHL are subject to normal UK corporation tax on all their taxable profits.

For the year ended 31 December	2022 $m	2021 $m
Corporation tax charge for the period	**1.7**	2.9
Adjustments in respect of prior period corporation tax	**(0.6)**	0.2
Deferred tax credit for the period	**(1.7)**	(2.5)
Adjustment in respect of prior period deferred tax	**1.1**	0.8
Tax rate change adjustment	**–**	3.4
Total tax charge	**0.5**	4.8

Tax reconciliation[1]	2022 $m	2021 $m
Loss before tax	**(2.8)**	(56.8)
Tax calculated at the standard corporation tax rate applicable in Bermuda 0%	**–**	–
Effect of income taxed at a higher rate	**3.0**	0.8
Adjustments in respect of prior period	**0.5**	1.0
Differences related to equity based compensation	**(0.4)**	1.0
Other expense permanent differences	**(2.6)**	(1.4)
Tax rate change adjustment	**–**	3.4
Total tax charge	**0.5**	4.8

1. All tax reconciling balances have been classified as recurring items.

The current tax charge as a percentage of the Group's profit before tax is negative 17.9% (2021 – negative 8.5%). The Group has non-taxable income in relation to profits of companies within the Group that are non-tax resident in the UK and the share of loss of associate.

Refer to note 11 for details of the tax expense related to the net change in unrealised gains/losses on investments that is included in accumulated other comprehensive (loss) income within shareholders' equity.

Global minimum tax

To address concerns about uneven profit distribution and tax contributions of large multinational corporations, various agreements have been reached at the global level, including an agreement by over 135 jurisdictions to introduce a global minimum tax rate of 15%. In December 2021 the OECD released a draft legislative framework, followed by detailed guidance in March 2022, that is expected to be used by individual jurisdictions that signed the agreement to amend their local tax laws. Once changes to the laws in any jurisdiction in which the Group operates are enacted or substantively enacted, the Group may be subject to a top-up tax. At the date when the financial statements were signed none of the jurisdictions in which the Group operates had enacted or substantially enacted the tax legislation related to a top-up tax. The Group may potentially be subject to a top-up tax because LHL and some of its subsidiaries are domiciled in Bermuda and are currently exempt from corporate income taxes until 31 March 2035. Management are closely monitoring the progress of the legislative process in the jurisdictions in which it operates.

10. Cash and cash equivalents

As at 31 December	2022 $m	2021 $m
Cash at bank and in hand	**191.6**	275.8
Cash equivalents	**357.2**	241.9
Total cash and cash equivalents	**548.8**	517.7

The carrying amount of cash and cash equivalents approximates fair value. Refer to note 18 for the cash and cash equivalent balances on deposit as collateral. Cash and cash equivalents include managed cash of $260.8 million (31 December 2021 – $260.7 million), which are managed by our external investment managers and non-operating cash managed internally.

11. Investments

As at 31 December 2022	Cost or amortised cost $m	Unrealised gains $m	Unrealised losses $m	Fair value[1] $m
Fixed maturity securities – AFS				
• Short-term investments	**21.5**	**–**	**–**	**21.5**
• Fixed maturity funds	**29.4**	**–**	**–**	**29.4**
• U.S. treasuries	**683.0**	**0.1**	**(32.9)**	**650.2**
• Other government bonds	**42.3**	**–**	**(3.4)**	**38.9**
• U.S. municipal bonds	**23.8**	**–**	**(1.2)**	**22.6**
• U.S. government agency debt	**61.0**	**–**	**(2.0)**	**59.0**
• Asset backed securities	**167.0**	**0.2**	**(6.3)**	**160.9**
• U.S. government agency mortgage backed securities	**45.5**	**–**	**(4.5)**	**41.0**
• Non-agency mortgage backed securities	**16.4**	**–**	**(2.4)**	**14.0**
• Non-agency commercial mortgage backed securities	**25.5**	**–**	**(1.3)**	**24.2**
• Bank loans	**131.8**	**0.5**	**(3.4)**	**128.9**
• Corporate bonds	**786.2**	**1.0**	**(34.9)**	**752.3**
Total fixed maturity securities – AFS	**2,033.4**	**1.8**	**(92.3)**	**1,942.9**
Fixed maturity securities – at FVTPL	**19.7**	**4.6**	**(2.3)**	**22.0**
Private investment funds – at FVTPL	**116.0**	**1.5**	**(9.4)**	**108.1**
Hedge funds – at FVTPL	**95.0**	**13.4**	**(4.5)**	**103.9**
Index linked securities – at FVTPL	**30.0**	**–**	**(1.8)**	**28.2**
Other investments	**–**	**0.2**	**(0.4)**	**(0.2)**
Total investments	**2,294.1**	**21.5**	**(110.7)**	**2,204.9**

1. When IFRS 9, Financial Instruments: Classification and Measurement, is implemented, all investments held above will be classified as at FVTPL (mandatory), with no resulting changes in the estimated fair value.

As at 31 December 2021	Cost or amortised cost $m	Unrealised gains $m	Unrealised losses $m	Fair value[1] $m
Fixed maturity securities – AFS				
• Short-term investments	44.5	–	–	44.5
• Fixed maturity funds	17.6	–	–	17.6
• U.S. treasuries	566.9	0.6	(3.3)	564.2
• Other government bonds	59.5	0.3	(1.0)	58.8
• U.S. municipal bonds	24.0	0.4	(0.1)	24.3
• U.S. government agency debt	54.2	1.1	(0.1)	55.2
• Asset backed securities	104.8	0.3	(1.0)	104.1
• U.S. government agency mortgage backed securities	85.5	1.1	(1.1)	85.5
• Non-agency mortgage backed securities	33.1	0.3	(0.2)	33.2
• Agency commercial mortgage backed securities	0.2	–	(0.1)	0.1
• Non-agency commercial mortgage backed securities	20.2	–	(0.1)	20.1
• Bank loans	110.1	0.7	(0.6)	110.2
• Corporate bonds	657.4	8.6	(3.6)	662.4
Total fixed maturity securities – AFS	1,778.0	13.4	(11.2)	1,780.2
Fixed maturity securities – at FVTPL	24.8	5.5	(1.4)	28.9
Private investment funds – at FVTPL	106.0	1.1	(1.4)	105.7
Hedge funds – at FVTPL	93.3	14.8	(5.2)	102.9
Index linked securities – at FVTPL	30.0	0.5	–	30.5
Other investments	0.3	0.1	(0.5)	(0.1)
Total investments	2,032.4	35.4	(19.7)	2,048.1

1. When IFRS 9, Financial Instruments: Classification and Measurement, is implemented, all investments held above will be classified as at FVTPL (mandatory), with no resulting changes in the estimated fair value.

Accumulated other comprehensive (loss) income in relation to the Group's AFS fixed maturity is as follows:

As at 31 December	2022 $m	2021 $m
Unrealised gains	**1.8**	13.4
Unrealised losses	**(92.3)**	(11.2)
Net unrealised foreign exchange losses on fixed maturity securities – AFS	**0.6**	1.1
Tax provision	**3.5**	(0.4)
Accumulated other comprehensive (loss) income	**(86.4)**	2.9

The Group determines the fair value of each individual security utilising the highest-level inputs available. Prices for the Group's investment portfolio are provided via a third-party investment accounting firm whose pricing processes and the controls thereon are subject to an annual audit on both the operation and the effectiveness of those controls. Various recognised reputable pricing sources are used, including pricing vendors and broker-dealers. The pricing sources use bid prices where available, otherwise indicative prices are quoted based on observable market trade data. The prices provided are compared to the investment managers' pricing.

The Group has not made any adjustments to any pricing provided by independent pricing services or its third-party investment managers for either year ending 31 December.

The fair value of securities in the Group's investment portfolio is estimated using the following techniques:

Level (I)

Level (i) investments are securities with quoted prices in active markets. A financial instrument is regarded as quoted in an active market if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service or regulatory agency and those prices represent actual and regularly occurring market transactions on an arm's length basis.

Level (II)

Level (ii) investments are securities with quoted prices in active markets for similar assets or liabilities or securities valued using other valuation techniques for which all significant inputs are based on observable market data. Instruments included in Level (ii) are valued via independent external sources using directly observable inputs to models or other valuation methods. The valuation methods used are typically industry-accepted standards and include broker-dealer quotes and pricing models including present values and future cash flows with inputs such as yield curves, interest rates, prepayment speeds and default rates.

11. Investments continued

Level (III)

Level (iii) investments are securities for which valuation techniques are not based on observable market data and require significant management judgement. The Group determines securities classified as Level (iii) to include hedge funds, private investment funds and loans to the Lloyd's central fund.

The fair values of the Group's hedge funds are determined using a combination of the most recent NAVs provided by each fund's independent administrator and the estimated performance provided by each hedge fund manager. Independent administrators provide monthly reported NAVs with up to a one-month delay in valuation. The most recent NAV available for each hedge fund is adjusted for the estimated performance, as provided by the fund manager, between the NAV date and the reporting date. Historically estimated fair values incorporating these performance estimates have not been significantly different from subsequent NAVs. Given the Group's knowledge of the underlying investments and the size of the Group's investment therein, we would not anticipate any material variance between estimated valuations and the final NAVs reported by the administrators.

The fair value of the Group's private investment funds are determined using statements received from each fund's investment managers on either a monthly or quarterly in arrears basis. In addition these valuations will be compared with benchmarks or other indices to assess the reasonableness of the estimated fair value of each fund. Given the Group's knowledge of the underlying investments and the size of the Group's investment therein, we would not anticipate any material variance between statements and the final NAVs reported by the investment managers.

The Group determines whether transfers have occurred between levels of the fair value hierarchy by re-assessing the categorisation at the end of each reporting period. Transfers between Level (i) to (ii) securities amounted to $124.7 million and transfers from Level (ii) to (i) securities amounted to $89.2 million during the year ended 31 December 2022.

The fair value hierarchy of the Group's investment holdings is as follows:

As at 31 December 2022	Level (i) $m	Level (ii) $m	Level (iii) $m	Total $m
Fixed maturity securities – AFS				
• Short-term investments	**18.5**	**3.0**	**–**	**21.5**
• Fixed maturity funds	**–**	**29.4**	**–**	**29.4**
• U.S. treasuries	**650.2**	**–**	**–**	**650.2**
• Other government bonds	**5.5**	**33.4**	**–**	**38.9**
• U.S. municipal bonds	**–**	**22.6**	**–**	**22.6**
• U.S. government agency debt	**38.0**	**21.0**	**–**	**59.0**
• Asset backed securities	**–**	**160.9**	**–**	**160.9**
• U.S. government agency mortgage backed securities	**–**	**41.0**	**–**	**41.0**
• Non-agency mortgage backed securities	**–**	**14.0**	**–**	**14.0**
• Non-agency commercial mortgage backed securities	**–**	**24.2**	**–**	**24.2**
• Bank loans	**22.7**	**106.2**	**–**	**128.9**
• Corporate bonds	**235.0**	**517.3**	**–**	**752.3**
Total fixed maturity securities – AFS	**969.9**	**973.0**	**–**	**1,942.9**
Fixed maturity securities – at FVTPL	**–**	**18.9**	**3.1**	**22.0**
Private investment funds – at FVTPL	**–**	**–**	**108.1**	**108.1**
Hedge funds – at FVTPL	**–**	**–**	**103.9**	**103.9**
Index linked securities – at FVTPL	**–**	**28.2**	**–**	**28.2**
Other investments	**–**	**(0.2)**	**–**	**(0.2)**
Total investments	**969.9**	**1,019.9**	**215.1**	**2,204.9**

As at 31 December 2021	Level (i) $m	Level (ii) $m	Level (iii) $m	Total $m
Fixed maturity securities – AFS				
• Short-term investments	42.2	2.3	–	44.5
• Fixed maturity funds	–	17.6	–	17.6
• U.S. treasuries	564.2	–	–	564.2
• Other government bonds	31.5	27.3	–	58.8
• U.S. municipal bonds	–	24.3	–	24.3
• U.S. government agency debt	33.5	21.7	–	55.2
• Asset backed securities	–	104.1	–	104.1
• U.S. government agency mortgage backed securities	–	85.5	–	85.5
• Non-agency mortgage backed securities	–	33.2	–	33.2
• Agency commercial mortgage backed securities	–	0.1	–	0.1
• Non-agency commercial mortgage backed securities	–	20.1	–	20.1
• Bank loans	5.0	105.2	–	110.2
• Corporate bonds	197.7	464.7	–	662.4
Total fixed maturity securities – AFS	874.1	906.1	–	1,780.2
Fixed maturity securities – at FVTPL	–	25.0	3.9	28.9
Private investment funds – at FVTPL	–	–	105.7	105.7
Hedge funds – at FVTPL	–	–	102.9	102.9
Index linked securities – at FVTPL	–	30.5	–	30.5
Other investments	–	(0.1)	–	(0.1)
Total investments	874.1	961.5	212.5	2,048.1

The table below analyses the movements in investments classified as Level (iii) investments:

	Private investment funds $m	Hedge funds $m	Fixed maturity securities[1] $m	Total $m
As at 31 December 2020	96.1	82.0	–	178.1
Purchases	17.1	39.9	5.3	62.3
Sales	(2.8)	(23.0)	–	(25.8)
Net realised gains recognised in profit or loss	–	3.7	–	3.7
Net unrealised (losses) gains in profit or loss	(4.7)	0.3	(1.4)	(5.8)
As at 31 December 2021	105.7	102.9	3.9	212.5
Purchases	**17.6**	**13.3**	**–**	**30.9**
Sales	**(7.6)**	**(10.5)**	**–**	**(18.1)**
Net realised losses recognised in profit or loss	**–**	**(1.1)**	**–**	**(1.1)**
Net unrealised (losses) gains in profit or loss	**(7.6)**	**(0.7)**	**(0.8)**	**(9.1)**
As at 31 December 2022	**108.1**	**103.9**	**3.1**	**215.1**

1. Included within fixed maturity securities are central fund loans classified at Level (iii) within the fair value hierarchy.

12. Interests in structured entities

Consolidated Structured Entities

- The Group provides capital contributions to the EBT to enable it to meet its obligations to employees under the equity based compensation plans. The Group has a contractual agreement which may require it to provide financial support to the EBT (see note 23).
- As at 31 December 2022, the company held $2.5 million of private investment funds through Lancashire Blocker (Cayman) Limited a wholly owned subsidiary of LICL.

Unconsolidated structured entities in which the group has an interest

As part of its investment activities, the Group invests in unconsolidated structured entities. The Group does not sponsor any of the unconsolidated structured entities.

12. Interests in structured entities continued

A summary of the Group's interest in unconsolidated structured entities is as follows:

As at 31 December 2022	Investments $m	Interest in associate $m	Total $m
Fixed maturity securities			
• Asset backed securities	**160.9**	–	**160.9**
• U.S. government agency mortgage backed securities	**41.0**	–	**41.0**
• Non-agency mortgage backed securities	**14.0**	–	**14.0**
• Agency commercial mortgage backed securities	**24.2**	–	**24.2**
Total fixed maturity securities	**240.1**	–	**240.1**
Investment funds			
• Private investment funds	**105.6**	–	**105.6**
• Hedge funds	**103.9**	–	**103.9**
Total investment funds	**209.5**	–	**209.5**
Specialised investment vehicles			
• KHL (note 16)	–	**57.2**	**57.2**
Total	**449.6**	**57.2**	**506.8**

As at 31 December 2021	Investments $m	Interest in associate $m	Total $m
Fixed maturity securities			
• Asset backed securities	104.1	–	104.1
• U.S. government agency mortgage backed securities	85.5	–	85.5
• Non-agency mortgage backed securities	33.2	–	33.2
• Agency commercial mortgage backed securities	0.1	–	0.1
• Non-agency commercial mortgage backed securities	20.1	–	20.1
Total fixed maturity securities	243.0	–	243.0
Investment funds			
• Private investment funds	105.7	–	105.7
• Hedge funds	102.9	–	102.9
Total investment funds	208.6	–	208.6
Specialised investment vehicles			
• KHL (note 16)	–	118.7	118.7
Total	451.6	118.7	570.3

The fixed maturity structured entities are created to meet specific investment needs of borrowers and investors which cannot be met from standardised financial instruments available in the capital markets. As such, they provide liquidity to the borrowers in these markets and provide investors with an opportunity to diversify risk away from standard fixed maturity securities. Whilst individual securities may differ in structure, the principles of the instruments are broadly the same and it is appropriate to aggregate the investments into the categories detailed above.

The risk that the Group faces in respect of the investments in structured entities is similar to the risk it faces in respect of other financial investments held on the consolidated balance sheet in that fair value is determined by market supply and demand. This is in turn driven by investor evaluation of the credit risk of the structure and changes in the term structure of interest rates which change investors' expectation of the cash flows associated with the instrument and, therefore, its value in the market. Risk management disclosures for these financial instruments and other investments are provided on pages 151 to 160. The total assets of these structured entities are not considered meaningful for the purpose of understanding the related risks and therefore have not been presented.

The maximum exposure to loss in respect of these structured entities would be the carrying value of the instruments that the Group holds as at 31 December 2022 and 31 December 2021. Generally, default rates would have to increase substantially from their current level before the Group would suffer a loss on maturity and this assessment is made prior to investing and regularly through the holding period for the security. The Group has not provided any other financial or other support in addition to that described above as at the reporting date, and there is no intention to provide support in relation to any other unconsolidated structured entities in the foreseeable future.

As at 31 December 2022, the Group has a commitment of $50.0 million (31 December 2021 – $100.0 million) in respect of one credit facility fund. The Group, via the fund, provides collateral for revolving credit facilities purchased at a discount from financial institutions and is at risk for its portion of any defaults on those revolving credit facilities. The Group's proportionate share of these revolving credit facilities purchased by the fund as at 31 December 2022 is $19.9 million (31 December 2021 – $39.7 million), which currently remains unfunded. The maximum exposure to the credit facility fund is $50.0 million and as at 31 December 2022 there have been no defaults under these facilities.

13. Losses and loss adjustment expenses

	Losses and loss adjustment expenses $m	Reinsurance recoveries $m	Net losses and loss adjustment expenses $m
As at 31 December 2020	952.8	(338.7)	614.1
Net incurred losses for:			
Prior years	(118.8)	32.3	(86.5)
Current year	786.4	(229.4)	557.0
Exchange adjustments	(17.2)	1.5	(15.7)
Incurred losses and loss adjustment expenses	650.4	(195.6)	454.8
Net paid losses for:			
Prior years	192.5	(106.7)	85.8
Current year	119.6	(8.8)	110.8
Paid losses and loss adjustment expenses	312.1	(115.5)	196.6
As at 31 December 2021	1,291.1	(418.8)	872.3
Net incurred losses for:			
Prior years	**(166.0)**	**65.5**	**(100.5)**
Current year	**1,088.7**	**(411.8)**	**676.9**
Other[1]	**(20.3)**	**1.8**	**(18.5)**
Incurred losses and loss adjustment expenses	**902.4**	**(344.5)**	**557.9**
Net paid losses for:			
Prior years	**304.4**	**(81.7)**	**222.7**
Current year	**108.3**	**(89.5)**	**18.8**
Paid losses and loss adjustment expenses	**412.7**	**(171.2)**	**241.5**
As at 31 December 2022	**1,780.8**	**(592.1)**	**1,188.7**

1. Other movements include primarily foreign exchange adjustments and the effect of prior year of accounts losses and loss adjustment expenses and reinsurance recoveries being reinsured to close into the 2020 year of account, to the extent where the Group's syndicate participation has changed between those years of account.

Further information on the calculation of loss reserves and the risks associated with them is provided in the risk disclosures section from page 145. The risks associated with general insurance contracts are complex and do not readily lend themselves to meaningful sensitivity analysis. The impact of an unreported event could lead to a significant increase in the Group's loss reserves. The Group believes that the loss reserves established are adequate, however, a 20.0% increase in estimated losses would lead to a $356.2 million (31 December 2021 – $258.2 million) increase in gross loss reserves and a $237.7 million (31 December 2021 – $174.5 million) increase in net loss reserves.

The breakdown of net losses and loss adjustment expenses between notified outstanding losses, ACR and IBNR is shown below:

	Losses and loss adjustment expenses $m	Reinsurance recoveries $m	Net losses and loss adjustment expenses $m
Outstanding losses	402.6	(86.9)	315.7
Additional case reserves	224.3	(31.8)	192.5
Losses incurred but not reported	664.2	(300.1)	364.1
As at 31 December 2021	1,291.1	(418.8)	872.3
Outstanding losses	**545.2**	**(101.3)**	**443.9**
Additional case reserves	**165.8**	**(30.9)**	**134.9**
Losses incurred but not reported	**1,069.8**	**(459.9)**	**609.9**
As at 31 December 2022	**1,780.8**	**(592.1)**	**1,188.7**

The Group's losses and loss expenses as at 31 December 2022 and 2021 had an estimated duration of approximately two years.

13. Losses and loss adjustment expenses continued

Claims development

The development of insurance liabilities is indicative of the Group's ability to estimate the ultimate value of its insurance liabilities. The Group began writing insurance and reinsurance business in December 2005. With the acquisition of LSL in 2013, the Group assumed additional loss reserves relating to 2001 and subsequent years.

Accident year	2012 & prior	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total $m
Gross Group losses												
Estimate of ultimate liability[1]												
At end of accident year	1,338.2	280.0	274.8	276.0	298.5	580.1	429.7	332.4	432.1	777.6	1,080.6	
One year later	1,626.1	259.8	226.7	214.6	310.7	547.1	462.0	328.7	392.6	717.0		
Two years later	1,597.6	224.0	206.0	196.2	274.4	511.3	431.1	294.8	351.5			
Three years later	1,587.9	224.4	196.5	189.6	235.0	493.1	413.1	283.5				
Four years later	1,579.5	222.1	193.4	184.1	232.3	473.1	385.7					
Five years later	1,574.2	218.4	192.4	182.6	223.5	444.7						
Six years later	1,527.4	213.7	190.1	181.5	223.4							
Seven years later	1,518.9	215.7	187.8	180.9								
Eight years later	1,519.6	218.3	186.4									
Nine years later	1,513.5	217.4										
Ten years later	1,507.1											
Current estimate of cumulative liability	**1,507.1**	**217.4**	**186.4**	**180.9**	**223.4**	**444.7**	**385.7**	**283.5**	**351.5**	**717.0**	**1,080.6**	**5,578.2**
Paid	**(1,452.6)**	**(207.9)**	**(179.2)**	**(168.4)**	**(217.7)**	**(405.0)**	**(331.7)**	**(206.1)**	**(206.6)**	**(313.9)**	**(108.3)**	**(3,797.4)**
Total Group gross liability	**54.5**	**9.5**	**7.2**	**12.5**	**5.7**	**39.7**	**54.0**	**77.4**	**144.9**	**403.1**	**972.3**	**1,780.8**

1. Adjusted for revaluation of foreign currencies at the exchange rate as at 31 December 2022.

Accident year	2012 & prior	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total $m
Reinsurance												
Estimate of ultimate recovery[1]												
At end of accident year	167.5	9.9	17.8	15.3	73.1	177.6	139.3	114.6	93.0	228.4	411.4	
One year later	327.5	8.9	14.1	12.2	98.5	185.0	189.9	115.0	90.4	198.8		
Two years later	321.3	8.8	13.1	12.6	96.7	179.7	181.9	97.1	79.0			
Three years later	330.8	8.0	11.5	13.0	76.5	181.2	172.3	99.6				
Four years later	330.9	8.0	11.9	13.0	73.9	178.6	160.1					
Five years later	332.4	8.0	9.6	13.0	73.7	165.6						
Six years later	328.1	7.4	9.6	13.4	73.1							
Seven years later	327.8	7.2	9.0	13.1								
Eight years later	324.8	7.3	8.8									
Nine years later	325.1	7.2										
Ten years later	323.1											
Current estimate of cumulative recovery	**323.1**	**7.2**	**8.8**	**13.1**	**73.1**	**165.6**	**160.1**	**99.6**	**79.0**	**198.8**	**411.4**	**1,539.8**
Paid	**(311.2)**	**(7.2)**	**(8.7)**	**(12.9)**	**(72.7)**	**(158.0)**	**(135.6)**	**(54.2)**	**(48.1)**	**(49.6)**	**(89.5)**	**(947.7)**
Total Group gross recovery	**11.9**	**–**	**0.1**	**0.2**	**0.4**	**7.6**	**24.5**	**45.4**	**30.9**	**149.2**	**321.9**	**592.1**

1. Adjusted for revaluation of foreign currencies at the exchange rate as at 31 December 2022.

Accident year	2012 & prior	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total $m
Net Group losses												
Estimate of ultimate liability[1]												
At end of accident year	1,170.7	270.1	257.0	260.7	225.4	402.5	290.4	217.8	339.1	549.2	669.2	
One year later	1,298.6	250.9	212.6	202.4	212.2	362.1	272.1	213.7	302.2	518.2		
Two years later	1,276.3	215.2	192.9	183.6	177.7	331.6	249.2	197.7	272.5			
Three years later	1,257.1	216.4	185.0	176.6	158.5	311.9	240.8	183.9				
Four years later	1,248.6	214.1	181.5	171.1	158.4	294.5	225.6					
Five years later	1,241.8	210.4	182.8	169.6	149.8	279.1						
Six years later	1,199.3	206.3	180.5	168.1	150.3							
Seven years later	1,191.1	208.5	178.8	167.8								
Eight years later	1,194.8	211.0	177.6									
Nine years later	1,188.4	210.2										
Ten years later	1,184.0											
Current estimate of cumulative liability	**1,184.0**	**210.2**	**177.6**	**167.8**	**150.3**	**279.1**	**225.6**	**183.9**	**272.5**	**518.2**	**669.2**	**4,038.4**
Paid	**(1,141.4)**	**(200.7)**	**(170.5)**	**(155.5)**	**(145.0)**	**(247.0)**	**(196.1)**	**(151.9)**	**(158.5)**	**(264.3)**	**(18.8)**	**(2,849.7)**
Total Group net liability	**42.6**	**9.5**	**7.1**	**12.3**	**5.3**	**32.1**	**29.5**	**32.0**	**114.0**	**253.9**	**650.4**	**1,188.7**

1. Adjusted for revaluation of foreign currencies at the exchange rate as at 31 December 2022.

The inherent uncertainty in reserving gives rise to favourable or adverse development on the established reserves. The total favourable development on net losses and loss adjustment expenses, excluding the impact of foreign exchange revaluations, was as follows:

For the year ended 31 December	2022 $m	2021 $m
2017 accident year and prior	**19.9**	36.1
2018 accident year	**13.6**	7.1
2019 accident year	**13.7**	8.8
2020 accident year	**27.5**	34.5
2021 accident year	**25.8**	–
Total favourable development	**100.5**	86.5

The favourable development in 2022 was primarily due to general IBNR releases on the 2021 and 2020 accident years and across most lines of business due to a lack of reported claims. There was favourable development on natural catastrophe loss events from the 2019 and 2018 accident years as well as beneficial claims settlements on risk losses in the 2017 accident year.

In the prior year, the Group benefited from general IBNR releases on the 2020 accident year across most lines of business due to a lack of reported claims. The prior year also included favourable development on the 2017 accident year, mainly from reserve releases on natural catastrophe loss events within the property and casualty reinsurance segment, as well as some beneficial claims settlements from earlier accident years.

During 2022, we experienced net losses from catastrophe, weather and large loss events of $308.8 million, excluding the impacts of reinstatement premiums. Within this, catastrophe and weather related losses for the year ended 31 December 2022, excluding the impacts of reinstatement premiums, were $218.4 million. This includes $163.3 million from hurricane Ian. Large claims for the year amounted to $90.4 million. This includes $65.8 million related to the ongoing conflict in Ukraine and incorporates a management margin for any potential indirect claims related to the conflict across a number of classes of business. Given the nature of the Ukraine conflict, the ultimate claims relating to the event are subject to a high level of uncertainty. In addition, the Group has $24.6 million from an accumulation of four large losses in the energy upstream and power generation lines of business.

In the prior year, the Group was impacted by winter storm Uri, the European floods and hurricane Ida. Our net losses in relation to these combined natural catastrophe events, excluding the impacts of reinstatement premiums, were $213.3 million. Large risk losses for the year amounted to $68.8 million, and were principally related to the unrest in South Africa in July 2021.

The estimation of the ultimate loss and loss adjustment expense liability is a complex process which incorporates a significant amount of judgement. It is reasonably possible that uncertainties inherent in the reserving process, delays in insureds or ceding companies reporting losses to the Group, together with the potential for unforeseen adverse developments, could lead to a material change in estimated losses and loss adjustment expenses.

There were no other individually significant net loss events for the year ended 31 December 2022 and 2021.

14. Insurance, reinsurance and other receivables

All receivables are considered current other than $88.9 million (31 December 2021 – $29.2 million) of inwards premiums receivable related to multi-year contracts. The carrying value approximates fair value due to the short-term nature of the receivables. There are no significant concentrations of credit risk within the Group's receivables.

15. Provision for deferred tax

As at 31 December	2022 $m	2021 $m
Equity based compensation	**(5.0)**	(4.2)
Syndicate underwriting profits	**(1.3)**	(0.7)
Syndicate participation rights	**18.8**	18.8
Other temporary differences	**(2.9)**	(1.7)
Tax losses carried forward	**(0.3)**	–
Net deferred tax liability	**9.3**	12.2

Deferred tax assets are recognised to the extent that realising the related tax benefit through future taxable profits is likely. It is anticipated that sufficient taxable profits will be available within the Group in 2023 and subsequent years to utilise the deferred tax assets recognised when the underlying temporary differences reverse.

For the years ended 31 December 2022 and 2021, the Group had no uncertain tax positions.

During 2021, changes to the UK main rate of corporation tax were enacted under the Finance Act 2021, increasing the tax rate to 25% from 19%, effective 1 April 2023. As at 31 December 2022, this has resulted in the recognition of deferred tax assets and liabilities at 25% on items where the tax reversal is expected to take effect on or after 1 April 2023, with a related tax charge of $nil (31 December 2021 - charge of $3.4 million).

The table below reconciles the movements within the net deferred tax liability.

As at 31 December	2022 $m	2021 $m
Opening liability	**12.2**	10.9
Deferred tax credit for the period	**(1.7)**	(2.5)
Adjustment in respect of prior period deferred tax	**1.1**	0.8
Tax rate change adjustment	**–**	3.4
Deferred tax in equity	**(0.1)**	0.5
Deferred tax in other comprehensive income	**(2.2)**	(0.9)
Closing liability	**9.3**	12.2

All deferred tax assets and liabilities are classified as non-current.

16. Investment in associate

The Group holds an interest in the preference shares of each segregated account of KHL. KHL is a company incorporated in Bermuda and its operating subsidiary, KRL, is authorised by the BMA as a Special Purpose Insurer. KRL commenced writing insurance business on 1 January 2014. As at 31 December 2022, the carrying value of the Group's investment in KHL was $57.2 million (31 December 2021 – $118.7 million). The Group's share of comprehensive loss for KHL for the period was a loss of $6.5 million (2021 – $3.9 million loss). Key financial information for KHL is as follows:

	2022 $m	2021 $m
Assets	**532.7**	887.6
Liabilities	**302.0**	273.6
Shareholders' equity	**230.7**	613.9
Gross premium earned	**40.5**	137.3
Comprehensive loss	**(28.4)**	(57.9)

The Group has the power to participate in the operational and financial policy decisions of KHL and KRL through the provision of essential technical information by LCM and has therefore classified its investment in KHL as an investment in associate.

When IFRS 17, Insurance contracts is implemented, adjustments will be made to associate accounting policies, where necessary, in order to be consistent with the Group's insurance accounting policies. When IFRS 9, Financial Instruments: Classification and Measurement, is implemented, KHL will continue to classify all its financial assets at FVTPL. There will therefore be no impact on the estimated fair value of the financial assets disclosed in the table above.

Refer to note 23 for details of transactions between the Group and its associate.

17. Intangible assets

	Syndicate participation rights $m	Goodwill $m	Internally generated intangible assets $m	Total $m
Net book value as at 31 December 2020	83.3	71.2	–	154.5
Additions	0.2	–	3.2	3.4
Net book value as at 31 December 2021	83.5	71.2	3.2	157.9
Additions	**4.2**	**–**	**10.3**	**14.5**
Net book value as at 31 December 2022	**87.7**	**71.2**	**13.5**	**172.4**

Syndicate participation rights and goodwill

In the year ended 31 December 2022, the Group's corporate member acquired additional participation rights in Syndicate 2010, which took the Group's share on the 2023 year of account to 69.3% (2021 – 62.3%).

Indefinite life intangible assets are tested annually for impairment. For the purpose of impairment testing, the syndicate participation rights and goodwill have been allocated to the LSL's CGU.

The recoverable amount of the LSL's CGU is determined based on its value in use. Value in use is calculated using projected cash flows of the LSL's CGU. These are approved by management and cover a three-year period. The most significant assumptions used to derive the projected cash flows include an assessment of business prospects, business plans approved by Lloyd's, expected future market conditions, premium growth rates, outwards reinsurance expenditure, projected loss ratios, investment returns, the ongoing conflict in Ukraine and climate change. To mitigate the impact of climate risk the Group accepts insurance risk for periods primarily of one year which provides the Group the ability to re-evaluate the portfolio on an annual basis and therefore reprice physical risk and reset exposure levels to consider new data regarding the frequency and severity of elemental catastrophe events.

A pre-tax discount rate of 9.9% (2021 – 8.6%) has been used to discount the projected cash flows, which reflects a combination of factors including the Group's expected weighted average cost of equity and cost of borrowing. This has been calculated using independent measures of the risk-free rate of return and is indicative of the Group's risk profile relative to the market. The higher pre-tax discount rate is primarily due to an overall increase in the cost of equity included in the Group's weighted average cost of capital calculation. This was driven by an increase in both the beta value and the risk free rate input assumptions. The growth rate used to extrapolate the cash flows is 2.5% (2021 – 3.0%) based on historical growth rates and management's best estimate of future growth rates taking into account current economic market conditions.

Sensitivity testing has been performed to model the impact of reasonably possible changes in input assumptions to our base case impairment analysis and headroom. The discount rate has been flexed to 100 basis points above the central assumption (14% reduction in headroom), the growth rate has been flexed to 100 basis points below the central assumption (13% reduction in headroom) and the pre-tax projected cash flows have been flexed 500 basis points below the central assumption (6% reduction in headroom). Within these ranges, the recoverable amount remains supportable.

No impairment loss has been recognised for the years ending 31 December 2022 and 2021.

Internally generated intangible assets

Internally generated intangible assets represent directly attributable costs incurred in the development phase of implementing a cloud-based target operating model. As at 31 December 2022, the internally generated intangible assets are not yet in use. During the year ending 31 December 2022 $7.5 million (2021 - $5.5 million) of project costs have been expensed and no impairment loss has been recognised.

18. Long-term debt and financing arrangements

Long-term debt

During the year ended 31 December 2021, the Company issued $450.0 million in aggregate principal amount of 5.625% fixed-rate reset junior subordinated notes, repayable on 18 September 2041. The long-term debt was issued in two tranches forming part of the same series of notes, with $400.0 million issued on 18 March 2021 and $50.0 million issued on 31 March 2021. Interest is payable semi-annually in arrears on 18 March and 18 September of each year, from 18 September 2021. The fixed interest rate will reset on 18 September 2031, and each reset date thereafter, at a rate per annum equal to the prevailing five year treasury rate plus a credit spread of 4.08% and a 100 basis point step up.

The carrying value of the Company's issued $450.0 million subordinated notes are shown below:

As at 31 December	2022 $m	2021 $m
Junior subordinated notes		
$450.0 million 5.625% fixed-rate reset notes issued March 2021, due September 2041	**446.1**	445.7
Carrying value	**446.1**	445.7

The fair value of the long-term debt is $352.0 million (31 December 2021 – $482.1 million). The fair value measurement is classified within Level (ii) of the fair value hierarchy and is based on observable data. The fair value of the long-term debt has decreased from 2021, however, given the duration of the long-term debt combined with the increase in treasury rates and the widening of spreads in that credit range, the decrease is within expectations.

18. Long-term debt and financing arrangements continued

The interest accrued on the long-term debt was $7.2 million (31 December 2021 – $7.2 million) at the balance sheet date and is included in other payables. Refer to note 8 for details of the interest expense for the year included in financing costs.

The Company has the option to redeem some or all of the junior subordinated notes, in whole or in part, prior to the maturity date. There are no negative or financial covenants attached to the issued junior subordinated notes.

The table below outlines the cash and non-cash changes from our long-term debt restructuring arising from financing activities during the year ended 31 December 2021. During the year ended 31 December 2022, there were no long-term debt re-financing activities.

	2021 $m
As at 31 December 2020	327.5
Fair value, net of transaction costs on issuance of $450.0 million reset junior subordinated notes	445.4
Early redemption costs on senior and subordinated loan notes	12.8
Amortisation of $450.0 million reset junior subordinated notes	(0.4)
Redemption of senior and subordinated loan notes	(339.6)
As at 31 December 2021	445.7

Letters of credit

As both LICL and LUK are non-admitted insurers or reinsurers throughout the U.S., the terms of certain contracts require them to provide LOCs to policyholders as collateral.

LHL and LICL have a $250.0 million syndicated collateralised credit facility with a $50.0 million loan sub-limit that has been in place since 20 March 2020 and will expire on 20 March 2025. There was no outstanding debt under this facility as at 31 December 2022 and 2021.

The facility is available for the issue of LOCs to ceding companies. The facility is also available for LICL to issue LOCs to LUK to collateralise certain insurance balances.

The following LOCs have been issued:

As at 31 December	2022 $m	2021 $m
Issued to third parties	**27.3**	27.1

These LOCs are required to be fully collateralised.

The terms of the $250.0 million syndicated collateralised credit facility include standard default and cross-default provisions, which require certain covenants to be adhered to. These include the following:

- an A.M. Best financial strength rating of at least B++;
- a maximum debt to capital ratio of 30.0%, where the junior subordinated notes are excluded as debt from this calculation;
- a maximum subordinated unsecured indebtedness of $350.0 million; and
- a maximum aggregated indebtedness (i) under any syndicate arrangement entered into by Lancashire Syndicates in connection with the underwriting business carried on by all such members of the syndicates and (ii) incurred by CCL 1998, LHL or LICL in the ordinary course of business in connection with coming into line requirements, of $200.0 million.

On 3 March 2021 and 20 October 2022, LHL and LICL obtained waivers from their lenders in relation to the limits on debt incurrence under the $250.0 million syndicated collateralised credit facility, which allowed (i) LHL to issue its $450.0 million 5.625% fixed-rate reset junior subordinated notes due in 2041, and (ii) LICL to increase its uncollateralised facility to $181.5 million and Syndicate 2010 to renew its $60.0 million LOC catastrophe facility, respectively.

An uncollateralised facility has been in place since 30 July 2019, for an original amount of $31.0 million. The facility was most recently increased to $181.5 million on 25 October 2022 (from $115.5 million effective 29 October 2021). It is available for utilisation by LICL and guaranteed by LHL for FAL purposes. As at 31 December 2022, $181.5 million of LOC were issued under this facility and are due to expire on 28 October 2026.

The terms of the $181.5 million uncollateralised facility includes standard default and cross-default provisions, which require certain covenants to be adhered to. These include the following:

- an A.M. Best financial strength rating of at least B++;
- a maximum debt to capital ratio of 30.0%, where the junior subordinated notes are excluded as debt from this calculation; and
- maintenance of a minimum net worth requirement.

As at all reporting dates, the Group was in compliance with all covenants and waivers under these facilities.

Syndicate bank facilities

As at 31 December 2022 and 2021, Syndicate 2010 had in place a $60.0 million LOC catastrophe facility. The facility is available to assist in paying claims and the gross funding of catastrophes for Syndicate 2010. A separate uncommitted overdraft facility of $20.0 million is also available to Syndicate 2010.

There were no balances outstanding under the Syndicate LOC catastrophe facility as at 31 December 2022 or 2021. The Syndicate LOC catastrophe facility is not available to the Group other than through its participation on Syndicate 2010.

Trusts and restricted balances

The Group has several trust arrangements in place in favour of policyholders and ceding companies in order to comply with the security requirements of certain reinsurance contracts and/or the regulatory requirements of certain jurisdictions.

In 2012, LICL established a MBRT to collateralise certain reinsurance liabilities associated with U.S. domiciled clients. As at, and for the years ended, 31 December 2022 and 2021, LICL had been granted accredited or trusteed reinsurer status in all U.S. States. The MBRT is subject to the rules and regulations of the aforementioned States and the respective deeds of trust. These rules and regulations include minimum capital funding requirements, investment guidelines, capital distribution restrictions and regulatory reporting requirements.

As at, and for the years ended, 31 December 2022 and 2021, the Group was in compliance with all covenants under its trust facilities.

The Group is required to hold a portion of its assets as FAL to support the underwriting capacities of Syndicate 2010 and Syndicate 3010. FAL are restricted in their use and are only drawn down to pay cash calls to syndicates supported by the Group. FAL requirements are formally assessed twice a year and any funds surplus to requirements may be released at that time. See page 163 for more information regarding FAL requirements.

In addition to the FAL, certain cash and investments held by Syndicate 2010 and Syndicate 3010 are only available for paying the syndicates' claims and expenses. See page 163 for more information regarding the capital requirements for Syndicate 2010 and Syndicate 3010.

The following cash and cash equivalent and investment balances were held in trust, other collateral accounts in favour of third parties, or are otherwise restricted:

	2022			2021		
As at 31 December	Cash and cash equivalents $m	Fixed maturity securities $m	Total $m	Cash and cash equivalents $m	Fixed maturity securities $m	Total $m
FAL	**2.5**	**398.4**	**400.9**	108.1	227.3	335.4
MBRT accounts	**3.1**	**251.9**	**255.0**	0.3	259.9	260.2
Syndicate accounts	**127.4**	**240.2**	**367.6**	90.9	164.3	255.2
In trust accounts for policyholders	**69.1**	**24.3**	**93.4**	16.2	19.3	35.5
In favour of LOCs	**2.3**	**30.8**	**33.1**	2.1	32.3	34.4
Loan to Lloyd's Central Fund	**–**	**3.1**	**3.1**	–	3.9	3.9
In favour of derivative contracts	**–**	**–**	**–**	1.4	1.9	3.3
Total	**204.4**	**948.7**	**1,153.1**	219.0	708.9	927.9

19. Share capital and other reserves

Authorised common shares of $0.50 each	Number	$m
As at 31 December 2022 and 2021	**3,000,000,000**	**1,500.0**

Allocated, called up and fully paid	Number	$m
As at 31 December 2022 and 2021	**244,010,007**	**122.0**

During the year ended 31 December 2022 and 31 December 2021 no new shares were issued by the Group.

Own shares	Number held in treasury	$m	Number held in Trust	$m	Total number of own shares	$m
As at 31 December 2020	–	–	2,198,099	21.2	2,198,099	21.2
Shares distributed	–	–	(1,027,201)	(9.9)	(1,027,201)	(9.9)
Shares repurchased	1,000,000	6.9	–	–	1,000,000	6.9
Shares donated to trust	(1,000,000)	(6.9)	1,000,000	6.8	–	(0.1)
As at 31 December 2021	–	–	2,170,898	18.1	2,170,898	18.1
Shares distributed	**–**	**–**	**(1,084,053)**	**(8.1)**	**(1,084,053)**	**(8.1)**
Shares repurchased	**4,589,592**	**23.3**	**–**	**–**	**4,589,592**	**23.3**
Shares donated to trust	**(4,589,592)**	**(23.3)**	**4,589,592**	**24.0**	**–**	**0.7**
As at 31 December 2022	**–**	**–**	**5,676,437**	**34.0**	**5,676,437**	**34.0**

The number of common shares in issue with voting rights (allocated share capital less shares held in treasury) as at 31 December 2022 was 244,010,007 (31 December 2021 – 244,010,007).

19. Share capital and other reserves continued

Share repurchases

At the AGM held on 27 April 2022, LHL's shareholders approved a renewal of the Company's Repurchase Programme authorising the repurchase of a maximum of 24,401,000 common shares, with such authority to expire on the conclusion of the 2023 AGM or, if earlier, 15 months from the date the resolution approving the Repurchase Programme was passed. Under the Repurchase Programme, the Board authorised management to repurchase up to:

- 3,000,000 common shares during the period commencing 16 May 2022 and ending no later than 27 July 2022.
- 3,000,000 common shares during the period commencing 8 August 2022 and ending no later than 30 September 2022.
- 3,000,000 common shares during the period commencing 14 November 2022 and ending no later than 30 December 2022.

During the year ended 31 December 2022, 4,589,592 common shares were repurchased by the Company under its Repurchase Programme, at a weighted average share price of £4.23. As at 31 December 2022, the Company's current Repurchase Programme has 19,811,408 common shares remaining. During the year ended 31 December 2021, 1,000,000 common shares were repurchased by the Company under its Repurchase Programme, at a weighted average share price of £5.11.

Dividends

The Board of Directors has authorised the following dividends:

Type	Per share amount	Record date	Payment date	$m
Final	$0.10	7 May 2021	4 June 2021	24.3
Interim	$0.05	6 Aug 2021	3 Sep 2021	12.1
Final	**$0.10**	**13 May 2022**	**10 June 2022**	**24.3**
Interim	**$0.05**	**5 Aug 2022**	**2 Sep 2022**	**11.9**

Other reserves

The Group's other reserves of $1,221.9 million (31 December 2021 – $1,221.6 million) comprises contributed surplus and an equity based compensation reserve. The equity based compensation reserve comprises $33.3 million (31 December 2021 – $34.3 million) of this balance and relates to the Group's equity compensation plans (see note 7).

20. Leases

The Group leases four properties and several items of office equipment.

Right-of-use assets

The Group had the following right-of-use assets in relation to leases entered into.

	Property $m	Equipment $m	Total $m
As at 31 December 2020	15.8	0.3	16.1
Depreciation charge	(2.6)	(0.1)	(2.7)
As at 31 December 2021	13.2	0.2	13.4
Additions	**6.3**	**0.1**	**6.4**
Modification	**3.2**	–	**3.2**
Depreciation charge	**(2.6)**	**(0.1)**	**(2.7)**
As at 31 December 2022	**20.1**	**0.2**	**20.3**

During the year ended 31 December 2022, the Group entered into two new lease agreements for additional office space in London and Australia and also modified the lease term on its existing London office lease agreement.

Lease liabilities

As at 31 December	2022 $m	2021 $m
Due in less than one year	**3.6**	3.7
Due between one and five years	**13.4**	11.5
Due in more than five years	**12.3**	6.1
Total undiscounted lease liabilities	**29.3**	21.3
Total discounted lease liabilities	**23.3**	17.9
Current	**2.2**	2.8
Non-current	**21.1**	15.1

The Group does not face a significant liquidity risk with regards to its lease liabilities.

Amounts recognised in profit or loss

For the year ended 31 December	2022 $m	2021 $m
Depreciation of right-of-use assets	**2.7**	2.7
Interest expense on lease liabilities	**0.8**	1.1
Expenses relating to short-term leases, low value leases and variable leases	**0.9**	1.0
Total	**4.4**	4.8

For the year ended 31 December 2022, the total lease payments included in the consolidated cash flow statement amounted to $3.6 million (31 December 2021 – $4.0 million).

21. Commitments and contingencies

Credit facility fund

As at 31 December 2022, the Group has a commitment of $50.0 million (31 December 2021 – $100.0 million) relating to one credit facility fund (refer to note 12).

Private investment funds

The table below shows the dates on which the Group committed to invest in four different private investment funds and the amount of the total commitment that remains undrawn as at 31 December 2022.

Date of commitment to invest in private investment fund	Total commitment $m	Undrawn commitment $m
18 October 2022	**10.0**	**7.5**
28 July 2021	**34.0**	**18.7**
9 December 2020	**25.0**	**4.7**
5 November 2019	**25.0**	**1.0**
Total	**94.0**	**31.9**

Legal proceedings and regulations

The Group operates in the insurance industry and is subject to legal proceedings in the normal course of business. While it is not practicable to estimate or determine the final results of all pending or threatened legal proceedings, management does not believe that such proceedings (including litigation) will have a material effect on its results and financial position.

22. Earnings per share

The following reflects the profit and share data used in the basic and diluted earnings per share computations:

For the year ended 31 December	2022 $m	2021 $m
Loss for the year attributable to equity shareholders of LHL	**(3.3)**	(62.2)

	2022 Number of shares	2021 Number of shares
Basic weighted average number of shares	**240,328,201**	242,447,761
Dilutive effect of RSS	**3,017,193**	3,151,016
Diluted weighted average number of shares	**243,345,394**	245,598,777

Loss per share	2022	2021
Basic	**($0.01)**	($0.26)
Diluted[1]	**($0.01)**	($0.26)

1. Diluted EPS excludes dilutive effect of RSS when in a loss making position.

Equity based compensation awards are only treated as dilutive when their conversion to common shares would decrease earnings per share or increase loss per share from continuing operations. Unvested restricted shares without performance criteria are therefore included in the number of potentially dilutive shares. Incremental shares from ordinary restricted share options where relevant performance criteria have not been met are not included in the calculation of dilutive shares.

23. Related party disclosures

The consolidated financial statements include LHL and the entities listed below:

Name	Principal Business	Domicile
Subsidiaries[1]		
CCHL	Investment company	United Kingdom
CCL	Holding company	United Kingdom
CCL 1998[2]	Lloyd's corporate member	United Kingdom
CCL 1999	Non trading	United Kingdom
CUL	Non trading	United Kingdom
LAPL	Non trading	Australia
LBCL	Holding company	Cayman Islands
LCM	Insurance agent services	Bermuda
LCMMSL	Support services	United Kingdom
LICL	General insurance business	Bermuda
LIHL	Holding company	United Kingdom
LIMSL	Insurance mediation activities	United Kingdom
LISL	Support services	United Kingdom
LHAPL	Holding company	Australia
LMSCL	Support services	Canada
LSL	Lloyd's managing agent	United Kingdom
LUAPL	Lloyd's service company	Australia
LUK	General insurance business	United Kingdom
Associate		
KHL[3]	Holding company	Bermuda
Other controlled entities		
EBT	Trust	Jersey

1. Unless otherwise stated, the Group owns 100% of the ordinary share capital and voting rights in its subsidiaries listed.
2. 62.3% participation on the 2022 year of account and 69.3% participation on the 2023 year of account for Syndicate 2010.
3. The Group has an 16.7% holding through its interest in the preference shares of each segregated account of KHL.

The EBT was established to assist in the administration of the Group's employee equity based compensation schemes. While the Group does not have legal ownership of the EBT and the ability of the Group to influence the actions of the EBT is limited by the trust deed, the EBT was set up by the Group with the sole purpose of assisting in the administration of these schemes, and is in essence controlled by the Group, and is therefore consolidated.

The Group has a Loan Facility Agreement (the 'Facility') with JTC PLC, the trustee of the EBT. The Facility is an interest free revolving credit facility under which the trustee can request advances on demand, within the terms of the Facility, up to a maximum aggregate amount of $80.0 million. The Facility may only be used by the trustee for the purpose of achieving the objectives of the EBT. During the year ended 31 December 2022, the Group had made advances of $0.5 million (31 December 2021 – $1.0 million) to the EBT under the terms of the Facility.

During the year ended 31 December 2022, LHL donated 4,589,592 common shares (repurchased under its Repurchase Programmes) to the EBT for a total market value of $23.3 million at the prevailing rate. During the year ended 31 December 2021, LHL donated 1,000,000 common shares (repurchased under its Repurchase Programme) to the EBT for a total market value of $6.8 million at the prevailing rate. LHL did not issue any common shares to the EBT during either the year ended 31 December 2022 and 31 December 2021.

LICL holds $203.8 million (31 December 2021 – $211.8 million) of cash and cash equivalents, fixed maturity securities and accrued interest in trust for the benefit of LUK relating to intra-group reinsurance agreements. In addition, LICL is required to provide 100% of the required FAL to support the underwriting activities of Syndicate 2010 and 3010 and in relation to intra-group reinsurance agreements. LICL holds $400.9 million (31 December 2021 – $335.4 million) of cash and cash equivalents and fixed maturity securities in FAL with the remaining FAL requirement covered by an LOC facility, (refer to note 18).

In September 2022, the senior management team sold their 6.5% shares in LCM to LHL for an amount of $1.1 million. LHL now owns 100% of the ordinary share capital of LCM (31 December 2021 – 93.5%). During the year ended 31 December 2022, dividends of $nil(31 December 2021 – $0.5 million) were paid to minority interest holders in LCM.

In September 2022, Mr Maloney, a Director of LHL, sold his 1.2% share in LCM to LHL for an amount of $0.2 million. During the year ended 31 December 2021, Mr Maloney held a 1.2% share in LCM.

Mr Maloney and his spouse acquired 100.0% of the shares in Nameco on 7 November 2016. Nameco provides capacity to a number of Lloyd's syndicates including Syndicate 2010, which is managed by LSL. Nameco has provided $0.2 million of capacity to Syndicate 2010 for the 2023 year of account (2022 year of account – $0.2 million). Mr Maloney receives a proportionate share of the underwriting results of Syndicate 2010 to which he is contractually entitled through his participation.

Key management compensation

Remuneration for key management, the Group's Executive and Non-Executive Directors, was as follows:

For the year ended 31 December	2022 $m	2021 $m
Short-term compensation	**2.7**	2.0
Equity based compensation	**0.8**	1.8
Directors' fees and expenses	**2.3**	2.4
Total	**5.8**	6.2

Non-Executive Directors do not receive any benefits in addition to their agreed fees and expenses and do not participate in any of the Group's incentive, performance or pension plans.

Transactions with associate and its subsidiary

In 2013, LCM entered into an underwriting services agreement with KRL and KHL to provide various services relating to underwriting, actuarial, premium payments and relevant deductions, acquisition expenses and receipt of claims. For the year ended 31 December 2022, the Group recognised $4.0 million (2021 – $15.8 million) of service fees and profit commissions in other income (refer to note 5) in relation to this agreement.

During 2022, the Group committed an additional $nil (31 December 2021 – $60.8 million) of capital to KHL. During 2022, KHL returned $55.0 million (31 December 2021 – $65.4 million) of capital to the Group.

Refer to note 16 for further details on the Group's investment in associate.

During 2021, the Group entered into reinsurance agreements with KRL. The following balances are included in the Group's consolidated financial statements:

Consolidated balance sheet	2022 $m	2021 $m
Unearned premiums on premiums ceded	–	3.1
Reinsurance recoveries	**21.0**	25.0
Amounts payable to reinsurers	–	2.8
Deferred acquisition cost ceded	–	0.4

23. Related party disclosures continued

Consolidated statement of comprehensive income	2022 $m	2021 $m
Outwards reinsurance premiums	**–**	(13.9)
Change in unearned premiums on premiums ceded	**(3.1)**	(0.3)
Insurance losses and loss adjustment expenses recoverable	**(4.0)**	25.0
Insurance acquisition expenses ceded	**0.4**	0.9

24. Subsequent events

Dividend

On 9 February 2023, the Board of Directors declared the payment of an ordinary dividend of $0.10 per common share, subject to a shareholder vote of approval at the AGM on 26 April 2023, which will result in an aggregate payment of approximately $23.8 million. On the basis that the final dividend is so approved by the shareholders at the AGM, then the dividend will be paid on 2 June 2023 to shareholders of record on 5 May 2023. An amount equivalent to the dividend accrues on all RSS awards and is paid at the time of exercise, pro-rata according to the number of RSS options that vest.