Chubb Tempest Life Reinsurance Ltd.
and its subsidiaries

(Incorporated in Bermuda)

Consolidated Financial Statements

December 31, 2022 and 2021

(in thousands of U.S. dollars)

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Report of Independent Auditors

To the Board of Directors of Chubb Tempest Life Reinsurance Ltd.:

Opinion

We have audited the accompanying consolidated financial statements of Chubb Tempest Life Reinsurance Ltd. and its subsidiaries (the "Company"), which comprise the consolidated balance sheets as of December 31, 2022 and 2021, and the related consolidated statements of operations and comprehensive income, of shareholder's equity and of cash flows for the years then ended, including the related notes collectively referred to as the "consolidated financial statements".

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (US GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for one year after the date the consolidated financial statements are available to be issued.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with US GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the consolidated financial statements.

In performing an audit in accordance with US GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania
April 28, 2023

Chubb Tempest Life Reinsurance Ltd. and its subsidiaries

Consolidated Balance Sheets

As at December 31, 2022 and 2021

(in thousands of U.S. dollars, except share and per share data)

	2022 $	2021 $
Assets		
Fixed maturities available for sale, at fair value, net of valuation allowance of $21,263 and $3,501 (amortized cost $8,966,752 and $13,118,121)	8,199,773	13,453,447
Fixed maturities held to maturity, at amortized cost, net of valuation allowance of $23 and $30 (fair value $2,441 and $3,220)	2,453	2,930
Equity securities, at fair value	30,398	73,491
Short-term investments, at cost and fair value	347,506	396,817
Other investments, at fair value	8,516,321	8,164,005
Cash	65,702	199,051
Restricted cash	14,554	20,494
Total investments and cash	17,176,707	22,310,235
Securities lending collateral	212,408	315,271
Accrued investment income	89,028	111,302
Reinsurance balances receivable, net of valuation allowance of $(1,250) and $(676)	966,885	800,296
Prepaid reinsurance premiums	228,730	209,282
Reinsurance recoverable, net of valuation allowance of $(21,426) and $(19,926)	1,349,729	1,322,466
Value of reinsurance business assumed	94,175	109,497
Deferred policy acquisition costs	431,465	578,578
Goodwill	371,087	371,087
Amounts due from related parties	133,374	70,554
Funds withheld	737,511	599,444
Separate account assets	–	5,140,479
Investments in partially-owned insurance companies	1,644,100	1,775,306
Other assets	131,201	584,623
Total assets	23,566,400	34,298,420
Liabilities		
Unpaid losses and loss expenses	7,326,972	7,223,775
Future policy benefits	344,757	524,307
Unearned premiums	1,302,536	1,298,096
Reinsurance balances payable	2,870,655	2,722,367
Securities lending payable	212,423	315,384
Separate account liabilities	–	5,140,479
Accounts payable, accrued expenses and other liabilities	1,264,946	1,273,962
Repurchase agreements	100,157	100,083
Amounts due to related parties	76,827	445,829
Total liabilities	13,499,273	19,044,282
Shareholder's equity		
Chubb Tempest Life Reinsurance Ltd. shareholder's equity		
Common shares ($1 par value, 370,000 authorized 370,000 issued and outstanding)	370	370
Additional paid-in capital	4,017,157	4,028,068
Retained earnings	6,004,936	9,770,715
Accumulated other comprehensive income (AOCI)	(1,217,266)	47,089
Total Chubb Tempest Life Reinsurance Ltd. shareholder's equity	8,805,197	13,846,242
Non-controlling interest	1,261,930	1,407,896
Total shareholder's equity	10,067,127	15,254,138
Total liabilities and shareholder's equity	23,566,400	34,298,420

The accompanying notes are an integral part of these consolidated financial statements.

Chubb Tempest Life Reinsurance Ltd. and its subsidiaries

Consolidated Statements of Operations and Comprehensive Income

For the years ended December 31, 2022 and 2021

(in thousands of US. dollars)

	2022	2021
	$	$
Revenues		
Gross premiums written	4,998,516	4,650,748
Reinsurance premiums ceded	(707,931)	(645,415)
Net premiums written	4,290,585	4,005,333
Change in unearned premiums	(110,975)	(84,562)
Net premiums earned	4,179,610	3,920,771
Net investment income	444,030	544,970
Other income (loss), net	(183,814)	1,967,227
Net realized gains (losses) (includes $(305,308) and $31,446 reclassified from AOCI)	(175,772)	292,247
Total revenues	4,264,054	6,725,215
Expenses		
Losses and loss expenses	1,975,543	1,956,536
Future policy benefits	148,095	152,819
Policy acquisition costs	1,050,097	1,061,734
Administrative expenses	40,873	44,226
Interest expense	12,364	15,401
Total expenses	3,226,972	3,230,716
Net income	1,037,082	3,494,499
Less: Net income (loss) attributable to the non-controlling interest	(145,966)	366,213
Net income attributable to Chubb Tempest Life Reinsurance Ltd.	1,183,048	3,128,286
Other comprehensive income (loss) (OCI)		
Unrealized appreciation (depreciation) on investments	(1,406,665)	(449,568)
Reclassification adjustments for net realized (gains) loss included in net income	305,308	(31,446)
	(1,101,357)	(481,014)
Change in:		
Cumulative foreign currency translation adjustments	(175,279)	(1,629)
Other comprehensive income (loss)	(1,276,636)	(482,643)
Comprehensive income (loss)	(239,554)	3,011,856
Less: Comprehensive income (loss) attributable to the non-controlling interest	(145,966)	366,213
Comprehensive income (loss) attributable to Chubb Tempest Life Reinsurance Ltd.	(93,588)	2,645,643

The accompanying notes are an integral part of these consolidated financial statements.

Chubb Tempest Life Reinsurance Ltd. and its subsidiaries

Consolidated Statements of Shareholder's Equity

For the years ended December 31, 2022 and 2021

(in thousands of US. dollars)

	2022	2021
	$	$
Common shares		
Balance – beginning and end of year	370	370
Additional paid-in capital		
Balance – beginning of year	4,028,068	4,028,068
Disposal of net assets	(10,911)	–
Balance - end of year	4,017,157	4,028,068
Retained earnings		
Balance – beginning of year	9,770,715	8,579,929
Cumulative effect of adoption of accounting standards	–	–
Balance – beginning of year, as adjusted	9,770,715	8,579,929
Net income	1,183,048	3,128,286
Disposal of net assets	(21,327)	–
Dividends declared on Common Shares	(4,927,500)	(1,937,500)
Balance - end of year	6,004,936	9,770,715
Accumulated other comprehensive income		
Net unrealized appreciation (depreciation) on investments		
Balance – beginning of year	218,198	699,212
Change in year, before reclassification from AOCI	(1,406,665)	(449,568)
Amounts reclassified from AOCI to net income	305,308	(31,446)
Disposal of net assets	16,269	–
Balance - end of year	(866,890)	218,198
Cumulative foreign currency translation adjustments		
Balance – beginning of year	(171,109)	(169,480)
Change in year	(175,279)	(1,629)
Disposal of net assets	(3,988)	–
Balance - end of year	(350,376)	(171,109)
Accumulated other comprehensive income (loss)	(1,217,266)	47,089
Total Chubb Tempest Life Reinsurance Ltd. shareholder's equity	8,805,197	13,846,242
Non-controlling interest		
Balance - beginning of year	1,407,896	1,041,683
Net income (loss)	(145,966)	366,213
Total non-controlling interest	1,261,930	1,407,896

The accompanying notes are an integral part of these consolidated financial statements.

Chubb Tempest Life Reinsurance Ltd. and its subsidiaries

Consolidated Statements of Cash Flows

For the years ended December 31, 2022 and 2021

(in thousands of US. dollars)

	2022	2021
Cash flows from (used in) operating activities	**$**	**$**
Net income	1,037,082	3,494,499
Adjustments to reconcile net income to net cash flows from operating activities:		
Net realized (gains) losses	175,772	(292,247)
Amortization of premiums/discounts on fixed maturities	20,612	27,357
Unpaid losses and loss expenses, net of reinsurance recoverable	247,221	187,377
Future policy benefits, net of reinsurance recoverable	(28,669)	14,950
Unearned premiums	117,129	91,198
Reinsurance balances payable	225,214	924,412
Accounts payable, accrued expenses, other liabilities and funds withheld	(80,223)	24,496
Reinsurance balances receivable	(206,976)	(41,833)
Prepaid reinsurance premiums	(22,535)	(4,622)
Accrued investment income	17,942	4,129
Deferred policy acquisition costs	(30,674)	(60,880)
Amortization and depreciation	475	860
Value of reinsurance business assumed	15,322	5,678
Amounts received from (paid to) parent and affiliates	(441,950)	374,957
Equity in net income of partially-owned entities	199,468	(1,966,997)
Other	(146,944)	(48,610)
Net cash flows from (used in)operating activities	1,098,266	2,734,724
Cash flows from (used in) investing activities		
Purchases of fixed maturities (available for sale and held to maturity)	(2,914,712)	(4,702,189)
Purchases of equity securities	(1,000)	–
Sales of fixed maturities available for sale	5,285,251	2,295,299
Sales of equity securities	–	32
Maturities and redemptions of fixed maturities (available for sale and held to maturity)	1,169,284	2,703,246
Net change in short-term investments	42,589	63,584
Net derivative instruments settlements	177,893	(201,911)
Private equity contributions	(1,125,421)	(1,683,448)
Private equity distributions	486,860	971,950
Payment, including deposit, for Huatai Group interest	488,745	(65,330)
Disposal of net assets (net of cash)	32,721	–
Other	(6,066)	(19,674)
Net cash flows from (used in) investing activities	3,636,144	(638,441)
Cash flows from (used in) financing activities		
Dividends paid	(4,927,500)	(1,937,500)
Net proceeds from affiliated notional cash pooling program	177,888	(57,735)
Policyholder contract deposits	84,409	86,237
Policyholder contract withdrawals	(159,435)	(114,444)
Net cash flows from (used in) financing activities	(4,824,638)	(2,023,442)
Effect of foreign currency rate change on cash and restricted cash	(49,061)	(55,928)
Net increase (decrease) in cash and restricted cash	(139,289)	16,913
Cash and restricted cash - beginning of year	219,545	202,632
Cash and restricted cash - end of year	80,256	219,545
Supplemental cash flow information		
Interest paid	11,728	15,017

1. General

Chubb Tempest Life Reinsurance Ltd. (the Company or we, us, or our) was incorporated under the laws of Bermuda and is ultimately a wholly owned subsidiary of Chubb Limited (Chubb). Chubb Tempest Reinsurance Ltd. (CTR) was incorporated under the laws of Bermuda and is a 100 percent owned subsidiary.

Chubb Life Insurance Myanmar Limited, Chubb Life Europe SE, Oasis Investments Limited and Oasis Investments 2 Ltd are consolidated in these financial statements as CTR owns 100%, 100%, 66.7% and 66.7%, respectively. There has been no change in the ownership percentages held during 2022.

Chubb Tempest Reinsurance Ltd. Escritório de Representação No Brasil Ltda. is a subsidiary established in Brazil and is owned 99.999999% by CTR and 0.000001% by the Company. The results of this entity are consolidated in these financial statements.

On December 1, 2022, we completed a net assets transfer (the transfer) pursuant to which our Taiwan branch transferred all of its net assets to Cigna Taiwan Life Assurance Company Ltd., a party under common control of Chubb Limited. In connection with the transfer, the Company received $88 million of consideration and the net impact of the transfer is reflected as a reduction of $20 million to equity in the consolidated statement of shareholder's equity.

2. Principal Business

The Company provides life and annuity (Life) reinsurance and, through CTR, property catastrophe, property and casualty reinsurance as well as Life reinsurance for a diverse group of customers worldwide.

3. Significant accounting policies:

(a) Basis of presentation

The accompanying Consolidated financial statements, which include the accounts of the Company and its subsidiaries, have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) and, in the opinion of management, reflect all adjustments necessary for a fair statement of the results and financial position for such periods. All significant intercompany accounts and transactions including internal reinsurance transactions have been eliminated. Certain items in the prior year financial statements have been reclassified to conform to the current year presentation.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Amounts included in the Consolidated financial statements reflect the Company's best estimates and assumptions; actual amounts could differ materially from these estimates. The Company's principal estimates include:

- unpaid loss and loss expense reserves and future policy benefits reserves;
- the amortization of deferred policy acquisition costs;
- value of reinsurance business assumed;
- reinsurance recoverable, including a valuation allowance for uncollectible reinsurance;
- the assessment of risk transfer for certain reinsurance contracts;
- the valuation of derivative instruments related to guaranteed living benefits (GLB);
- the valuation of the investment portfolio and assessment of valuation allowance for expected credit losses; and
- the assessment of goodwill for impairment.

(b) Premiums

Premiums are generally recorded as written upon inception of the policy. For multi-year policies for which premiums written are payable in annual installments, only the current annual premium is included as written at policy inception due to the ability of the insured/reinsured to commute or cancel coverage within the policy term. The remaining annual premiums are recorded as written at each successive anniversary date within the multi-year term.

For property and casualty (P&C) reinsurance products, premiums written are primarily earned on a pro-rata basis over the policy terms to which they relate. Unearned premiums represent the portion of premiums written applicable to the unexpired portion of the policies in force. For retrospectively-rated policies, written premiums are adjusted to reflect expected ultimate premiums consistent with changes to incurred losses, or other measures of exposure as stated in the policy, and earned over the policy coverage period.

Mandatory reinstatement premiums assessed on reinsurance policies are earned in the period of the loss event that gave rise to the reinstatement premiums. All remaining unearned premiums are recognized over the remaining coverage period.

Premiums from long duration contracts such as certain traditional term life, whole life, and long duration personal accident and health (A&H) policies are generally recognized as revenue when due from policyholders. Traditional life policies include those contracts with fixed and guaranteed premiums and benefits. Benefits and expenses are matched with such income to result in the recognition of profit over the life of the contracts.

Retroactive loss portfolio transfer (LPT) contracts in which the insured loss events occurred prior to contract inception are evaluated to determine whether they meet criteria for reinsurance accounting. If reinsurance accounting is appropriate, written premiums are fully earned and corresponding losses and loss expenses recognized at the contract inception. These contracts can cause significant variances in gross premiums written, net premiums written, net premiums earned, and net incurred losses in the years in which they are written.

Reinsurance premiums assumed are based on information provided by ceding companies supplemented by the Company's own estimates of premium when the Company has not received ceding company reports. Estimates are reviewed and adjustments are recorded in the period in which they are determined. Premiums are earned over the coverage terms of the related reinsurance contracts and range from one to three years.

(c) Deferred policy acquisition costs and value of business acquired

Policy acquisition costs consist of commissions, (direct and ceded) premium taxes, and certain underwriting costs related directly to the successful acquisition of new or renewal insurance contracts. A VOBA intangible asset is established upon the acquisition of blocks of long-duration contracts in a business combination and represents the present value of estimated net cash flows for the contracts in force at the acquisition date. Acquisition costs and VOBA, collectively policy acquisition costs, are deferred and amortized. Amortization is recorded in Policy acquisition costs in the Consolidated statements of operations. Policy acquisition costs on P&C contracts are generally amortized ratably over the period in which premiums are earned.

Policy acquisition costs on traditional long-duration contracts are amortized over the estimated life of the contracts, generally in proportion to premium revenue recognized based upon the same assumptions used in estimating the liability for future policy benefits. For non-traditional long-duration contracts, the Company amortizes policy acquisition costs over the expected life of the contracts in proportion to expected gross profits. The effect of changes in estimates of expected gross profits is reflected in the period the estimates are revised. Policy acquisition costs are reviewed to determine if they are recoverable from future income, including investment income. Unrecoverable policy acquisition costs are expensed in the period identified.

Effective on January 1, 2023, we adopted new U.S. GAAP accounting guidance for long-duration contracts that affects the accounting for deferred policy acquisition costs. Refer to the Note 3(n) for additional information.

(d) Reinsurance

The Company assumes and cedes reinsurance with other insurance companies to provide greater diversification of business and minimize the net loss potential arising from large risks. Ceded reinsurance contracts do not relieve the Company of its primary obligation to its policyholders.

For both ceded and assumed reinsurance, risk transfer requirements must be met in order to account for a contract as reinsurance, principally resulting in the recognition of cash flows under the contract as premiums and losses. To meet risk transfer requirements, a reinsurance contract must include insurance risk, consisting of both underwriting and timing risk, and a reasonable possibility of a significant loss for the assuming entity. To assess risk transfer for certain contracts, the Company generally develops expected discounted cash flow analysis at contract inception.

Reinsurance recoverable includes the balances due from reinsurance companies for paid and unpaid losses and loss expenses and future policy benefits that will be recovered from reinsurers, based on contracts in force. The method for determining the reinsurance recoverable on unpaid losses and loss expenses incurred but not reported (IBNR) involves actuarial estimates consistent with those used to establish the associated liability for unpaid losses and loss expenses as well as a determination of the Company's ability to cede unpaid losses and loss expenses under the terms of the reinsurance agreement.

Reinsurance recoverable is presented net of a valuation allowance for uncollectible reinsurance determined based upon a review of the financial condition of the reinsurers and other factors. The valuation allowance for uncollectible reinsurance is based on an estimate of the amount of the reinsurance recoverable balance that will ultimately be unrecoverable due to reinsurer insolvency, a contractual dispute, or any other reason. The valuation of this allowance includes several judgments including certain aspects of the allocation of reinsurance recoverable on IBNR claims by reinsurer and a default analysis to estimate uncollectible reinsurance. The primary components of the default analysis are reinsurance recoverable balances by reinsurer, net of collateral, and default factors used to determine the portion of a reinsurer's balance deemed uncollectible. The definition of collateral for this purpose requires some judgment and is generally limited to assets held in a Chubb-only beneficiary trust, letters of credit, and liabilities held by the Company with the same legal entity for which it believes there is a contractual right of offset. The determination of the default factor is principally based on the financial strength rating of the reinsurer. Default factors require considerable judgment and are determined using the current financial strength rating, or rating equivalent, of each reinsurer as well as other key considerations and assumptions. Changes in the valuation allowance for uncollectible reinsurance recoverables are recorded in Losses and loss expenses in the Consolidated statements of operations. The more significant considerations to calculate the valuation allowance include, but are not necessarily limited to, the following:

- For reinsurers that maintain a financial strength rating from a major rating agency, and for which recoverable balances are considered representative of the larger population (i.e., default probabilities are consistent with similarly rated reinsurers and payment durations conform to averages), the financial rating is based on a published source and the default factor is based on published default statistics of a major rating agency applicable to the reinsurer's particular rating class. When a recoverable is expected to be paid in a brief period of time by a highly rated reinsurer, such as certain property catastrophe claims, a default factor may not be applied;
- For balances recoverable from reinsurers that are both unrated by a major rating agency and for which management is unable to determine a credible rating equivalent based on a parent, affiliate, or peer company, the Company determines a rating equivalent based on an analysis of the reinsurer that considers an assessment of the creditworthiness of the particular entity, industry benchmarks, or other factors as considered appropriate. The Company then applies the applicable default factor for that rating class. For balances recoverable from unrated reinsurers for which the ceded reserve is below a certain threshold, the Company generally applies a default factor of 34 percent, consistent with published statistics of a major rating agency;
- For balances recoverable from reinsurers that are either insolvent or under regulatory supervision, the Company establishes a default factor and resulting valuation allowance for uncollectible reinsurance based on reinsurer-specific facts and circumstances. Upon initial notification of an insolvency, the Company generally recognizes expense for a substantial portion of all balances outstanding, net of collateral, through a combination of write-offs of recoverable balances and increases to the valuation allowance for uncollectible reinsurance. When regulatory action is taken on a reinsurer, the Company generally recognizes a default factor by estimating an expected recovery on all balances outstanding, net of collateral. When sufficient credible information becomes available, the Company adjusts the valuation allowance for uncollectible reinsurance by establishing a default factor pursuant to information received; and
- For other recoverables, management determines the valuation allowance for uncollectible reinsurance based on the specific facts and circumstances of that dispute.

The methods used to determine the reinsurance recoverable balance and related valuation allowance for uncollectible reinsurance are regularly reviewed and updated and any resulting adjustments are reflected in earnings in the period identified.

The methods used to determine the valuation allowance for uncollectible high deductible recoverable amounts and valuation allowance for insurance and reinsurance balances receivable are similar to the processes used to determine the valuation allowance for uncollectible reinsurance recoverable.

Prepaid reinsurance premiums represent the portion of premiums ceded to reinsurers applicable to the unexpired coverage terms of the reinsurance contracts in force.

The value of reinsurance business assumed is the deferred gain or loss related to loss portfolio transfers assumed and is calculated as the difference between the estimated ultimate value of the liabilities assumed under retroactive reinsurance contracts over consideration received. The gain or loss is amortized and recorded to Losses and loss expenses based on the payment pattern of the losses assumed. The unamortized value is reviewed regularly to determine if it is recoverable based upon the terms of the contract, estimated losses and loss expenses, and anticipated investment income.

Unrecoverable amounts are expensed in the period identified. The value of reinsurance business assumed at December 31, 2022 and 2021 were $94.2 million and $109.5 million, respectively.

(e) Investments

Fixed maturities, short-term investments, and equity securities

Fixed maturities are classified as either available for sale or held to maturity.

- Available for sale (AFS) portfolio is reported at fair value, net of a valuation allowance for credit losses, with changes in fair value recorded as a separate component of AOCI in Shareholder's equity.
- Held to maturity (HTM) portfolio includes securities for which the Company has the ability and intent to hold to maturity or redemption and is reported at amortized cost, net of valuation allowance for credit losses.

Realized gains or losses on sales of investments are determined on a first-in, first-out basis.

Short-term investments comprise securities due to mature within one year of the date of purchase and are recorded at fair value which typically approximates cost.

Equity securities are reported at fair value with changes in fair value recorded in Net realized gains (losses) on the Consolidated statements of operations.

Interest, dividend income, amortization of fixed maturity market premiums and discounts related to these securities are recorded in Net investment income, net of investment management and custody fees, in the Consolidated statements of operations.

For mortgage-backed securities (MBS) and any other holdings for which there is a prepayment risk, prepayment assumptions are evaluated and revised as necessary. Any adjustments required due to the resultant change in effective yields and maturities are recognized prospectively. Prepayment fees or call premiums that are only payable when a security is called prior to its maturity are earned when received and reflected in Net investment income.

Valuation allowance for fixed income securities

Management evaluates current expected credit losses (CECL) for all HTM securities each quarter. U.S. treasury and agency securities and U.S. government agency mortgage-backed securities are assumed to have no risk of non-payment and therefore are excluded from the CECL evaluation. The remaining HTM securities are evaluated for potential credit loss on a collective pool basis. The Company elected to pool HTM securities by 1) external credit rating and 2) time to maturity (duration). These characteristics are the most representative of similar risk characteristics within the Company's portfolio. The Company pools HTM securities and calculates an expected credit loss for each pool using Moody's corporate bond default average, corporate bond recovery rate, and an economic cycle multiplier. The multiplier is based on the leading economic index and will adjust the average default frequency for a forward-looking economic outlook.

Management monitors the credit quality of HTM securities through the review of external credit ratings on a quarterly basis.

Management evaluates expected credit losses (ECL) for AFS securities when fair value is below amortized cost. AFS securities are evaluated for potential credit loss on an individual security level but the evaluation may use assumptions consistent with expectations of credit losses for a group of similar securities. If management has the intent to sell or will be required to sell the security before recovery, the entire impairment loss will be recorded through income to Net realized gains and losses. If management does not have the intent to sell or will not be required to sell the security before recovery, an allowance for credit losses is established and is recorded through income to Net realized gains and losses, and the non-credit loss portion is recorded through other comprehensive income.

Examples of criteria that are collectively evaluated to determine if a credit loss has occurred include the following:

- The extent to which the fair value is less than amortized cost;
- Adverse conditions related to the security, industry, or geographic area;
- Downgrades in the security's credit rating by a rating agency; and
- Failure of the issuer to make scheduled principal or interest payments

AFS securities that meet any one of the criteria included above will be subject to a discounted cash flow analysis by comparing the present value of expected future cash flows with the amortized cost basis. Projected cash flows are driven primarily by assumptions regarding probability of default and the timing and amount of recoveries associated with defaults. The Company developed the projected cash flows using market data, issuer-specific information, and credit ratings. In combination with contractual cash flows and the use of historical default and recovery data by Moody's Investors Service (Moody's) rating category the Company generates expected cash flows using the average cumulative issuer-weighted global default rates by letter rating.

If the present value of expected future cash flows is less than the amortized cost, a credit loss exists and an allowance for credit losses will be recognized. If the present value of expected future cash flows is equal to or greater than the amortized cost basis, management will conclude an expected credit loss does not exist.

Management reviews credit losses and the valuation allowance for expected credit losses each quarter. When all or a portion of a fixed maturity security is identified to be uncollectible and written off, the valuation allowance for expected credit losses is reduced. In general, a security is considered uncollectible no later than when all efforts to collect contractual cash flows have been exhausted. Below are considerations for when a security may be deemed uncollectible:

- The Company has sufficient information to determine that the issuer of the security is insolvent;
- The Company receives notice that the issuer of the security has filed for bankruptcy, and the collectability is expected to be adversely impacted by the bankruptcy;
- The issuer of a security has violated multiple debt covenants;
- Amounts have been past due for a specified period of time with no response from the issuer;
- A significant deterioration in the value of the collateral has occurred; and
- The Company has received correspondence from the issuer of the security indicating that it doesn’t intend to pay the contractual principal and interest.

The Company elected to not measure an allowance for accrued investment income as uncollectible balances are written off in a timely manner, typically 30 to 45 days after uncollected balances are due.

Other investments

Other investments principally comprise investment funds, limited partnerships, partially-owned investment companies and policy loans.

Investment funds and limited partnerships

Investment funds, limited partnerships and all other investments over which the Company cannot exercise significant influence are accounted for as follows. Generally, the Company owns less than three percent of the investee's shares.

- Income and expenses from these funds are reported within Net investment income.
- These funds are carried at net asset value which approximates fair value with changes in fair value recorded in Net realized gains (losses) on the Consolidated statement of operations. Refer to Note 10 for a further discussion on net asset value.
- As a result of the timing of the receipt of valuation data from the investment managers, these investments are generally reported on a three month lag.
- Sales of these investments are reported within Net realized gains (losses).

Partially-owned investment companies

Partially-owned investment companies are limited partnerships where the Company's ownership interest is in excess of three percent and are accounted for under the equity method because the Company exerts significant influence. These investments apply investment company accounting to determine operating results, and the Company retains the investment company accounting in applying the equity method.

- This means that investment income, realized gains or losses, and unrealized gains or losses are included in the portion of equity earnings reflected in Other (income) expense.
- As a result of the timing of the receipt of valuation data from the investment managers, these investments are generally reported on a three month lag.

Investments in partially-owned insurance companies

Investments in partially-owned insurance companies primarily represent direct investments in which the Company has significant influence and as such, meet the requirements for equity accounting. Generally, the Company owns twenty percent or more of the investee's shares. The company reports its share of the net income or loss of the partially-owned insurance companies in Other (income) expense.

Other

Policy loans are carried at outstanding balance and interest income is reflected in Net investment income.

Derivative instruments not designated as hedging instruments

Derivative instruments which are not designated as hedges are carried at fair value in the Consolidated balance sheets in either Accounts payable, accrued expenses, and other liabilities or Other assets. Changes in fair value are included in Net realized gains (losses) in the Consolidated statements of operations. The Company did not designate any derivatives as accounting hedges during 2022 or 2021. The Company participates in these derivative instruments in two principal ways:

(i) To sell protection to customers as an insurance or reinsurance contract that meets the definition of a derivative for accounting purposes. This category principally comprised the Company's Guaranteed Living Benefits (GLB) contracts; and

(ii) To mitigate financial risks and manage certain investment portfolio risks and exposures, including assets and liabilities held in foreign currencies. The Company uses derivative instruments including futures, swaps, and foreign currency forward contracts. Refer to Note 8 for additional information.

Securities lending programs

The Company participates in a securities lending program operated by a third party banking institution whereby certain assets are loaned to qualified borrowers and from which the Company earns an incremental return which is recorded within Net investment income in the Consolidated statement of operations.

Borrowers provide collateral, in the form of either cash or approved securities, at a minimum of 102 percent of the fair value of the loaned securities. Each security loan is deemed to be an overnight transaction. Cash collateral is invested in a collateral pool which is managed by the banking institution. The collateral pool is subject to written investment guidelines with key objectives which include the safeguard of principal and adequate liquidity to meet anticipated redemptions. The fair value of the loaned securities is monitored on a daily basis, with additional collateral obtained or refunded as the fair value of the loaned securities changes.

The collateral is held by the third party banking institution, and the collateral can only be accessed in the event that the institution borrowing the securities is in default under the lending agreement. As a result of these restrictions, the Company considers its securities lending activities to be non-cash investing and financing activities. An indemnification agreement with the lending agent protects the Company in the event a borrower becomes insolvent or fails to return any of the securities on loan. The fair value of the securities on loan is included in fixed maturities and equity securities in the Consolidated balance sheets. The securities lending collateral is reported as a separate line in the Consolidated balance sheets with a related liability reflecting the Company's obligation to return the collateral plus interest.

Repurchase agreements

Similar to securities lending arrangements, securities sold under repurchase agreements, whereby the Company sells securities and repurchases them at a future date for a predetermined price, are accounted for as collateralized investments and borrowings and are recorded at the contractual repurchase amounts plus accrued interest. Assets to be repurchased are the same or substantially the same as the assets transferred and the transferor, through right of substitution, maintains the right and ability to redeem the collateral on short notice. The fair value of the underlying securities is included in fixed maturities and equity securities. In contrast to securities lending programs, the use of cash received is not restricted. The Company reports the obligation to return the cash as Repurchase agreements in the Consolidated balance sheets and record the fees under these repurchase agreements within Interest expense on the Consolidated statement of operations.

Refer to Note 10 for a discussion on the determination of fair value for the Company's various investment securities.

(f) Cash

Chubb has agreements with a third party bank provider which implemented two international multi-currency notional cash pooling programs. In each program, participating Chubb entities establish deposit accounts in different currencies with the bank provider and each day the credit or debit balances in every account are notionally translated into a single currency (U.S. dollars) and then notionally pooled. The bank extends overdraft credit to any participating Chubb entity as needed, provided that the overall notionally-pooled balance of all accounts in each pool at the end of each day is at least zero. Actual cash balances are not physically converted and are not commingled between legal entities. Any overdraft balances incurred under this program by a Chubb entity would be guaranteed by Chubb Limited (up to $300 million in the aggregate). The syndicated letter of credit facility allows for same day drawings to fund a net pool overdraft should participating Chubb entities overdraw contributed funds from the pool. The Company is a participating Chubb entity.

Restricted cash

Restricted cash in the Consolidated balance sheets represents amounts held for the benefit of third parties and is legally or contractually restricted as to withdrawal or usage. Amounts include deposits with U.S. and non-U.S. regulatory authorities and trust funds set up for the benefit of ceding companies, and amounts pledged as collateral to meet financing arrangements.

The following table provides a reconciliation of cash and restricted cash reported within the Consolidated balance sheets that total to the amounts shown in the Consolidated statements of cash flows:

(in thousands of U.S. dollars)	2022	2021
Cash	65,702	199,051
Restricted Cash	14,554	20,494
Total cash and restricted cash shown in the Consolidated statements of cash flows	80,256	219,545

(g) Goodwill

Goodwill represents the excess of the cost of acquisitions over the fair value of net assets acquired and is not amortized. Goodwill is assigned at acquisition to the applicable reporting unit of the acquired entities giving rise to the goodwill. Goodwill impairment tests are performed annually, or more frequently if circumstances indicate a possible impairment. For goodwill impairment testing, the Company uses a qualitative assessment to determine whether it is more likely than not (i.e., more than a 50 percent probability) that the fair value of a reporting unit is greater than its carrying amount. If assessment indicates less than a 50 percent probability that fair value exceeds carrying value, the Company quantitatively estimates a reporting unit's fair value. Goodwill recorded in connection with investments in partially-owned insurance companies is recorded in Investments in partially-owned insurance companies and is also measured for impairment annually.

(h) Unpaid losses and loss expenses

A liability is established for the estimated unpaid losses and loss expenses under the terms of, and with respect to, the Company's treaties and agreements. Similar to premiums that are recognized as revenues over the coverage period of the policy, a liability for unpaid losses and loss expenses is recognized as expense when insured events occur over the coverage period of the policy. This liability includes a provision for both reported claims (case reserves) and incurred but not reported claims (IBNR reserves). IBNR reserve estimates are generally calculated by first projecting the ultimate cost of all losses that have occurred (expected losses), and then subtracting paid losses, case reserves, and loss expenses. The methods of determining such estimates and establishing the resulting liability are reviewed regularly and any adjustments are reflected in income in the period in which they become known. Future developments may result in losses and loss expenses materially greater or less than the recorded amounts. Except for certain reserves for unsettled claims, the Company does not discount its property and casualty loss reserves.

Prior period development arises from changes to loss estimates recognized in the current year that relate to loss reserves first reported in previous calendar years and excludes the effect of losses from the development of earned premiums from previous accident years.

For purposes of analysis, management views prior period development to be changes in the nominal value of loss estimates from period to period, net of premium and profit commission adjustments on loss sensitive contracts. Prior period development generally excludes changes in loss estimates that do not arise from the emergence of claims, such as those related to uncollectible reinsurance, interest, unallocated loss adjustment expenses, or foreign currency. Accordingly, specific items excluded from prior period development include the following: gains/losses related to foreign currency remeasurement; losses recognized from the early termination or commutation of reinsurance agreements that principally relate to the time value of money; changes in the value of reinsurance business assumed reflected in losses incurred but principally related to the time value of money; and losses that arise from changes in estimates of earned premiums from prior accident years. Except for foreign currency remeasurement, which is included in Net realized gains (losses), these items are included in current year losses.

(i) Future policy benefits

The valuation of long-duration contract reserves requires management to make estimates and assumptions regarding expenses, mortality, persistency, and investment yields. Estimates are primarily based on historical experience and information provided by ceding companies and include a margin for adverse deviation. Interest rates used in calculating reserves range from 2% to 6.5% for December 31, 2022 and and less than 1% to 6.5% for December 2021. Actual results could differ materially from these estimates. Management monitors actual experience and where circumstances warrant, will revise assumptions and the related reserve estimates. Revisions are recorded in the period they are determined.

Effective on January 1, 2023, we adopted new U.S. GAAP accounting guidance for long-duration contracts that affects future policy benefits. Refer to the Note 3 (n) for additional information.

(j) Assumed reinsurance programs involving minimum benefit guarantees under annuity contracts

The Company reinsures various death and GLBs associated with variable annuities issued primarily in the United States. We generally receive a monthly premium during the accumulation phase of the covered annuities (in-force) based on a percentage of either the underlying accumulated account values or the underlying accumulated guaranteed values. Depending on an annuitant's age, the accumulation phase can last many years. To limit the Company's exposure under these programs, all reinsurance treaties include annual or aggregate claim limits and many include an aggregate deductible.

The guarantees which are payable on death, referred to as guaranteed minimum death benefits (GMDB), principally cover shortfalls between accumulated account value at the time of an annuitant's death and either i) an annuitant's total deposits; ii) an annuitant's total deposits plus a minimum annual return; or iii) the highest accumulated account value attained at any policy anniversary date. In addition, a death benefit may be based on a formula specified in the variable annuity contract that uses a percentage of the growth of the underlying contract value. Liabilities for GMDBs are based on cumulative assessments or premiums to date multiplied by a benefit ratio that is determined by estimating the present value of benefit payments and related adjustment expenses divided by the present value of cumulative assessment or expected premiums during the contract period.

Under reinsurance programs covering GLBs, we assume the risk of guaranteed minimum income benefits (GMIB) associated with variable annuity contracts. The GMIB risk is triggered if, at the time the contract holder elects to convert the accumulated account value to a periodic payment stream (annuitize), the accumulated account value is not sufficient to provide a guaranteed minimum level of monthly income. The GLB reinsurance products meet the definition of a derivative for accounting purposes and are carried at fair value with changes in fair value recognized in Realized gains (losses) in the Consolidated statement of operations. Refer to Note 8 for additional information.

Effective on January 1,2023, we adopted new accounting guidance issued by the FASB for long-duration contracts that affects the accounting for GMDB and GLB contracts. Refer to the Note 3 (n) for additional information.

(k) Foreign currency remeasurement and translation

The functional currency for each of the Company's foreign operations is generally the currency of the local operating environment. Transactions in currencies other than a foreign operation's functional currency are remeasured into the functional currency and the resulting foreign exchange gains and losses are reflected in Net realized gains (losses) in the Consolidated statements of operations. Functional currency assets and liabilities are translated into the reporting currency, U.S. dollars, using period end exchange rates and the related translation adjustments are recorded as a separate component of AOCI in Shareholder's equity. Functional statement of operations amounts expressed in functional currencies are translated using average exchange rates.

(l) Administrative expenses

Administrative expenses generally include all operating costs other than policy acquisition costs.

(m) Share-based compensation

The Company receives an allocation of share-based compensation costs from its ultimate parent, Chubb Limited. Chubb Limited measures and records compensation cost for all share-based payment awards at grant-date fair value. Compensation costs are recognized for vesting of share-based payment awards with only service conditions on a straight-line basis over the requisite service period for each separately vesting portion of the award as if the award were, in substance, multiple awards. For retirement-eligible participants, compensation costs for certain share-based payment awards are recognized immediately at the date of grant.

(n) New accounting pronouncements

Accounting guidance adopted in 2023

Targeted Improvements to the Accounting for Long-Duration Contracts

In August 2018, the FASB issued guidance to improve the recognition, measurement, presentation, and disclosure requirements for long-duration contracts issued by an insurance entity. The amendments in this update require updating of assumptions at least annually, updating to then-current discount rates quarterly using a standardized discount rate for non-participating traditional and limited pay insurance contract liabilities, a requirement to use the fair value measurement model for market risk benefits, simplified amortization of deferred acquisition costs, and enhanced disclosures. We adopted the standard effective January 1, 2023, under the modified retrospective method.

The most significant impact of the standard relates to our accounting for future policy benefits. Cash flow assumptions used to measure the liability for certain future policy benefits are to be reviewed and, if necessary, updated for both changes in future assumptions and actual experience at least annually. Additionally, the discount rate assumption used to measure the liability for certain future policy benefits is required to be based on an upper-medium grade fixed income instrument yield, which will be updated each quarter with the impact recorded through Other Comprehensive Income. Further, the amortization of deferred acquisition costs will be required to be amortized on a constant level basis over the expected term of the related contract, independent of expected profitability. We previously amortized deferred acquisition costs using models linked to revenue or profit of the related insurance contracts.

Upon adoption on January 1, 2023, we will record a cumulative effect adjustment and decrease Shareholders' equity at December 31, 2022 by $141.5 million.

4. *Investments*

(a) Fixed maturities

2022 (in thousands of U.S. dollars)	Amortized Cost	Valuation Allowance	Gross Unrealized Appreciation	Gross Unrealized Depreciation	Fair Value
Available for sale					
U.S. Treasury /agency	386,467	–	738	(23,234)	363,971
Non-U.S.	3,465,648	(11,446)	12,846	(338,938)	3,128,110
Corporate and asset-backed securities	3,466,087	(8,730)	10,403	(226,364)	3,241,396
Mortgage-backed securities	1,512,255	(1,087)	899	(174,562)	1,337,505
Municipal	136,295	–	564	(8,068)	128,791
	8,966,752	(21,263)	25,450	(771,166)	8,199,773
Held to maturity					
Corporate and asset-backed securities	114	(23)	17	(4)	104
Mortgage-backed securities	2,362	–	17	(42)	2,337
	2,476	(23)	34	(46)	2,441

2021 (in thousands of U.S. dollars)	Amortized Cost	Valuation Allowance	Gross Unrealized Appreciation	Gross Unrealized Depreciation	Fair Value
Available for sale					
U.S. Treasury /agency	429,818	–	15,279	(2,187)	442,910
Non-U.S.	4,061,838	(3,024)	128,760	(51,765)	4,135,809
Corporate and asset-backed securities	5,403,155	(477)	203,181	(16,889)	5,588,970
Mortgage-backed securities	2,981,863	–	69,490	(20,438)	3,030,915
Municipal	241,447	–	13,892	(496)	254,843
	13,118,121	(3,501)	430,602	(91,775)	13,453,447
Held to maturity					
Corporate and asset-backed securities	187	(30)	29	–	186
Mortgage-backed securities	2,773	–	261	–	3,034
	2,960	(30)	290	–	3,220

The following table represents the amortized cost of the Company's HTM securities according to S&P rating at December 31, 2022.

(in thousands of U.S. dollars)	Amortized cost	% of Total
AAA	61	3%
AA	2,362	95%
Other	53	2%
	2,476	100%

The following table presents fixed maturities by contractual maturity at December 31, 2022 and 2021.

(in thousands of U.S. dollars)	2022		2021	
	Fair Value	Net Carrying Value	Fair Value	Net Carrying Value
Available for sale; maturity period				
Due in 1 year or less	346,853	346,853	599,926	599,926
Due after 1 year through 5 years	2,830,862	2,830,862	3,771,412	3,771,412
Due after 5 years through 10 years	2,516,934	2,516,934	4,263,630	4,263,630
Due after 10 years	1,167,619	1,167,619	1,787,564	1,787,564
	6,862,268	6,862,268	10,422,532	10,422,532
Mortgage-backed securities	1,337,505	1,337,505	3,030,915	3,030,915
	8,199,773	8,199,773	13,453,447	13,453,447
Held to maturity; maturity period				
Due in 1 year or less	–	–	–	–
Due after 5 years through 10 years	104	91	92	90
Due after 10 years	–	–	94	67
	104	91	186	157
Mortgage-backed securities	2,337	2,362	3,034	2,773
	2,441	2,453	3,220	2,930

Expected maturities could differ from contractual maturities because borrowers may have the right to call or prepay obligations, with or without call or prepayment penalties.

(b) Gross unrealized loss

Fixed maturities in an unrealized loss position at December 31, 2022 and 2021 comprised both investment grade and below investment grade securities for which fair value declined, principally due to rising interest rates since the date of purchase.

The following table present, for AFS fixed maturities in an unrealized loss position at December 31, 2022 and 2021 (including securities on loan) that are not deemed to have expected credit losses, the aggregate fair value and gross unrealized loss by length of time the security has continuously been in an unrealized loss position:

(in thousands of U.S. dollars)	2022					
	0 - 12 Months		Over 12 Months		Total	
	Fair Value	Gross Unrealized Loss	Fair Value	Gross Unrealized Loss	Fair Value	Gross Unrealized Loss
U.S. Treasury /agency	182,752	(8,367)	166,754	(14,867)	349,506	(23,234)
Non-U.S.	1,731,440	(135,082)	806,246	(126,543)	2,537,686	(261,625)
Corporate and asset-backed securities	2,458,217	(144,741)	369,103	(36,600)	2,827,320	(181,341)
Mortgage-backed securities	826,016	(70,846)	426,640	(91,664)	1,252,656	(162,510)
Municipal	100,993	(6,977)	9,370	(1,091)	110,363	(8,068)
Total AFS fixed maturities	5,299,418	(366,013)	1,778,113	(270,765)	7,077,531	(636,778)

(in thousands of U.S. dollars)	2021					
	0 - 12 Months		Over 12 Months		Total	
	Fair Value	Gross Unrealized Loss	Fair Value	Gross Unrealized Loss	Fair Value	Gross Unrealized Loss
U.S. Treasury /agency	145,552	(933)	35,694	(1,254)	181,246	(2,187)
Non-U.S.	1,384,150	(46,579)	82,591	(5,109)	1,466,741	(51,688)
Corporate and asset-backed securities	1,197,826	(14,970)	93,993	(1,486)	1,291,819	(16,456)
Mortgage-backed securities	1,347,002	(18,727)	39,856	(1,711)	1,386,858	(20,438)
Municipal	42,902	(496)	–	–	42,902	(496)
Total AFS fixed maturities	4,117,432	(81,705)	252,134	(9,560)	4,369,566	(91,265)

(c) Net realized gains (losses)

The following table presents, for the years ended December 31, 2022 and 2021, the components of Net realized gains (losses) and the change in net unrealized appreciation (depreciation) of investments.

(in thousands of U.S. dollars)	2022	2021
Fixed maturities:		
Gross realized gains	37,877	55,518
Gross realized losses	(308,134)	(22,630)
Recovery of expected credit losses	(18,050)	966
Impairment [(1)]	(17,001)	(2,408)
Total fixed maturities	(305,308)	31,446
Equity securities	(37,945)	1,240
Other investments	(25,863)	97,307
Foreign exchange gains (losses)	18,446	22,142
Derivative instruments	52,090	30,692
Fair value adjustments on insurance derivatives	(64,242)	317,028
S&P futures	187,349	(202,428)
Other	(299)	(5,180)
Net realized gains (losses)	(175,772)	292,247

(in thousands of U.S. dollars)	2022	2021
Change in net unrealized appreciation (depreciation) on investments:		
Fixed maturities available for sale	(1,106,965)	(474,257)
Fixed maturities held to maturity	(172)	(247)
Other	5,780	(6,510)
Change in net unrealized appreciation (depreciation) on investments	(1,101,357)	(481,014)
Total net realized gains (losses) and change in net unrealized appreciation (depreciation) on investments	(1,277,129)	(188,767)

(1) Relates to certain securities the company intended to sell and securities written to market entering default.

Realized gains and losses from equity securities and other investments from the table above include sales of securities and unrealized gains and losses from fair value changes as follows:

	Year Ended December 31, 2022			Year Ended December 31, 2021		
(in thousands of U.S. dollars)	**Equity securities**	**Other investments**	**Total**	**Equity securities**	**Other investments**	**Total**
Net gains (losses) recognized during the period	(37,945)	(25,863)	(63,808)	1,240	97,307	98,547
Less: Net gains (losses) recognized from sales of securities	(104)	(353)	(457)	18,195	(117)	18,078
Unrealized gains (losses) recognized for securities still held at reporting date	(37,841)	(25,510)	(63,351)	(16,955)	97,424	80,469

The following table presents a roll-forward of valuation allowance for expected credit losses on fixed maturities

(in thousands of U.S. dollars)	2022	2021
Available for sale		
Valuation allowance for expected credit losses - beginning of period	3,502	4,655
Provision for expected credit loss	27,902	2,105
Foreign currency revaluation	(223)	(174)
Recovery of expected credit loss	(9,918)	(3,085)
Valuation allowance for expected credit losses - end of period	21,263	3,501
Held to maturity		
Valuation allowance for expected credit losses - beginning of period	30	68
Provision for expected credit loss	8	2
Recovery of expected credit loss	(15)	(40)
Valuation allowance for expected credit losses - end of period	23	30

(d) Other investments

The following table presents Other Investments at December 31, 2022 and 2021:

(in thousands of U.S. dollars)	2022	2021
	Fair Value/Cost	Fair Value/Cost
Alternative investments:		
Partially-owned investment company	7,511,099	7,334,475
Limited partnerships	628,204	502,486
Investment funds	372,978	267,680
	8,512,281	8,104,641
Policy loans and other	4,040	59,364
Total	8,516,321	8,164,005

Alternative investments

Alternative investments include partially-owned investment companies, investment funds and limited partnerships measured at fair value using net asset value (NAV) as a practical expedient.

The following table presents, by investment category, the expected liquidation period, fair value of and maximum future funding commitments of alternative investments.

	December 31, 2022			December 31, 2021	
	Expected Liquidation Period	Fair Value	Maximum Future Funding Commitments	Fair Value	Maximum Future Funding Commitments
			(in thousands of U.S. dollars)		
Financial	2 to 10 Years	929,485	471,381	882,352	151,085
Real Assets	2 to 13 Years	209,924	139,153	114,153	244,925
Distressed	2 to 8 Years	324,729	359,538	309,253	212,038
Private Credit	3 to 8 Years	141,264	237,153	196,714	237,775
Traditional	2 to 14 Years	6,516,289	4,725,240	6,313,690	5,036,357
Vintage	1 to 2 Years	17,612	–	20,799	–
Investment funds	Not Applicable	372,978	–	267,680	–
		8,512,281	5,932,465	8,104,641	5,882,180

Included in all categories in the above table except for investment funds are investments for which the Company will never have the contractual option to redeem but receives distributions based on the liquidation of the underlying assets. Further, for all categories except for Investment funds, the Company does not have the ability to sell or transfer the investments without the consent from the general partner of individual funds.

Investment Category	**Consists of investments in private equity funds**
Financial	targeting financial services companies, such as financial institutions and insurance services worldwide
Real assets	targeting investments related to hard physical assets, such as real estate, infrastructure and natural resources
Distressed	targeting distressed corporate debt/credit and equity opportunities in the U.S.
Private credit	targeting privately originated corporate debt investments, including senior secured loans and subordinated bonds
Traditional	employing traditional private equity investment strategies such as buyout and growth equity globally
Vintage	funds where the initial fund term has expired

Included in limited partnerships and partially-owned investment company are 61 individual limited partnerships covering a broad range of investment strategies including large cap buyouts, specialist buyouts, growth capital, distressed, mezzanine, real estate, and co-investments. The underlying portfolio consists of various public and private debt and equity securities of publicly traded and privately held companies and real estate assets. The underlying investments across various partnerships, geographies, industries, asset types, and investment strategies provide risk diversification within the limited partnership portfolio and the overall investment portfolio.

Investment funds employ various investment strategies such as long/short equity and arbitrage/distressed. Included in this category are investments for which the Company has the option to redeem at agreed upon value as described in each investment fund's subscription agreement. Depending on the terms of the various subscription agreements, investment fund investments may be redeemed monthly, quarterly, semi-annually, or annually. If the Company wishes to redeem an investment fund investment, it must first determine if the investment fund is still in a lock-up period (a time when the Company cannot redeem its investment so that the investment fund manager has time to build the portfolio). If the investment fund is no longer in its lock-up period, the Company must then notify the investment fund manager of its intention to redeem by the notification date prescribed by the subscription agreement. Subsequent to notification, the investment fund can redeem the company's investment within several months of the notification. Notice periods for redemption of the investment funds are up to 270 days. The Company can redeem its investment funds without consent from the investment fund managers.

(e) Investments in partially-owned insurance companies

The following table presents Investments in partially-owned insurance companies

(in thousands of U.S. dollars)	**2022**			**2021**			
	Carrying value	Goodwill	Ownership Percentage	Carrying value	Goodwill	Ownership Percentage	Domicile
Huatai Group	1,506,817	839,845	26.0%	1,633,267	913,057	26.0%	China
ABR Reinsurance Ltd	137,283	–	18.8%	142,039	–	17.0%	Bermuda
Total	1,644,100	839,845		1,775,306	913,057		

The Company maintains a direct investment in Huatai Insurance Group Co., Ltd. (Huatai Group). Huatai Group is the parent company of, and owns 100 percent of, Huatai Property & Casualty Insurance Co., Ltd. (Huatai P&C), 80 percent of Huatai Life Insurance Co., Ltd. (Huatai Life), and 82 percent of Huatai Asset Management Co., Ltd. (collectively, Huatai). Huatai Group's insurance operations have more than 700 branches and approximately 19 million customers in China.

As of December 31, 2022, the Company's aggregate ownership interest in Huatai Group was 26.0 percent. The Company applies the equity method of accounting to its investment in Huatai Group by recording its share of net income or loss in Other (income) expense in the Consolidated statements of operations.

In 2019, the Company entered into an agreement to acquire an approximate 7.1 percent ownership interest in Huatai Group for approximately $493 million, which was paid as a deposit in 2020. The purchase of the additional ownership interest was contingent upon important conditions and has been excluded from the table above. During the first quarter of 2022, the Company and selling shareholders agreed to transfer its right and obligations relating to the purchase of this ownership interest to an affiliate.

At December 31, 2022, the Company owns 18.8 percent of the common equity of ABR Reinsurance Capital Holdings Ltd. and warrants to acquire 0.5 percent of additional equity. ABR Reinsurance Capital Holdings Ltd., is the parent company of ABR Reinsurance Ltd. (ABR Re), an independent reinsurance company. Through long-term arrangements, Chubb will be the sole source of reinsurance risks ceded to ABR Re, and BlackRock, Inc. serves as an investment management service provider. As an investor, the Company is expected to benefit from underwriting profit generated by ABR Re's reinsuring a wide range of Chubb's primary insurance business and the income and capital appreciation BlackRock, Inc. seeks to deliver through its investment management services.

ABR Re is a variable interest entity; however, the Company is not the primary beneficiary and does not consolidate ABR Re because the Company does not have the power to control and direct ABR Re's most significant activities, including investing and underwriting. The Company's ownership interest is accounted for under the equity method of accounting. The Company cedes premiums to ABR Re and recognizes the associated commissions.

(f) Net investment income

The following table presents the source of net investment income for the years ended December 31, 2022 and 2021.

(in thousands of U.S. dollars)	2022	2021
Fixed maturities	397,151	462,198
Short-term investments	2,019	6,799
Other investments	52,991	99,821
Investment income from affiliates	19,134	3,667
Gross investment income	471,295	572,485
Investment expenses	(27,265)	(27,515)
Net investment income	444,030	544,970

(g) Restricted Assets

The Company is required to maintain assets on deposit with various regulatory authorities to support its reinsurance operations. These requirements are generally promulgated in the statutory regulations of the individual jurisdictions. The assets on deposit are available to settle reinsurance liabilities. The Company is also required to restrict assets pledged under repurchase agreements which represent the Company's agreement to sell securities and repurchase them at a future date for a predetermined price. The Company uses trust funds in certain large reinsurance transactions where the trust funds are set up for the benefit of the ceding companies and generally take the place of Letter of Credit (LOC) requirements. The Company has investments in segregated portfolios primarily to provide collateral or guarantees for LOCs and derivative transactions. Included in restricted assets at December 31, 2022 and 2021, are investments, primarily fixed maturities and short term investments totaling $3.6 billion and $4.2 billion, respectively, and cash of $14.6 million and $20.5 million, respectively.

The following table presents the components of the restricted assets at December 31, 2022 and 2021.

(in thousands of U.S. dollars)	2022	2021
Deposits with regulatory authorities	28,620	32,690
Trust funds	3,473,740	4,056,570
Assets pledged under repurchase agreements	101,473	103,080
Other pledged assets	940	740
	3,604,773	4,193,080

5. *Unpaid losses and loss expenses*

The Company establishes reserves for the estimated unpaid ultimate liability for losses and loss expenses under the terms of its treaties and agreements. Reserves include estimates for both claims that have been reported and for IBNR claims, and include estimates of expenses associated with processing and settling these claims. Reserves are recorded in Unpaid losses and loss expenses in the consolidated balance sheets. While the Company believes that its reserves for unpaid losses and loss expenses at December 31, 2022 are adequate, new information or trends may lead to future developments in incurred losses and loss expenses significantly greater or less than the reserves provided. Any such revisions could result in future changes in estimates of losses or reinsurance recoverable and would be reflected in the Company's results of operations in the period in which the estimates are changed.

The following table presents a reconciliation of unpaid losses and loss expenses for the years ended December 31, 2022 and 2021:

(in thousands of U.S. dollars)	2022	2021
Gross unpaid losses and loss expenses at beginning of year	7,223,775	7,206,325
Reinsurance recoverable(1)	(1,147,681)	(1,257,521)
Net unpaid losses and loss expenses at beginning of year	6,076,094	5,948,804
Net losses and loss expenses incurred in respect of losses occurring in:		
Current year	2,076,828	2,037,611
Prior years(2)	(101,285)	(81,075)
Total	1,975,543	1,956,536
Net losses and loss expenses paid in respect of losses occurring in:		
Current year	(396,503)	(521,459)
Prior years	(1,296,873)	(1,160,214)
Total	(1,693,376)	(1,681,673)
Foreign currency revaluation and other	(175,662)	(147,573)
Net unpaid losses and loss expenses at end of year	6,182,599	6,076,094
Reinsurance recoverable(1)	1,144,373	1,147,681
Gross unpaid losses and loss expenses at end of year	7,326,972	7,223,775

(1) Net of valuation allowance for uncollectible reinsurance

(2) Relates to prior period loss reserve development only and excludes prior period development related to reinstatement premiums, expense adjustments, and earned premium.

In 2022, $35.6 million of net favorable prior period development ($12.8 million of net unfavorable prior period development in 2021) was attributable to long-tailed business. In addition, there was net favorable development of $65.7 million ($93.8 million of net favorable prior period development in 2021) in short-tailed lines. These developments were from a number of lines and accident years due to lower than expected claims emergence and favorable claim settlements. These prior period developments relate to prior period loss reserve development only and excludes prior period development related to reinstatement premiums, expense adjustments, and earned premium.

Business written or assumed by the Company that is long-tailed in nature (e.g., Workers' Compensation and Professional Lines) can exhibit a high degree of variability. The nature of the business written can expose the reserves to a higher-than-normal degree of uncertainty and the ultimate losses may be materially different.

The following table presents a reconciliation of the loss development tables to the liability for unpaid losses and loss expenses in the consolidated balance sheet as at December 31, 2022:

(in thousands of U.S. dollars)	**2022**
Net unpaid loss and allocated loss adjustment expense:	
North America P&C – Casualty	1,791,487
North America P&C – Non-Casualty	171,795
Overseas General P&C – Casualty	1,953,170
Overseas General P&C – Non-Casualty	1,371,750
Global Reinsurance – Casualty	370,376
Global Reinsurance – Non-Casualty	264,813
Excluded from the loss development tables	–
Other	132,474
Net unpaid loss and allocated loss adjustment expense	6,055,865
Ceded unpaid loss and allocated loss adjustment expense:	
North America P&C – Casualty	–
North America P&C – Non-Casualty	–
Overseas General P&C – Casualty	259,405
Overseas General P&C – Non-Casualty	721,920
Global Reinsurance – Casualty	9,454
Global Reinsurance – Non-Casualty	153,594
Ceded unpaid loss and allocated loss adjustment expense	1,144,373
Unpaid loss and loss expense on other than short-duration contracts (1)	126,734
Unpaid losses and loss expenses	7,326,972

(1) Primarily includes the claims reserve of the international A&H business.

(a) Description of Reserving Methodologies

The Company's recorded reserves represent management's best estimate of the provision for unpaid claims as of the balance sheet date. The process of establishing loss and loss expense reserve can be complex and is subject to considerable uncertainty as it requires the use of estimates and judgments based on circumstances underlying the insured loss at the date of accrual. The reserves for the Company's various product lines each require different qualitative and quantitative assumptions and judgments to be made. Management's best estimate is developed after collaboration with actuarial, underwriting, legal, and finance departments and culminates with the input of reserve committees. The objective of such a process is to determine a single estimate that the Company believes represents a better estimate than any other and which is viewed by management to be the best estimate of ultimate loss settlements.

This estimate is based on a combination of exposure and experience-based actuarial methods (described below) and other considerations such as claims reviews, reinsurance recovery assumptions and/or input from other knowledgeable parties such as underwriting. Exposure-based methods are most commonly used on relatively immature origin years (i.e., the year in which the losses were incurred — “accident year” or “report year”), while experience-based methods provide a view based on the projection of loss experience that has emerged as of the valuation date. Greater reliance is placed upon experience-based methods as the pool of emerging loss experience grows and where it is deemed sufficiently credible and reliable as the basis for the estimate. In comparing the held reserve for any given origin year to the actuarial projections, judgment is required as to the credibility, uncertainty and inherent limitations of applying actuarial techniques to historical data to project future loss experience. Examples of factors that impact such judgments include, but are not limited to, the following:

- nature and complexity of underlying coverage provided and net limits of exposure provided;
- segmentation of data to provide sufficient homogeneity and credibility for loss projection methods;
- extent of credible internal historical loss data and reliance upon industry information as required;
- historical variability of actual loss emergence compared with expected loss emergence;
- reported and projected loss trends;
- extent of emerged loss experience relative to the remaining expected period of loss emergence;
- rate monitor information for new and renewal business;
- changes in claims handling practice; including impact of COVID-19 on adjudication environment;
- inflation;
- the legal environment; including impact of COVID-19 on judicial proceedings;
- facts and circumstances of large claims;
- terms and conditions of the contracts sold by the Company’s reinsured parties;
- impact of applicable reinsurance recoveries; and
- nature and extent of underlying assumptions.

The Company has an actuarial team which analyzes loss reserves (including loss expenses) and regularly project estimates of ultimate losses and the corresponding indications of the required IBNR reserve. The data presented in this disclosure was prepared on an aggregated basis and with a focus on changes in incurred loss estimates over time as well as associated cash flows. The Company notes that data prepared on this basis may not demonstrate the full spectrum of characteristics that are evident in the more detailed level studied internally.

For most product lines, one or more standard actuarial reserving methods may be used to determine estimates of ultimate losses and loss expenses, and from these estimates, a single actuarial central estimate is selected. The actuarial central estimate is an input to the reserve committee process described above. For the few product lines that do not lend themselves to standard actuarial reserving methods, appropriate techniques are applied to produce the actuarial central estimates. Where a loss estimate is advised to the Company by a cedant and that reserve estimate is reviewed and found by the actuarial team and management to be reasonable compared to the result of standard actuarial methods then that estimate may be adopted by the Company.

(b) Standard actuarial reserving methods

The judgments involved in projecting the ultimate losses include the use and interpretation of various standard actuarial reserving methods that place reliance on the extrapolation of actual historical data, loss development patterns, industry data, and other benchmarks as appropriate.

Standard actuarial reserving methods include, but are not limited to, expected loss ratio, paid and reported loss development, and Bornhuetter-Ferguson methods. A general description of these methods is provided below. In addition to these standard methods, depending upon the product line characteristics and available data, the Company may use other recognized actuarial methods and approaches. Implicit in the standard actuarial methods that the Company generally utilizes is the need for two fundamental assumptions: first, the pattern by which losses are expected to emerge over time for each origin year, and second the expected loss ratio for each origin year.

The expected loss ratio for any particular origin year is selected after consideration of a number of factors, including historical loss ratios adjusted for rate changes, premium and loss trends, industry benchmarks, the results of policy level loss modeling at the time of underwriting, and/or other more subjective considerations for the product line (e.g., terms and conditions) and external environment as noted above. The expected loss ratio for a given origin year is initially established at the start of the origin year as part of the planning process. This analysis is performed in conjunction with underwriters and management. The expected loss ratio method arrives at an ultimate loss estimate by multiplying the expected ultimate loss ratio by the corresponding premium base. This method is most commonly used as the basis for the actuarial central estimate for immature origin periods on product lines where the actual paid or reported loss experience is not yet deemed sufficiently credible to serve as the principal basis for the selection of ultimate losses. The expected loss ratio for a given origin year may be modified over time if the underlying assumptions differ from the original assumptions (e.g., the assessment of prior year loss ratios, loss trend, rate changes, actual claims, or other information).

The Company's selected paid and reported development patterns provide a benchmark against which the actual emerging loss experience can be monitored. Where possible, development patterns are selected based on historical loss emergence by origin year. For product lines where the historical data is viewed to have low statistical credibility, the selected development patterns also reflect relevant industry benchmarks and/or experience from similar product lines written elsewhere within Chubb. This most commonly occurs for relatively new product lines that have limited historical data or for high severity/low frequency portfolios where the Company's historical experience exhibits considerable volatility and/or lacks credibility. The paid and reported loss development methods convert the selected loss emergence pattern to a set of multiplicative factors which are then applied to actual paid or reported losses to arrive at an estimate of ultimate losses for each period. Due to their multiplicative nature, the paid and reported loss development methods will leverage differences between actual and expected loss emergence. These methods tend to be utilized for more mature origin periods and for those portfolios where the loss emergence has been relatively consistent over time.

The Bornhuetter-Ferguson method is a combination of the expected loss ratio method and the loss development method, where the loss development method is given more weight as the origin year matures. This approach allows a logical transition between the expected loss ratio method which is generally utilized at earlier maturities and the loss development methods which are typically utilized at later maturities. The Company usually applies this method using reported loss data although paid data may also be used.

Short-tail business

Short-tail business generally describes product lines for which losses are typically known and paid shortly after the loss occurs. This would include, for example, most property, personal accident, and automobile physical damage policies that the Company writes. Due to the short reporting and development pattern for these product lines, the uncertainty associated with the Company's estimate of ultimate losses for any particular accident period diminishes relatively quickly as actual loss experience emerges. The Company typically assigns credibility to methods that incorporate actual loss emergence, such as the paid and reported loss development and Bornhuetter-Ferguson methods, sooner than would be the case for long-tail lines at a similar stage of development for a given origin year. The reserving process for short-tail losses arising from catastrophic events typically involves an assessment by the underwriting and actuarial departments, of the Company's exposure and estimated losses immediately following an event and then subsequent revisions of the estimated losses as insureds provide updated actual loss information.

Long-tail business

Long-tail business describes lines of business for which specific losses may not be known/reported for some period and for which claims can take significant time to settle/close. This includes most casualty lines such as general liability, D&O, and workers' compensation. There are various factors contributing to the uncertainty and volatility of long-tail business, including the indirect impact of COVID-19 that has changed loss reporting and development patterns. In addition, uncertain future inflationary trends, changes in future legal environments, and the potential impact of major claims, added to the uncertainty and volatility in the long-tail business. Other factors are:

- The nature and complexity of underlying coverage provided and net limits of exposure provided;
- The Company's historical loss data and experience is sometimes too immature and lacking in credibility to rely upon for reserving purposes. Where this is the case, in the reserve analysis the Company may utilize industry loss ratios or industry benchmark development patterns that are believed to reflect the nature and coverage of the underwritten business and its future development, where available. For such product lines, actual loss experience may differ from industry loss statistics as well as loss experience for previous underwriting years;
- The difficulty in estimating loss trends, claims inflation (e.g., medical and judicial) and underlying economic conditions;
- The need for professional judgment to estimate loss development patterns beyond that represented by historical data using supplemental internal or industry data, extrapolation, or a blend of both;
- The need to address shifts in business mix or volume over time when applying historical paid and reported loss development patterns from older origin years to more recent origin years. For example, changes over time in the processes and procedures for establishing case reserves can distort reported loss development patterns or changes in ceded reinsurance structures by origin year can alter the development of paid and reported losses;

- Loss reserve analyses typically require loss or other data be grouped by common characteristics in some manner. If data from two combined lines of business exhibit different characteristics, such as loss payment patterns, the credibility of the reserve estimate could be affected. Additionally, since casualty lines of business can have significant intricacies in the terms and conditions afforded to the insured, there is an inherent risk as to the homogeneity of the underlying data used in performing reserve analyses; and
- The applicability of the price change data used to estimate ultimate loss ratios for most recent origin years.

As described above, various factors are considered when determining appropriate data, assumptions, and methods used to establish the loss reserve estimates for long-tail product lines. These factors may also vary by origin year for given product lines. The derivation of loss development patterns from data and the selection of a tail factor to project ultimate losses from actual loss emergence require considerable judgment, particularly with respect to the extent to which historical loss experience is relied upon to support changes in key reserving assumptions.

The Company's portfolio comprises a mix of proportional and non-proportional treaties. The proportional treaties are reported on a bulk basis and do not lend themselves to meaningful claim count data. As such, the Company do not provide claim count information.

(c) Loss Development Tables

The tables were designed to present business with similar risk characteristics which exhibit like development patterns and generally similar trends, in order to provide insight into the nature, amount, timing and uncertainty of cash flows related to the Company's claims liabilities.

Each table follows a similar format and reflects the following:

- The incurred loss triangle includes both reported case reserves and IBNR liabilities.
- Both the incurred and paid loss triangles include allocated loss adjustment expense (i.e., defense and investigative costs particular to individual claims) but exclude unallocated loss adjustment expense (i.e., the costs associated with internal claims staff and third party administrators).
- The amounts in both triangles for the years ended December 31, 2013, to December 31, 2022 and average historical percentage payouts by age as of December 31, 2022, are presented as supplementary information.
- All data presented in the triangles is net of reinsurance recoverables.
- The IBNR reserves shown to the right of each incurred loss development exhibit reflect the net IBNR recorded as of December 31, 2022.

Historical dollar amounts are presented in this footnote on a constant-dollar basis, which is achieved by assuming constant foreign exchange rates for all periods in the loss triangles, translating prior period amounts using the same local currency exchange rates as the current year end. The impact of this conversion is to show the change between periods exclusive of the effect of fluctuations in exchange rates, which would otherwise distort the change in incurred loss and cash flow patterns shown. The change in incurred loss shown will differ from other GAAP disclosures of incurred prior period reserve development amounts, which include the effect of fluctuations in exchanges rates.

The Company provided guidance above on key assumptions that should be considered when reviewing this disclosure and information relating to how loss reserve estimates are developed. The Company believes the information provided in the "Loss Development Tables" section of the disclosure is of limited use for independent analysis or application of standard actuarial estimations.

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North America

Prior to 2018, the Company mainly provided reinsurance to Chubb's North America business through quota-share arrangements. Since 2019, the Company has been mainly providing reinsurance through excess of loss arrangements.

North America P&C - Casualty - Long-tail

This product line is comprised of various long tail lines of business including Workers Compensation, Liability such as medical liability, professional liability, fidelity bonds and fiduciary liability as well as other Casualty coverages.

Net Incurred Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

										Audited	Net IBNR reserves
Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022
2013	$563,650	$525,453	$557,663	$555,464	$534,777	$532,729	$520,758	$516,707	$516,076	$517,274	$63,031
2014		$446,662	$453,622	$466,751	$476,982	$462,790	$442,503	$429,052	$424,483	$414,653	$52,292
2015			$483,949	$492,687	$518,335	$549,074	$553,689	$538,750	$538,789	$536,042	$91,399
2016				$531,442	$555,379	$583,367	$581,169	$576,681	$569,228	$561,614	$85,117
2017					$583,720	$602,208	$608,954	$609,332	$597,603	$582,114	$160,381
2018						$90,751	$90,720	$91,590	$87,962	$84,106	$28,139
2019							$220,061	$139,354	$106,994	$98,906	$40,502
2020								$182,054	$122,982	$90,106	$67,698
2021									$161,224	$168,235	$149,848
2022										$181,703	$175,221
Total										$3,234,753	

Net Cumulative Paid Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

										Audited
Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
2013	$59,224	$136,312	$217,713	$277,010	$332,629	$366,622	$384,016	$401,715	$412,061	$428,096
2014		$51,106	$118,073	$187,389	$247,082	$282,521	$304,059	$321,840	$331,474	$341,631
2015			$58,781	$140,720	$211,635	$287,332	$339,038	$365,226	$390,350	$411,131
2016				$63,845	$154,805	$233,993	$303,326	$348,713	$382,131	$407,885
2017					$75,012	$166,324	$242,977	$295,051	$336,069	$376,021
2018						$5,850	$20,698	$30,119	$39,884	$47,990
2019							$4,890	$20,799	$41,278	$51,558
2020								$5,045	$10,653	$16,429
2021									$8,170	$11,626
2022										$3,623
Total										$2,095,990

Net Liabilities for Loss and Allocated Loss Adjustment Expenses as at December 31, 2022

(in thousands of U.S. dollars)	2022
Accident years prior to 2013	652,724
Accident years 2013 – 2022 from tables above	1,138,763
All Accident years	1,791,487

Supplementary Information: Average Annual Percentage Payout of Net Incurred Claims by Age, as at December 31, 2022 (Unaudited)

Age in Years	1	2	3	4	5	6	7	8	9	10
Percentage	10%	15%	14%	12%	9%	6%	4%	3%	2%	3%

North America P&C – Non-Casualty - Short-tail

This product line represents first party personal and commercial product lines that are short-tailed in nature, including personal lines coverage for high-net-worth individuals and families in North America including homeowners, automobile, valuable articles (including fine art), umbrella liability, and recreational marine insurance. Some years may be impacted by natural catastrophe losses.

Net Incurred Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

										Audited	Net IBNR reserves
Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022
2013	$498,467	$550,981	$518,209	$519,288	$515,475	$504,814	$509,187	$507,847	$506,810	$505,949	$277
2014		$335,414	$328,041	$321,230	$320,996	$319,128	$317,908	$316,337	$316,102	$314,702	-$1,348
2015			$319,904	$301,207	$286,780	$289,278	$285,927	$284,829	$285,620	$284,722	$19,587
2016				$250,411	$247,966	$236,391	$229,544	$230,813	$229,561	$229,252	-$1,584
2017					$349,133	$342,434	$336,227	$338,143	$335,391	$338,600	$46,008
2018						$97,579	$105,589	$103,605	$103,510	$102,516	$28,139
2019							$106,076	$98,727	$97,229	$94,280	$40,502
2020								$145,107	$108,183	$104,069	$67,698
2021									$134,310	$95,997	$105,039
2022										$153,601	$116,000
Total										$2,223,688	

Net Cumulative Paid Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	Audited 2022
2013	$326,188	$481,266	$496,377	$503,352	$505,665	$505,841	$507,482	$507,974	$508,028	$508,068
2014		$183,782	$293,808	$304,070	$308,131	$311,987	$313,086	$314,566	$314,997	$315,059
2015			$176,024	$258,183	$273,476	$281,869	$281,882	$282,653	$283,267	$283,153
2016				$118,045	$196,804	$214,687	$223,541	$230,132	$232,083	$233,648
2017					$142,448	$274,586	$309,020	$318,844	$322,793	$326,424
2018						$46,085	$89,470	$96,132	$98,751	$100,637
2019							$41,713	$76,498	$82,441	$84,465
2020								$55,920	$79,123	$83,044
2021									$26,546	$66,319
2022										$54,526
Total										$2,055,343

Net Liabilities for Loss and Allocated Loss Adjustment Expenses as at December 31, 2022

(in thousands of U.S. dollars)	**2022**
Accident years prior to 2013	3,450
Accident years 2013 – 2022 from tables above	168,345
All Accident years	171,795

Supplementary Information: Average Annual Percentage Payout of Net Incurred Claims by Age, as at December 31, 2022 (Unaudited)

Age in Years	1	2	3	4	5	6	7	8	9	10
Percentage	53%	34%	6%	2%	2%	1%	0%	0%	0%	0%

Overseas General – Casualty - Long-tail

This product line is comprised of D&O liability, E&O liability, financial institutions (including crime/fidelity coverages), and non-U.S. general liability as well as aviation and political risk. Exposures are located around the world, including Europe, Latin America, and Asia. There is some U.S. exposure in Casualty from multinational accounts.

Net Incurred Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	Audited 2022	Net IBNR reserves 2022
2013	$136,508	$156,824	$164,142	$145,174	$132,701	$132,997	$133,868	$138,349	$132,471	$149,498	$142
2014		$146,915	$147,800	$165,879	$171,323	$158,016	$160,437	$170,303	$201,734	$195,373	$14,817
2015			$155,262	$140,920	$146,034	$156,070	$213,609	$182,989	$243,092	$228,869	$39,383
2016				$159,845	$147,844	$187,153	$248,405	$296,331	$333,179	$342,763	-$8,412
2017					$292,542	$289,566	$305,882	$407,380	$339,239	$370,226	-$20,434
2018						$297,098	$280,317	$266,918	$369,023	$403,110	$22,417
2019							$354,837	$313,409	$303,917	$298,205	-$37,585
2020								$469,400	$417,155	$331,600	$164,155
2021									$362,276	$413,909	$190,797
2022										$522,931	$466,219
Total										$3,256,484	

Net Cumulative Paid Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	Audited 2022
2013	$10,332	$28,896	$51,921	$63,203	$76,069	$91,368	$101,090	$106,696	$112,205	$121,841
2014		$9,876	$25,833	$45,988	$63,917	$81,660	$103,157	$122,254	$127,118	$132,292
2015			$6,060	$20,486	$50,192	$75,752	$95,510	$115,681	$146,900	$155,522
2016				$17,064	$38,098	$93,388	$112,527	$158,014	$193,561	$240,065
2017					$13,090	$61,988	$124,159	$180,916	$231,340	$282,711
2018						$10,323	$60,153	$89,496	$129,781	$171,468
2019							$8,720	$53,996	$93,727	$120,441
2020								$16,333	$53,606	$97,674
2021									$30,421	$134,759
2022										$13,920
Total										$1,470,693

Net Liabilities for Loss and Allocated Loss Adjustment Expenses as at December 31, 2022

(in thousands of U.S. dollars)	**2022**
Accident years prior to 2013	167,379
Accident years 2013 – 2022 from tables above	1,785,791
All Accident years	1,953,170

Supplementary Information: Average Annual Percentage Payout of Net Incurred Claims by Age, as at December 31, 2022 (Unaudited)

Age in Years	1	2	3	4	5	6	7	8	9	10
Percentage	4%	13%	13%	10%	12%	11%	12%	4%	3%	6%

Overseas General – Non-Casualty - Short-tail

This product line is comprised of commercial fire, marine (predominantly cargo), surety, personal automobile, personal cell phones, personal residential (including high net worth), energy and construction. In general, these lines have relatively stable payment and reporting patterns although some years may be impacted by natural catastrophes.

Net Incurred Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	Audited 2022	Net IBNR reserves 2022
2013	$276,100	$270,752	$249,452	$244,581	$232,373	$232,230	$234,444	$230,884	$226,703	$228,852	$752
2014		$297,238	$320,556	$291,954	$274,939	$277,832	$281,716	$286,216	$272,494	$271,478	$2,272
2015			$355,615	$332,775	$312,736	$314,423	$318,156	$322,985	$319,731	$317,100	$1,679
2016				$491,249	$533,869	$527,711	$518,414	$512,191	$537,163	$547,110	$28,220
2017					$716,425	$668,690	$666,234	$654,655	$697,142	$697,092	$35,032
2018						$558,085	$642,702	$644,684	$665,184	$653,356	$31,190
2019							$633,308	$651,174	$616,176	$622,117	$1,935
2020								$809,322	$759,436	$730,527	$170,515
2021									$743,186	$737,215	$102,031
2022										$928,978	$232,509
Total										$5,733,825	

Net Cumulative Paid Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	Audited 2022
2013	$67,114	$163,818	$212,742	$212,517	$218,200	$226,140	$228,587	$229,025	$226,365	$225,923
2014		$72,046	$205,308	$259,657	$266,550	$268,210	$269,857	$271,586	$273,924	$272,571
2015			$95,896	$221,043	$290,590	$316,516	$321,712	$328,388	$333,546	$335,873
2016				$204,261	$393,261	$471,310	$493,266	$498,885	$510,394	$506,935
2017					$244,726	$493,529	$592,290	$612,796	$646,999	$686,603
2018						$229,425	$454,097	$536,018	$566,067	$584,730
2019							$253,094	$457,981	$528,431	$559,927
2020								$255,521	$406,861	$453,465
2021									$259,847	$447,266
2022										$356,648
Total										$4,429,941

Net Liabilities for Loss and Allocated Loss Adjustment Expenses as at December 31, 2022

(in thousands of U.S. dollars)	2022
Accident years prior to 2013	67,866
Accident years 2013 – 2022 from tables above	1,303,884
All Accident years	1,371,750

Supplementary Information: Average Annual Percentage Payout of Net Incurred Claims by Age, as at December 31, 2022 (Unaudited)

Age in Years	1	2	3	4	5	6	7	8	9	10
Percentage	36%	32%	13%	4%	3%	3%	0%	1%	0%	0%

Global Reinsurance

Global reinsurance analyzes its business on a treaty year basis rather than on an accident year basis. Treaty year data was converted to an accident year basis for the purposes of this disclosure. Mix shifts are an important consideration in these product line groupings. As proportional business and excess of loss business have different earning and loss reporting and payment patterns, this change in mix will affect the cash flow patterns across the accident years. In addition, the shift from excess to proportional business over time will make the cash flow patterns of older and more recent years difficult to compare. In general, the proportional business will pay out more quickly than the excess of loss business, as such, using older years development patterns may overstate the ultimate loss estimates in more recent years.

Global Reinsurance –Casualty - Long-tail

This product line includes proportional and excess coverages in general liability, automobile liability, professional liability, and medical malpractice, with exposures located around the world. In general, reinsurance exhibits less stable development patterns than primary business. In particular, general casualty reinsurance and excess coverages are long-tailed and can be very volatile.

Net Incurred Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

									Audited	Net IBNR reserves
Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022
2013	$59,601	$57,978	$57,818	$56,174	$57,525	$55,579	$51,515	$50,535	$50,189	$48,577	$29
2014		$63,652	$58,423	$58,115	$60,418	$58,383	$55,630	$53,021	$53,441	$52,673	$1,382
2015			$66,277	$64,598	$65,768	$71,900	$71,440	$71,066	$72,399	$72,152	$4,181
2016				$77,534	$80,563	$78,122	$83,939	$82,449	$83,499	$81,991	$4,432
2017					$87,075	$83,676	$88,783	$84,936	$86,709	$84,735	$1,622
2018						$68,633	$69,177	$70,741	$69,915	$71,795	$58
2019							$38,657	$40,775	$36,852	$36,366	$2,980
2020								$21,956	$26,809	$25,857	$7,262
2021									$27,522	$30,866	$14,132
2022										$13,669	$5,780
Total										$518,681	

Net Cumulative Paid Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 (Audited)
2013	$8,048	$13,126	$17,124	$22,369	$27,440	$32,706	$35,428	$36,861	$39,064	$39,979
2014		$9,155	$17,269	$22,903	$28,102	$32,474	$35,788	$39,157	$42,269	$43,668
2015			$11,881	$19,102	$26,805	$31,020	$36,317	$41,627	$50,410	$54,541
2016				$13,414	$27,495	$35,318	$40,017	$45,900	$54,365	$62,490
2017					$15,281	$30,801	$37,349	$43,805	$52,828	$63,174
2018						$11,405	$16,625	$21,261	$29,545	$37,216
2019							$264	$947	$2,157	$6,261
2020								$328	$618	$2,271
2021									$288	$1,028
2022										$275
Total										$310,903

Net Liabilities for Loss and Allocated Loss Adjustment Expenses as at December 31, 2022

(in thousands of U.S. dollars)	2022
Accident years prior to 2013	162,598
Accident years 2013 – 2022 from tables above	$207,778
All Accident years	370,376

Supplementary Information: Average Annual Percentage Payout of Net Incurred Claims by Age, as at December 31, 2022 (Unaudited)

Age in Years	1	2	3	4	5	6	7	8	9	10
Percentage	14%	11%	8%	9%	9%	10%	9%	5%	4%	2%

Global Reinsurance – Non-Casualty - Short-tail

This product line includes property, property catastrophe, marine, credit/surety, A&H and energy. Development patterns in some years may be impacted by large natural catastrophes events.

Net Incurred Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	Audited 2022	Net IBNR reserves 2022
2013	$63,602	$56,089	$53,761	$52,155	$50,593	$48,956	$48,404	$48,353	$48,004	$47,745	$ (1,812)
2014		$58,646	$59,767	$62,149	$63,730	$63,345	$61,940	$61,809	$61,318	$60,969	$2,147
2015			$43,731	$42,570	$45,279	$47,430	$44,513	$44,637	$43,565	$43,751	$ (18)
2016				$102,714	$99,961	$102,348	$100,306	$98,106	$97,004	$96,870	$806
2017					$301,543	$327,842	$363,947	$361,025	$365,917	$368,137	$11,270
2018						$198,619	$201,457	$203,541	$200,517	$205,862	$5,587
2019							$39,270	$41,261	$37,735	$29,990	$3,121
2020								$98,412	$141,472	$166,264	$21,632
2021									$221,943	$231,149	$10,787
2022										$193,711	$124,857
Total										$1,444,448	

Net Cumulative Paid Loss and Allocated Loss Adjustment Expenses

(in thousands of U.S. dollars) Years ended December 31

Accident Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	Audited 2022
2013	$11,577	$32,583	$41,475	$45,961	$46,824	$47,991	$48,076	$48,732	$48,805	$48,772
2014		$17,558	$38,022	$48,600	$54,110	$57,010	$57,773	$58,407	$58,741	$58,547
2015			$12,091	$26,554	$35,177	$39,109	$40,271	$41,441	$41,848	$42,411
2016				$22,379	$64,965	$83,654	$89,446	$91,796	$93,763	$94,310
2017					$159,176	$256,458	$324,699	$331,510	$342,317	$347,780
2018						$64,361	$180,868	$188,730	$188,983	$191,773
2019							$4,311	$17,414	$22,684	$24,905
2020								$31,283	$103,710	$129,036
2021									$130,811	$208,025
2022										$41,467
Total										$1,187,026

Net Liabilities for Loss and Allocated Loss Adjustment Expenses as at December 31, 2022

(in thousands of U.S. dollars)	**2022**
Accident years prior to 2013	7,391
Accident years 2013 – 2022 from tables above	257,422
All Accident years	264,813

Supplementary Information: Average Annual Percentage Payout of Net Incurred Claims by Age, as at December 31, 2022 (Unaudited)

Age in Years	1	2	3	4	5	6	7	8	9	10
Percentage	34%	38%	18%	3%	3%	2%	1%	1%	0%	0%

6. *Reinsurance*

a) Consolidated reinsurance

The Company purchases reinsurance to manage various exposures including catastrophic risks. Although reinsurance agreements contractually obligate the Company's reinsurers to reimburse it for the agreed upon portion of its gross paid losses, they do not discharge the primary liability of the Company. Throughout the normal course of business, the Company enters into a number of reinsurance transactions with other Chubb affiliates and related parties which impact the assumed amounts referenced below. Refer to Note 7 for additional information.

The amounts for net premiums written and net premiums earned in the Consolidated statements of operations are net of reinsurance.

The following table presents assumed and ceded premiums for the years ended December 31, 2022 and 2021.

(in thousands of U.S. dollars)	2022	2021
Premiums written		
Assumed	4,998,516	4,650,748
Ceded	(707,931)	(645,415)
Net	4,290,585	4,005,333
Premiums earned		
Assumed	4,864,469	4,562,998
Ceded	(684,859)	(642,227)
Net	4,179,610	3,920,771

The following table presents the composition of the Company's reinsurance recoverable at December 31, 2022 and 2021.

b) Reinsurance recoverable on ceded reinsurance

(in thousands of U.S. dollars)	2022	2021
Reinsurance recoverable on paid losses and loss expenses, net of valuation allowance for uncollectible reinsurance	203,622	170,457
Reinsurance recoverable on unpaid losses and loss expenses, net of valuation allowance for uncollectible reinsurance	1,144,364	1,147,681
Reinsurance recoverable on future policy benefits	1,743	4,328
Net reinsurance recoverable	1,349,729	1,322,466

At December 31, 2022 and 2021 , the Company carried a valuation allowance for uncollectible reinsurance of $21.4 million and $19.9 million, respectively.

The following tables present a listing, at December 31, 2022 and 2021, of the categories of the Company's reinsurers. The first category, largest reinsurers, represents all groups of reinsurers where the gross recoverable exceeds one percent of the Company's total shareholder's equity. All rated reinsurers are those that were not included in the largest reinsurer category. The provision for uncollectible reinsurance is principally based on an analysis of the credit quality of the reinsurer and collateral balances.

(in thousands of U.S. dollars)	2022	2021
Largest reinsurers	734,592	376,851
Other reinsurers balances rated A- or better	512,233	824,613
Other reinsurers with ratings lower than A-	102,904	121,002
Total	1,349,729	1,322,466

Largest Reinsurers

ABR Reinsurance Capital Holdings Ltd

HDI Group (Hannover Re)

Swiss Re Group

Munich Re Group

Lloyd's of London

7. Related party business

As part of its normal course of business, the Company reinsures a number of related parties around the world on an excess of loss or quota share basis, including a stop loss arrangement covering U.S. related party companies and, through a reinsurance contract with affiliate ACE Life Insurance Company, reinsures traditional life risks. Also, the Company retrocedes or has retroceded certain business to related parties.

The related statement of operations and balance sheet account balances for the years ended December 31, 2022 and 2021 have been affected by these intercompany reinsurance agreements as follows:

(in thousands of U.S. dollars)	2022	2021
Gross premiums written	4,484,350	4,114,729
Reinsurance premiums ceded	(179,514)	(142,812)
Net premiums earned	4,224,937	3,909,033
Losses and loss expenses	1,991,779	1,986,773
Future policy benefits	32,205	28,000
Policy acquisition costs	982,164	951,456
Reinsurance balances receivable	833,006	701,979
Prepaid reinsurance premiums	72,644	65,885
Reinsurance recoverables	237,090	214,817
Deferred policy acquisition costs	413,549	291,818
Value of reinsurance business assumed	94,175	109,497
Unpaid losses and loss expenses	6,949,243	7,004,824
Future policy benefits	86,520	85,468
Unearned premiums	1,243,818	1,166,685
Reinsurance balances payable	2,664,858	2,642,667

There are amounts due from related parties of $133.4 million and $70.6 million and due to related parties of $76.8 million and $445.8 million as at December 31, 2022 and 2021, respectively. The non-controlling interest in Oasis Investments is held by a related party. Further, the Company has entered into an interest rate swap and a foreign currency forward contract with a related party. The aggregate balance of the asset (liability) related to these instruments at December 31, 2022 and 2021 was $45.7 million and $(14.2) million, respectively. Refer to Note 8.

Refer to Note 8 (g) for a discussion on security arrangement with related party.

8. Commitments, contingencies and guarantees

(a) Derivative Instruments

The Company maintains positions in derivative instruments such as futures, swaps, and foreign currency forward contracts for which the primary purposes are to manage duration and foreign currency exposure, yield enhancement, or to obtain an exposure to a particular financial market. Investment derivative instruments are recorded in either Other assets (OA) or Accounts payable, accrued expenses, and other liabilities (AP) in the Consolidated balance sheets. These are the most numerous and frequent derivative transactions.

Under reinsurance programs covering GLBs, the Company assumes the risk of GLBs, principally GMIB, associated with variable annuity contracts. The GMIB risk is triggered if, at the time the contract holder elects to convert the accumulated account value to a periodic payment stream (annuitize), the accumulated account value is not sufficient to provide a guaranteed minimum level of monthly income. The GLB reinsurance product meets the definition of a derivative instrument and is classified within AP. The Company also generally maintains positions in exchange-traded equity futures contracts on equity market indices to limit equity exposure in the GMDB and GLB book of business.

All derivative instruments are carried at fair value with changes in fair value recorded in Net realized gains (losses) in the Consolidated statements of operations. None of the derivative instruments are designated as hedges for accounting purposes.

The following table presents the balance sheet locations, fair values of derivative instruments in an asset or (liability) position, and notional values/payment provisions of the Company's derivative instruments at December 31, 2022 and 2021.

(in thousands of U.S. dollars)	2022				2021			
	Consolidated Balance sheet Location [1]	Fair Value Derivative Asset	Fair Value Derivative (Liability)	Notional Value / Payment Provision	Consolidated Balance sheet Location [1]	Fair Value Derivative Asset	Fair Value Derivative (Liability)	Notional Value / Payment Provision
Investment and embedded derivative instruments								
Foreign currency forward contracts	OA/(AP)	4,506	(10,256)	644,201	OA/(AP)	8,622	(8,410)	931,231
Futures contracts on notes and bonds	OA/(AP)	3,215	(2,790)	120,278	OA/(AP)	2,140	(1,145)	501,233
		7,721	(13,046)	764,479		10,762	(9,555)	1,432,464
Other derivative instruments								
Future contracts on equities[2]	AP	33,283	–	938,688	OA	–	(15,543)	905,227
Interest rate swap	AP	45,657	–	650,000	OA	–	(14,201)	650,000
GLB[3]	AP	–	(736,336)	1,979,020	AP	–	(744,817)	1,431,341
		78,940	(736,336)	3,567,708		–	(774,561)	2,986,568

(1) Other assets (OA) and Accounts payable (AP)
(2) Related to GMDB and GLB book of business.
(3) Note that the payment provision related to GLB is the net amount at risk. The concept of a notional value does not apply to the GLB reinsurance contracts.

At December 31, 2022 and 2021, net derivative assets (liabilities) of $28.0 million and $(14.1) million, respectively, included in the table above were subject to a master netting agreement. The remaining derivatives included in the table above were not subject to a master netting agreement.

The following table presents net realized gains (losses) related to derivative instrument activity in the Consolidated statements of operations:

(in thousands of U.S. dollars)	2022	2021
Investment and embedded derivative instruments		
Foreign currency forward contracts	(4,160)	8,059
Future contracts on notes and bonds	(3,608)	379
Total investment and embedded derivative instruments	(7,768)	8,438
GLB and other derivative instruments		
GLB	(64,242)	317,028
Futures contracts on equities(1)	187,349	(202,428)
Interest rate swaps	59,858	22,254
Total GLB and other derivative instruments	182,965	136,854
	175,197	145,292

(1) Related to GMDB and GLB blocks of business.

(b) Derivative instrument objectives

(i) Foreign currency exposure management

A foreign currency forward contract (forward) is an agreement between participants to exchange specific currencies at a future date. The Company uses forwards to minimize the effect of fluctuating foreign currencies.

(ii) Duration management and market exposure

Futures

Futures contracts give the holder the right and obligation to participate in market movements, determined by the index or underlying security on which the futures contract is based. Settlement is made daily in cash by an amount equal to the change in value of the futures contract times a multiplier that scales the size of the contract. Investments in futures contracts may be made only to the extent that there are assets under management not otherwise committed.

Exchange-traded equity futures contracts are used to limit exposure to a severe equity market decline, which would cause an increase in expected claims and therefore, an increase future policy benefit reserves for GMDB and an increase in the fair value liability for GLB reinsurance business.

(iii) GLB

Under the GLB program, as the assuming entity, the Company is obligated to provide coverage until the expiration or maturity of the underlying deferred annuity contracts or the expiry of the reinsurance treaty. The GLB is accounted for as a derivative and is recorded at fair value. Fair value represents management’s estimate of an exit price and thus, includes a risk margin. We may recognize a realized loss for other changes in fair value due to adverse changes in the capital markets (e.g., declining interest rates and/or declining U.S. and/or international equity markets) and changes in actual or estimated future policyholder behavior (e.g., increased annuitization or decreased lapse rates) although we expect the business to be profitable.

To mitigate adverse changes in the capital markets, we maintain positions in exchange-traded equity futures contracts, as noted under section "(ii) Futures" above. These futures increase in fair value when the S&P 500 index decreases (and decrease in fair value when the S&P 500 index increases). The net impact of gains or losses related to changes in fair value of the GLB liability and the exchange-traded equity futures are included in Net realized gains (losses).

(iv) Interest rate swaps

The Company has entered into an interest rate swap for the purpose of minimizing the effect of fluctuation interest rates.

(c) Securities lending and secured borrowings

The Company participates in a securities lending program operated by a third-party banking institution whereby certain assets are loaned to qualified borrowers and from which the Company earns an incremental return. The securities lending collateral can only be drawn down by the Company in the event that the institution borrowing the securities is in default under the lending agreement. An indemnification agreement with the lending agent protects the Company in the event a borrower becomes insolvent or fails to return any of the securities on loan. The collateral is recorded in Securities lending collateral and the liability is recorded in Securities lending payable in the Consolidated balance sheets.

The following table presents the carrying value of collateral held under securities lending agreements by investment category and remaining contractual maturity date of the underlying agreements:

	Remaining contractual maturity	
	Overnight and Continuous	
(in thousands of U.S. dollars)	December 31 2022	December 31 2021
Collateral held under securities lending agreements:		
Cash	212,408	315,104
U.S. Treasury and agency	–	167
	212,408	315,271
Gross amount of recognized liabilities for securities lending payable	212,423	315,384
Difference[1]	(15)	(113)

(1) The carrying value of the securities lending collateral held is lower than the securities lending payable due to accrued interest recorded in the securities lending payable

At December 31, 2022 and 2021, the Company's repurchase agreement obligations of $100.2 million and $100.1 million, respectively were fully collateralized. In contrast to securities lending programs, the use of cash received is not restricted for the repurchase obligations. The fair value of the underlying securities sold remains in Fixed maturities available for sale and the repurchase agreement obligation is recorded in Repurchase agreements in the Consolidated balance sheets.

The following table presents the carrying value of collateral pledged under repurchase agreements by investment category and remaining contractual maturity of the underlying agreements as at December 31, 2022 and 2021:

(in thousands of U.S. dollars)	2022			
	Remaining contractual maturity			
Collateral pledged under repurchase agreements	Up to 30 days	30 – 90 days	Greater than 90 days	Total
U.S. Treasury and agency	–	101,473	–	101,473
Gross amount of recognized liabilities for repurchase agreements				100,157
Difference[(1)]				1,316

1. Per the repurchase agreements, the amount of collateral posted is required to exceed the amount of gross liability.

(in thousands of U.S. dollars)	2021			
	Remaining contractual maturity			
Collateral pledged under repurchase agreements	Up to 30 days	30 – 90 days	Greater than 90 days	Total
U.S. Treasury and agency	–	103,080	–	103,080
Gross amount of recognized liabilities for repurchase agreements				100,083
Difference[(1)]				2,997

(1) Per the repurchase agreements, the amount of collateral posted is required to exceed the amount of gross liability.

Potential risks exist in the Company's secured borrowing transactions due to market conditions and counterparty exposure. With collateral that the Company pledges, there is a risk that the collateral may not be returned at the expiration of the agreement. If the counterparty fails to return the collateral, the Company will have free use of the borrowed funds until the collateral is returned. In addition, the Company may encounter the risk that it may not be able to renew outstanding borrowings with a new term or with an existing counterparty due to market conditions including a decrease in demand as well as more restrictive terms from banks due to increased regulatory and capital constraints. Should this condition occur, the Company may seek alternative borrowing sources or reduce borrowings. Additionally, increased margins and collateral requirements due to market conditions would increase restricted assets as the Company is required to provide additional collateral to support the transaction.

(d) Concentrations of credit risk

The Company's investment portfolio is managed following prudent standards of diversification. Specific provisions limit the allowable holdings of a single issue and issuer. The Company believes that there are no significant concentrations of credit risk associated with the investment portfolio. The Company's three largest exposures by issuer at December 31, 2022, were Wells Fargo & Co., Bank of America Corp and Verizon Communications Inc. The Company's largest exposure by industry at December 31, 2022 was financial services.

(e) Other investments

At December 31, 2022, included in Other investments in the Consolidated balance sheet are investments in limited partnerships and partially-owned investment companies with a carrying value of $8.1 billion. In connection with these investments, the Company has commitments that may require funding of up to $5.9 billion over the next several years. At December 31, 2021, these investments had a carrying value of $7.8 billion with a commitment that may require funding of up to $5.9 billion.

(f) Letters of credit

On October 6, 2022, Chubb Group entered into a new group syndicated credit facility through 2027, with capacity of $3.0 billion. This facility consolidated our three existing syndicated facilities with capacity of $2.7 billion.

Overall, the Company has access to credit facilities with letter of credit capacity of $3.9 billion with a sub-limit of $2.6 billion of which can be used as revolving credit. The existing credit facilities have remaining terms expiring through October 2027. At December 31, 2022, the LOC usage was $1.2 billion.

(g) Guarantee

In 2011, the Company entered into a funds withheld security arrangement with Chubb Insurance Limited (Chubb Australia), under which the Company agreed to provide collateral to support reinsurance balances recoverable that Chubb Australia carries in connection with business reinsured from CTR and other Chubb affiliates. The agreement requires collateral to be provided in connection with reinsurance balances recoverable from events that occurred at least two years prior. At December 31, 2022 the funds withheld balance totaled AUD $933.1 million ($639.6 million) of which a maximum of AUD$79.7 million ($54.7 million) could be used to support affiliate balances. At December 31, 2021 the funds withheld balance totaled AUD$711.8 million ($507.6 million) of which a maximum of AUD$69.4 million ($49.5 million) could be used to support other Chubb affiliate balances.

In 2021, each of CTR and a BlackRock affiliate agreed to provide a limited guaranty, on a several and not joint basis, of certain obligations owed by ABR Re to certain financial institutions pursuant to a term-loan credit agreement. CTR receives an annual fee, recorded in Other income in the Consolidated statements of operations, as consideration for the limited guaranty.

(h) Floating Charge

In addition, the Company also utilizes a floating charge over certain assets for the benefit of a affiliated ceding company. Under the agreement, the Company would be required to secure assets in a trust for the benefit of the ceding company upon certain triggering events, such as a rating downgrade below "A" by Standard and Poor's. Although there had been no triggering events, in 2015 the Company elected to fund a trust for the benefit of the ceding company with a balance at December 31, 2022 and 2021 of $741.1 million and $854.4 million, respectively. There have been no triggering events in 2022 or 2021.

(i) Claims and Other Litigation

The Company may be subject to claims litigation involving disputed interpretations of treaty coverages. These lawsuits, involving claims on treaties issued by the Company's subsidiaries which are typical to the reinsurance industry in general and in the normal course of business, are considered in the loss and loss expense reserves. In addition to claims litigation, the Company is subject to lawsuits and regulatory actions in the normal course of business that do not arise from or directly relate to claims on reinsurance treaties. This category of business litigation typically involves, among other things, regulatory activity or disputes arising from the Company's business ventures. In the opinion of management, the ultimate liability for these matters could be, but the Company believes is not likely to be, material to the consolidated financial condition and results of operations.

9. Shareholder's equity

The Company's authorized and issued share capital is $370,000 consisting of 370,000 Common Shares of $1 par value.

During the years ended December 31, 2022 and 2021 dividends amounting to $(4.9) billion and $(1.9) billion respectively, were declared and paid.

10. Fair value measurements

(a) Fair value hierarchy

Fair value of financial assets and financial liabilities is estimated based on the framework established in the fair value accounting guidance. The guidance defines fair value as the price to sell an asset or transfer a liability (an exit price) in an orderly transaction between market participants and establishes a three-level valuation hierarchy based on the reliability of the inputs. The fair value hierarchy gives the highest priority to quoted prices in active markets and the lowest priority to unobservable data.

The three levels of the hierarchy are as follows:

Level 1 – Unadjusted quoted prices for identical assets or liabilities in active markets;

Level 2 – Includes, among other items, inputs other than quoted prices that are observable for the asset or liability such as interest rates and yield curves, quoted prices for similar assets and liabilities in active markets, and quoted prices for identical or similar assets and liabilities in markets that are not active; and

Level 3 – Inputs that are unobservable and reflect management's judgments about assumptions that market participants would use in pricing an asset or liability.

The Company categorizes financial instruments within the valuation hierarchy at the balance sheet date based upon the lowest level of inputs that are significant to the fair value measurement.

The Company uses pricing services to obtain fair value measurements for the majority of the Company's investment securities. Based on management's understanding of the methodologies used, these pricing services only produce an estimate of fair value if there is observable market information that would allow them to make a fair value estimate. Based on the Company's understanding of the market inputs used by the pricing services, all applicable investments have been valued in accordance with GAAP. The Company does not adjust prices obtained from pricing services. The following is a description of the valuation techniques and inputs used to determine fair values for financial instruments carried at fair value, as well as the general classification of such financial instruments pursuant to the valuation hierarchy.

(i) Fixed maturities

The Company uses pricing services to estimate fair value measurements for the majority of the Company's fixed maturities. The pricing services use market quotations for fixed maturities that have quoted prices in active markets; such securities are classified within Level 1. For fixed maturities other than U.S. Treasury securities that generally do not trade on a daily basis, the pricing services prepare estimates of fair value measurements using their pricing applications, or pricing models, which include available relevant market information, benchmark curves, benchmarking of like securities, sector groupings, and matrix pricing. Additional valuation factors that can be taken into account are nominal spreads, dollar basis, and liquidity adjustments. The pricing services evaluate each asset class based on relevant market and credit information, perceived market movements, and sector news. The market inputs used in the pricing evaluation, listed in the approximate order of priority include: benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, reference data, and industry and economic events. The extent of the use of each input is dependent on the asset class and the market conditions. Given the asset class, the priority of the use of inputs may change or some market inputs may not be relevant. Additionally, fixed maturities valuation is more subjective when markets are less liquid due to the lack of market based inputs (i.e., stale pricing), and may require the use of models to be priced. The lack of market based inputs may increase the potential that an investment's estimated fair value is not reflective of the price at which an actual transaction would occur. The overwhelming majority of fixed maturities are classified within Level 2 because the most significant inputs used in the pricing techniques are observable. For a small number of fixed maturities, the Company obtains a single broker quote (typically from a market maker). Due to the disclaimers on the quotes that indicate that the price is indicative only, the Company include these fair value estimates in Level 3.

(ii) Equity securities

Equity securities with active markets are classified within Level 1 as fair values are based on quoted market prices. For equity securities in markets which are less active, fair values are based on market valuations and are classified within Level 2. Equity securities for which pricing is unobservable are classified within Level 3.

(iii) Short-term investments

Short-term investments, which comprise securities due to mature within one year of the date of purchase that are traded in active markets, are classified within Level 1 as fair values are based on quoted market prices. Securities such as commercial paper and discount notes are classified within Level 2 because these securities are typically not actively traded due to their approaching maturity and, as such, their cost approximates fair value. Short-term investments for which pricing is unobservable are classified within Level 3.

(iv) Other investments

Fair values for the majority of Other investments including investments in partially-owned investment companies, investment funds and limited partnerships are based on their respective NAV and are excluded from the fair value hierarchy table below.

(v) Securities lending collateral

The underlying assets included in Securities lending collateral in the Consolidated balance sheets are fixed maturities which are classified in the valuation hierarchy on the same basis as other fixed maturities. Excluded from the valuation hierarchy is the corresponding liability related to the Company's obligation to return the collateral plus interest as it is reported at contract value and not fair value in the Consolidated balance sheets.

(vi) Investment derivative instruments not designated as hedging instruments

Actively traded investment derivative instruments, including futures and exchange-traded forward contracts, are classified within Level 1 as fair values are based on quoted market prices. The fair value of cross-currency swaps and interest rate swaps is based on market valuations and is classified within Level 2. Investment derivative instruments are recorded in either Other assets or Accounts payable, accrued expenses, and other liabilities in the Consolidated balance sheets.

(vii) Other derivative instruments

The Company maintains positions in exchange-traded equity futures contracts designed to limit exposure to a severe equity market decline, which would cause an increase in expected claims and, therefore, an increase in future policy benefit reserves for the Company's GMDB and an increase in the fair value liability for our GLB reinsurance business. The Company's positions in exchange-traded equity futures contracts are classified within Level 1. Further, the Company's positions in the interest rate swap and foreign currency forward contract are valued based on significant observable inputs and are therefore classified within Level 2. Other derivative instruments are recorded in either Other assets or Accounts payable, accrued expenses, and other liabilities in the Consolidated balance sheets.

(viii) Guaranteed living benefits

The GLB arises from life reinsurance programs covering living benefit guarantees whereby the Company assumes the risk of GMIB associated with variable annuity contracts. GLB's are recorded in Accounts payable, accrued expenses, and other liabilities in the Consolidated balance sheets. For GLB reinsurance, the Company estimates fair value using an internal valuation model which includes current market information and estimates of policyholder behavior. All of the treaties contain claim limits, which are factored into the valuation model. The fair value depends on a number of factors, including interest rates, equity markets, credit risk, current account value, market volatility, expected annuitization rates and other policyholder behavior, and changes in policyholder mortality. Because of the significant use of unobservable inputs including policyholder behavior, GLB reinsurance is classified within Level 3.

The following tables present, by valuation hierarchy, the financial instruments measured at fair value on a recurring basis at December 31, 2022 and 2021.

(in thousands of U.S. dollars)	2022			
	Level 1	Level 2	Level 3	Total
Assets:				
Fixed maturities available for sale				
U.S. Treasury / Agency	340,382	23,589	–	363,971
Non-U.S.	–	3,112,519	15,591	3,128,110
Corporate and asset-backed securities	–	3,239,230	2,166	3,241,396
Mortgage-backed securities	–	1,329,330	8,175	1,337,505
Municipal	–	128,791	–	128,791
	340,382	7,833,459	25,932	8,199,773
Equity securities	30,060	–	338	30,398
Short-term investments	241,555	105,951	–	347,506
Investment derivative instruments	7,721	–	–	7,721
Other investments(1)	4,040	–	–	4,040
Other derivative instruments	33,283	45,657	–	78,940
Securities lending collateral	–	212,408	–	212,408
Total assets measured at fair value(1)	657,041	8,197,475	26,270	8,880,786
Liabilities:				
Investment derivative instruments	13,046	–	–	13,046
GLB(2)	–	–	736,336	736,336
Total liabilities measured at fair value	13,046	–	736,336	749,382

(1) Excluded from the table above are partially-owned investment companies, limited partnerships, investment funds and policy loans of $8.5 billion at December 31, 2022 measured using NAV as a practical expedient.

(2) The GLB reinsurance product meets the definition of a derivative instrument for accounting purposes and is accordingly carried at fair value.

(in thousands of U.S. dollars)	2021			
	Level 1	Level 2	Level 3	Total
Assets:				
Fixed maturities available for sale				
U.S. Treasury and agency	345,171	97,739	–	442,910
Foreign	–	4,129,435	6,374	4,135,809
Corporate securities	–	5,572,469	16,501	5,588,970
Mortgage-backed securities	–	3,012,595	18,320	3,030,915
States, municipalities, and political subdivisions	–	254,843	–	254,843
	345,171	13,067,081	41,195	13,453,447
Equity securities	73,491	–	–	73,491
Short-term investments	358,432	38,385	–	396,817
Investment derivative instruments	10,762	–	–	10,762
Other investments(1)	5,370	–	–	5,370
Securities lending collateral	–	315,271	–	315,271
Separate account assets	5,140,479	–	–	5,140,479
Total assets measured at fair value(1)	5,933,705	13,420,737	41,195	19,395,637
Liabilities:				
Investment derivative instruments	9,555	–	–	9,555
Other derivative instruments	15,543	14,201	–	29,744
GLB(2)	–	–	744,817	744,817
Total liabilities measured at fair value	25,098	14,201	744,817	784,116

(1) Excluded from the table above are partially-owned investment companies and investment funds of $8.1 billion at December 31, 2021 measured using NAV as a practical expedient.

(2) The GLB reinsurance product meets the definition of a derivative instrument for accounting purposes and is accordingly carried at fair value.

(b) Level 3 financial instruments

The following table presents the significant unobservable inputs used in the Level 3 liability valuations. Excluded from the table below are inputs used to determine the fair value of Level 3 assets which are based on single broker quotes or net asset value and contain no quantitative unobservable inputs developed by management. The majority of the Company's fixed maturities classified as Level 3 used external pricing when markets are less liquid due to the lack of market inputs (i.e., stale pricing, broker quotes).

(in thousands of U.S. dollars)	Fair Value at December 31, 2022	Valuation Technique	Significant Unobservable Inputs	***Ranges***	Weighted Average(1)
GLB(1)	736,336	Actuarial model	Lapse rate	3% - 30%	3.6%
			Annuitization rate	0% - 100%	4.4%

(1) The weighted average lapse and annuitization rates are determined by weighting each treaty's rates by the GLB contracts fair value.

The most significant policyholder behavior assumptions include lapse rates and the GMIB annuitization rates. Assumptions regarding lapse rates and GMIB annuitization rates differ by treaty, but the underlying methodologies to determine rates applied to each treaty are comparable.

A lapse rate is the percentage of in-force policies surrendered in a given calendar year. All else equal, as lapse rates increase, ultimate claim payments will decrease.

The GMIB annuitization rate is the percentage of policies for which the policyholder will elect to annuitize using the guaranteed benefit provided under the GMIB. All else equal, as GMIB annuitization rates increase, ultimate claim payments will increase, subject to treaty claim limits.

The effect of changes in key market factors on assumed lapse and annuitization rates reflect emerging trends using data available from cedants. For treaties with limited experience, rates are established by blending the experience with data received from other ceding companies. The model and related assumptions are regularly re-evaluated by management and enhanced, as appropriate, based upon additional experience obtained related to policyholder behavior and availability of updated information such as market conditions, market participant assumptions, and demographics of in-force annuities.

In the third quarter of 2022, the Company completed a review of policyholder behavior related to annuitizations, partial withdrawals, lapses, and mortality for its variable annuity reinsurance business. As a result, we refined the Company's policyholder behavior assumptions (mainly those relating to annuitizations and partial withdrawals), which had an insignificant impact on net income. This refinement increased the fair value of GLB liabilities, and resulted in a realized loss of approximately $39.9 million. During the year ended December 31, 2022, we also made routine model refinements to the internal valuation model which had an insignificant impact on net income.

The following tables present a reconciliation of the beginning and ending balances of financial instruments measured at fair value using significant unobservable inputs (Level 3):

(in thousands of U.S. dollars)	*Year ended December 31, 2022*				
	Assets				*Liabilities*
	Available-for-sale debt securities				
	Foreign	*Corporate and asset backed securities*	*MBS*	*Equity securities*	GLB[1]
Balance - Beginning of year	6,374	16,501	18,320	–	744,817
Transfers into Level 3	19,582	11,921	–	164	–
Transfers out of Level 3	(6,374)	(15,170)	(72)	–	–
Change in Net Unrealized Gains (Losses) included in OCI	(1,794)	(237)	–	–	–
Net Realized Gains/Losses	(115)	(409)	–	174	64,242
Purchases	–	525	–	–	–
Sales	(2,119)	(9,923)	–	–	–
Settlements	37	(1,042)	(10,073)	–	–
Other	–	–	–	–	(72,723)
Balance-End of year	15,591	2,166	8,175	338	736,336
Net Realized Gains/Losses Attributable to Changes in Fair Value at the Balance Sheet Date	(1,828)	(171)	–	–	64,242
Change in Net Unrealized Gains/Losses included in OCI at the Balance Sheet Date	–	–	–	–	–

(1) The Company's GLB reinsurance product meets the definition of a derivative instrument for accounting purposes and is accordingly carried at fair value.

(in thousands of U.S. dollars)	*Year ended December 31, 2021*				
	Assets				*Liabilities*
	Available-for-sale debt securities				
	Foreign	*Corporate securities*	*MBS*	*Equity securities*	GLB[(1)]
Balance - Beginning of year	–	17,052	50,300	191	1,089,483
Transfers into Level 3	4,898	15,470	–	–	–
Transfers out of Level 3	(1,443)	(11,878)	–	–	–
Change in Net Unrealized Gains (Losses) included in OCI	726	79	(8)	–	–
Net Realized Gains/Losses	(4,320)	–	–	(191)	(317,028)
Purchases	6,445	11,035	–	–	–
Sales	–	(3,877)	–	–	–
Settlements	68	(11,380)	(31,972)	–	–
Other	–	–	–	–	(27,638)
Balance-End of year	6,374	16,501	18,320	–	744,817
Net Realized Gains/Losses Attributable to Changes in Fair Value at the Balance Sheet Date	–	–	–	(97)	(317,028)
Change in Net Unrealized Gains/Losses included in OCI at the Balance Sheet Date	(43)	(89)	(8)	–	–

(1) The Company's GLB reinsurance product meets the definition of a derivative instrument for accounting purposes and is accordingly carried at fair value.

(c) Financial instruments disclosed, but not measured, at fair value

The Company uses various financial instruments in the normal course of its business. The Company's reinsurance contracts are excluded from fair value of financial instruments accounting guidance and, therefore, are not included in the amounts discussed below.

The carrying values of cash, other assets, other liabilities, and other financial instruments not included below approximated their fair values.

Investments in partially-owned insurance companies

Fair values for investments in partially-owned insurance companies are based on the share of the Company's net assets based on the financial statements provided by those companies and are excluded from the valuation hierarchy tables below.

Repurchase agreements

Where practical, fair values of repurchase agreements are estimated using discounted cash flow calculations based principally on observable inputs including incremental borrowing rates, which reflect the Company's credit rating, for similar types of borrowings with maturities consistent with those remaining for the debt being valued.

The following tables present fair value, by valuation hierarchy, and carrying value of the financial instruments not measured at fair value:

December 31, 2022 (in thousands of U.S. dollars)	Fair Value Level 1	Level 2	Level 3	Total	Net Carrying Value
Assets:					
Fixed Maturities held to maturity:					
Corporate securities	–	104	–	104	91
Mortgage-backed securities	–	2,337	–	2,337	2,362
Total assets	–	2,441	–	2,441	2,453
Liabilities:					
Repurchase agreements	–	100,157	–	100,157	100,157

December 31, 2021 (in thousands of U.S. dollars)	Fair Value Level 1	Level 2	Level 3	Total	Net Carrying Value
Assets:					
Fixed Maturities held to maturity:					
Corporate securities	–	186	–	186	157
Mortgage-backed securities	–	3,034	–	3,034	2,773
Total assets	–	3,220	–	3,220	2,930
Liabilities:					
Repurchase agreements	–	100,083	–	100,083	100,083

11. Other income and expense

Other income and expense mainly includes equity in net income of partially-owned entities, which includes the Company's share of net income or loss, both underlying operating income and mark-to-market movement, related to partially-owned investment companies (private equity) and partially-owned insurance companies. Equity in net income of partially-owned entities includes $14 million and $100 million attributable to our investments in Huatai (Huatai Group, Huatai P&C, and Huatai Life) for the years ended December 31, 2022 and 2021, respectively.

12. Taxation

Under current Bermuda law, the Company and its Bermuda subsidiaries are not required to pay any taxes on income or capital gains. If a Bermuda law were enacted that would impose taxes on income or capital gains, Chubb Limited and the Bermuda subsidiaries have received written assurances from the Minister of Finance in Bermuda that would exempt such companies from Bermudian taxation until March 2035.

The Company should not be considered to be engaged in trade or business in the United States and, accordingly, does not expect to be subject to United States taxation.

The Company does conduct business through non-US branches and subsidiaries domiciled in taxable jurisdictions.

13. Statutory financial information

The Company is registered under The Insurance Act 1978 (Bermuda), amendments thereto and related regulations (the Act) as a Class E insurer. Effective January 1, 2016, Bermuda implemented a new solvency and risk management regime which has been deemed equivalent to the EU's Solvency II regime. Bermuda statutory reporting rules have been amended to introduce an economic balance sheet (EBS) framework. The Company calculates statutory capital using the Bermuda Statutory Capital Requirement (BSCR) model. The BSCR is a risk-based capital model that measures risk to determine an enhanced capital requirement and target capital level (defined as 120 percent of the enhanced capital requirement (ECR)) for Class E insurers.

Statutory capital and surplus of the Company was $8.8 billion and $13.5 billion at December 31, 2022 and 2021, respectively. For the years ended December 31, 2022 and 2021, the ECR was $5.7 billion and $5.6 billion, respectively. The minimum solvency margin required at December 31, 2022 was met by the Company.

CTR, as a wholly-owned subsidiary of the Company, is registered under the Act as a Class 4 insurer. The Act requires CTR to meet a minimum solvency margin and a minimum liquidity ratio. CTR has satisfied these requirements for 2022 and 2021. For Class 4 insurers, the target capital level as calculated by the BSCR is defined as 120 percent of the ECR. For the year ended December 31, 2022 the Company had statutory economic capital and surplus of $8.7 billion (2021: $12.8 billion) which exceeded the ECR of $5.5 billion (2021: $5.4 billion).

A Class 4 insurer is prohibited from declaring or paying a dividend if in breach of its ECR, solvency margin or minimum liquidity ratio or if the declaration or payment of such dividend would cause such a breach. Where an insurer fails to meet its solvency margin or minimum liquidity ratio on the last day of any financial year, it is prohibited from declaring or paying any dividends during the next financial year without the approval of the Bermuda Monetary Authority (the Authority). Further, a Class 4 insurer is prohibited from declaring or paying in any financial year dividends of more than 25 percent of its total statutory capital and surplus (as shown on its previous financial year's statutory balance sheet) unless it files (at least seven days before payment of such dividends) with the Authority an affidavit signed by at least two directors and the insurer's principal representative stating that the declaration of such dividends has not caused the insurer to fail to meet its solvency margin or minimum liquidity ratio. Class 4 insurers must obtain the Authority's prior approval for a reduction by 15 percent or more of the total statutory capital as set forth in its previous year's statutory financial statements.

14. Subsequent events

The Company has performed an evaluation of subsequent events through April 28, 2023, which is the date that the financial statements were issued.

No significant subsequent events requiring disclosure were identified.