CHUBB BERMUDA INSURANCE LTD. AND SUBSIDIARIES
CONSOLIDATED FINANCIAL STATEMENTS
DECEMBER 31, 2022 AND 2021



April 27, 2023

Report of Independent Auditors

To the Board of Directors and Shareholder of Chubb Bermuda Insurance Ltd.

Opinion

We have audited the accompanying consolidated financial statements of Chubb Bermuda Insurance 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,

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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 judgement made by a reasonable user based on the consolidated financial statements.

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

- Exercise professional judgement 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 judgement, 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.

Required supplemental information

Accounting principles generally accepted in the United States of America require that the required supplemental information pertaining to *Short-Duration Contracts* disclosures labelled as "Unaudited" within Note 6 on pages 22 to 24 be presented to supplement the basic consolidated financial statements. Such information is the responsibility of management and, although not a part of the basic consolidated financial statements, is required by the Financial Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic consolidated financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplemental information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic consolidated financial statements, and other knowledge we obtained during our audit of the basic consolidated financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Com Ul.

Chartered Professional Accountants

CHUBB BERMUDA INSURANCE LTD. AND SUBSIDIARIES CONSOLIDATED BALANCE SHEETS December 31, 2022 and 2021

		2022		2021
	-	(in thousands of U.S and per		
Assets				
Investments				
Fixed maturities available for sale, at fair value, net of valuation allowance – \$11,008 and \$1,488 (amortized cost \$2,365,311 and \$3,371,009)	\$	2,191,381	\$	3,536,615
Fixed maturities held to maturity, at amortized cost, net of valuation allowance – \$16 and \$19 (fair value \$122 and \$168)		115		146
Equity securities, at fair value		4,997		9,596
Short-term investments, at fair value and amortized cost		91,452		214,938
Other investments, at fair value		1,278,509		1,424,917
Total investments	_	3,566,454		5,186,212
Cash		322,449		125,404
Securities lending collateral		34,991		132,842
Accrued investment income		23,861		34,568
Insurance and reinsurance balances receivable		120,509		119,387
Reinsurance recoverable on losses and loss expenses, net of valuation allowance - \$14,820 and \$13,121		1,232,262		810,821
Deferred policy acquisition costs		18,019		13,830
Value of reinsurance business assumed		9,787		10,894
Prepaid reinsurance premiums		137,003		144,056
Amounts due from parent and affiliates		27,789		30,826
Investment in partially owned insurance companies		671,143		726,093
Other assets		64,950		68,893
Total assets	\$	6,229,217	\$	7,403,826
Liabilities				
Unpaid losses and loss expenses	\$	2,951,434	\$	2,370,870
Unearned premiums		495,551		470,645
Insurance and reinsurance balances payable		156,648		143,057
Deposit liabilities		111,028		170,774
Securities lending payable		34,991		132,842
Payable for securities purchased		14,306		23,997
Accounts payable, accrued expenses, and other liabilities		15,670		22,698
Amounts due to parent and affiliates	_	150,396		129,683
Total liabilities	_	3,930,024	_	3,464,566
Shareholder's equity				
Common shares (\$1.00 par value, 1 shares authorized, issued and outstanding)		1,250		1,250
Additional paid-in capital		1,881,516		1,881,516
Retained earnings		492,241		1,796,315
Accumulated other comprehensive (loss)/income	_	(75,814)		260,179
Total shareholder's equity	_	2,299,193		3,939,260
Total liabilities and shareholder's equity	\$_	6,229,217	\$ <u></u>	7,403,826

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

CHUBB BERMUDA INSURANCE LTD. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME For the years ended December 31, 2022 and 2021

	2022		2021
	(in thousands	of U.S.	dollars)
Revenues			
Gross premiums written	\$ 1,101,764	\$	1,004,370
Reinsurance premiums ceded	 (305,931)		(304,598)
Net premiums written	795,833		699,772
Increase in unearned premiums	 (31,958)		(31,463)
Net premiums earned	763,875		668,309
Net investment income	117,932		144,177
Net realized (losses)/gains	(97,154)		20,851
Other (losses)/income	(139,784)		410,723
Total revenues	644,869		1,244,060
Expenses			
Losses and loss expenses	248,131		205,910
Policy acquisition costs	50,759		38,563
Administrative expenses	50,008		45,997
Total expenses	348,898		290,470
Income before income tax	295,971		953,590
Income tax (expense)/credit	(45)		244
Net income	\$ 295,926	\$	953,834
Other comprehensive income			
Unrealized depreciation and other arising during the year	\$ (459,861)	\$	(60,949)
Reclassification adjustment for net realized losses/(gains) included in net income	122,371		(19,106)
Other comprehensive loss before income tax	 (337,490)		(80,055)
Income tax credit related to other comprehensive income items	1,497		275
Other comprehensive (loss)	 (335,993)		(79,780)
Comprehensive (loss)/income	\$ (40,067)	\$	874,054

CHUBB BERMUDA INSURANCE LTD. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF SHAREHOLDER'S EQUITY For the years ended December 31, 2022 and 2021

	_	2022 (in thousands	s of U.S.	2021 dollars)
Common shares				
Balance – beginning of year and end of year	\$	1,250	\$	1,250
Additional paid-in capital				
Balance – beginning of year and end of year		1,881,516		1,881,516
Retained earnings				
Balance – beginning of year		1,796,315		1,712,481
Dividends		(1,600,000)		(870,000)
Net income		295,926		953,834
Balance – end of year		492,241		1,796,315
Accumulated other comprehensive income/(loss)				
Net unrealized appreciation/(depreciation) on investments and other				
Balance – beginning of year		260,179		339,959
Other comprehensive (loss)		(335,993)		(79,780)
Balance – end of year		(75,814)		260,179
Total shareholder's equity	\$	2,299,193	\$	3,939,260

CHUBB BERMUDA INSURANCE LTD. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF CASH FLOWS For the years ended December 31, 2022 and 2021

	2022	2021			
	(in thousands	of U.S.	J.S. dollars)		
Cash flows from operating activities					
Net income	\$ 295,926	\$	953,834		
Adjustments to reconcile net income to net cash flows from operating activities:					
Net realized losses/(gain)	97,154		(20,851)		
Amortization of discount on fixed maturities	(549)		(3,564)		
Equity earnings, net of dividends received	143,633		(404,481)		
Accrued investment income	10,764		2,808		
Insurance and reinsurance balances receivable	11,516		(9,252)		
Deferred policy acquisition costs	(4,189)		(4,485)		
Value of reinsurance business assumed	1,107		1,178		
Unpaid losses and loss expenses	159,039		93,770		
Unearned premiums	31,957		31,463		
Insurance and reinsurance balances payable	34		15,196		
Accounts payable, accrued expenses, and other liabilities	(2,702)		(677)		
Other	4,375		16,178		
Net cash flows from operating activities	\$ 748,065	\$	671,117		
Cash flows from investing activities					
Purchases of fixed maturities available for sale	(1,696,374)		(1,035,681)		
Purchases of equity securities	-		(3,012)		
Sales of fixed maturities available for sale	2,336,839		359,973		
Sales of equity securities	3,150		2,036		
Maturities and redemptions of fixed maturities available for sale	251,529		657,575		
Maturities and redemptions of fixed maturities held to maturity	34		48		
Net change in short-term investments	125,665		151,386		
Net settlements of investment derivatives	28,942		5,299		
Other investments	(608)		(475)		
Net cash flows from investing activities	\$ 1,049,177	\$	137,149		
Cash flows used for financing activities					
Dividends paid	(1,600,000)		(870,000)		
Intercompany loans	-		60,182		
Net cash flows (used for) financing activities	\$ (1,600,000)	\$	(809,818)		
Effect of foreign currency rate changes on cash and cash equivalents	(197)		(2,094)		
Net increase/(decrease) in cash	\$ 197,045	\$	(3,646)		
Cash – beginning of year	125,404		129,050		
Cash – end of year	\$ 322,449	\$	125,404		

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

1. General

Chubb Bermuda Insurance Ltd. (collectively the Company, we, or our) is an indirect wholly owned subsidiary of Chubb Limited (Chubb).

The Company wholly owns the following insurance subsidiaries: Corporate Officers & Directors Assurance Limited (CODA), ACE Capital Title Reinsurance Company, and Paget Reinsurance Ltd. In addition, the Company wholly owns Sovereign Risk Insurance Limited, a general managing agency. The Company is also an investor in Huatai Group and Freisenbruch Meyer, both are partially owned insurance companies.

2. Principal Business

The Company and its subsidiaries provide property and casualty insurance and reinsurance coverage for a diverse group of international clients across a broad range of businesses including excess liability, financial lines, excess property and political risk. The nature of the coverage provided is generally expected to result in low frequency but high severity individual losses. The reinsurance market is an integral part of the risk management strategy of the Company and coverage has been secured on most major lines of business.

During the years ended December 31, 2022 and 2021, the Company entered into certain related party transactions as described in Note 10.

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 (consisting of normally recurring accruals) necessary for a fair statement of the results and financial position for such periods. All significant intercompany accounts and transactions have been eliminated.

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;
- reinsurance recoverable, including a valuation allowance for uncollectible reinsurance; and
- the valuation of the investment portfolio and assessment of valuation allowance for expected credit losses

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 term of the policy. The remaining annual premiums are recorded as written at each successive anniversary date within the multi-year term.

Premiums written are primarily earned on a pro rata basis over the terms of the policies to which they relate. Unearned premiums represent the portion of premiums written applicable to the unexpired portion of the policies in force. 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.

c) Policy acquisition costs

Policy acquisition costs consist of gross and ceded commissions and premium taxes. Acquisition costs are deferred and amortized over the period in which the related premiums are earned. This amortization is recorded in policy acquisition costs in the Consolidated statements of operations. Where ceding commissions exceed gross commissions a deferred acquisition cost liability exists. The 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.

d) Value of reinsurance business assumed

The value of reinsurance business assumed represents the excess of estimated ultimate value of the liabilities assumed under retroactive reinsurance contracts over consideration received. The value of reinsurance business assumed is amortized and recorded to losses and loss expenses based on the payment pattern of the losses assumed

and ranges between 9-40 years. 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.

e) 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 obtain reinsurance status for accounting purposes, 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 analyses at contract inception. Deposit accounting is used for contracts that do not meet risk transfer requirements. Deposit accounting requires that consideration received or paid be recorded in the balance sheet as opposed to recording premiums written or losses incurred in the statement of operations. Non-refundable fees on deposit contracts are earned based on the terms of the contract. Refer to Note 3 (i).

Reinsurance recoverable includes the balances due from reinsurance companies for paid and unpaid loss and loss expenses that will be recovered from reinsurers, based on contracts in force. The method for determining the reinsurance recoverable on unpaid loss and loss expenses incurred but not reported (IBNR) involves actuarial estimates consistent with those used to establish the associated liability for unpaid loss and loss expenses as well as a determination of the Company's ability to cede unpaid loss 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 reinsurers and other factors. The valuation allowance for uncollectible reinsurance is based on an estimate of the amount of the reinsurance recoverable balance that the Company will ultimately be unable to recover 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 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 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.

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

f) Investments

Fixed maturity investments, 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 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 fixed maturities due to mature within one year of the date of purchase and are recorded at fair value which typically approximates amortized 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 statement 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. We 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 our 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. Chubb 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 we generate 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:

- We have sufficient information to determine that the issuer of the security is insolvent;
- We receive 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;

We have received correspondence from the issuer of the security indicating that it doesn't intend to pay the
contractual principal and interest.

We 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

Partially owned investment companies

Partially owned investment companies where our ownership interest is in excess of three percent for limited partnerships 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 (losses)/income.
- 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.

<u>Investment in partially owned insurance companies</u>

Investment in partially owned insurance companies primarily represents a direct investment in which the Company has significant influence and as such meet the requirements for equity accounting. The Company reports its share of the net income or loss of the partially owned insurance companies in other (losses)/income.

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 we earn 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 us 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.

Derivative instruments

The Company recognizes all derivatives 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 (losses) gains in the Consolidated statements of operations. We did not designate any derivatives as accounting hedges. The Company participates in derivative instruments to mitigate financial risks and manage certain investment portfolio risks and exposures, including assets and liabilities held in foreign currencies. We use derivative instruments including futures, options, and foreign currency forward contracts. Refer to Note 8 for additional information.

Collateral held by brokers equal to a percentage of the total value of open futures contracts or options is included in the investment portfolio.

g) 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 (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.

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 policies 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. These amounts include provision for both reported claims (case reserves) and IBNR claims. 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. We do not discount our 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 and disclosure, management views prior period development to be changes in the nominal value of loss estimates from period to period and 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 (losses)/gains, these items are included in current year losses.

i) Deposit liabilities

Deposit liabilities have been recorded associated with a variable interest entity in connection with a reinsurance treaty that we are a party to. The determination to include these deposit liabilities in our Consolidated financial statements is based on certain terms of the reinsurance treaty described in Note 5.

j) Translation of foreign currencies

Revenues and expenses and the related unearned premiums and deferred acquisition costs denominated in non-U.S. dollar currencies are translated into U.S. dollars at the rates of exchange at the transaction date. Monetary assets and liabilities are translated at the rates of exchange in effect at the end of the period. Transaction gains and losses resulting from foreign currency transactions are recorded in net realized (losses)/gains.

k) New accounting pronouncements

Accounting guidance not yet adopted

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 policies with market risk benefits 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 uppermedium grade fixed income instrument yield, which will be updated each quarter with the impact recorded through other comprehensive income.

Upon adoption on January 1, 2023, we will record a cumulative effect adjustment and decrease Shareholders' equity at December 31, 2022 by \$60.7 million.

4. Investments

Fixed maturities

				2022				
	Amortized Cost	Valuation Allowance		Gross Unrealized Appreciation		Gross Unrealized Depreciation	Fair Value	
		(in	the	ousands of U.S.	. do	ollars)		
Available for sale								
U.S. Treasury and agency \$	92,084	\$ -	\$	2,710	\$	(3,851) \$	90,943	
Non-U.S.	205,978	(1,548)		1,653		(16,578)	189,505	
Corporate securities	1,434,072	(9,460)		3,166		(119,607)	1,308,171	
Mortgage-backed securities	515,896	-		292		(28,771)	487,417	
Municipal	117,281	-		1,631		(3,567)	115,345	
\$	2,365,311	\$ (11,008)	\$	9,452	\$	(172,374) \$	2,191,381	
	Amortized Cost	 Valuation Allowance	_	Net Carrying Value	_	Gross Unrealized Appreciation	Gross Unrealized Depreciation	 Fair Value
Held to maturity								
Mortgage-backed securities \$	131	\$ (16)	\$	115	\$	7 \$	-	\$ 122

HTM securities according to S&P rating are all rated BB.

						2021					
		Amortized Cost		Valuation Allowance		Gross Unrealized Appreciation		Gross Unrealized Depreciation		Fair Value	
			-	(in	thousands of U.S	s. d	lollars)	-		
Available for sale											
U.S. Treasury and agency	\$	102,573	\$	-	\$	20,284	\$	(231) 5	\$	122,626	
Non-U.S.		357,500		(39)		21,204		(1,509)		377,156	
Corporate securities		2,202,666		(1,449)		112,210		(11,021)		2,302,406	
Mortgage-backed securities		595,323		-		15,697		(3,934)		607,086	
Municipal		112,947		-		14,405		(11)		127,341	
	\$	3,371,009	\$	(1,488)	\$	183,800	\$	(16,706)	\$ _	3,536,615	
		Amortized Cost		Valuation Allowance		Net Carrying Value		Gross Unrealized Appreciation		Gross Unrealized Depreciation	Fair Valu
Held to maturity			-		•		•				
Mortgage-backed securities	\$	165	\$	(19)	\$	146	\$	22 5	\$ -	_	\$ 10

HTM securities according to S&P rating are all rated BB.

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

		2022							
	Net Carrying Value		Fair Value						
	(in thousand	(in thousands of U.S. dollars)							
Available for sale; maturity period									
Due in 1 year or less \$	48,501	\$	48,501						
Due after 1 year through 5 years	628,090		628,090						
Due after 5 years through 10 years	698,009		698,009						
Due after 10 years	329,364		329,364						
	1,703,964		1,703,964						
Mortgage-backed securities	487,417		487,417						
\$	2,191,381	\$	2,191,381						
Held to maturity; maturity period									
Mortgage-backed securities \$	115	\$	122						

a) Gross unrealized loss

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

	0 – 12 Months				Over 1	2 N	Ionths		Total			
	Fair Value		Gross Unrealized Loss	•	Fair Value		Gross Unrealized Loss	-	Fair Value		Gross Unrealized Loss	
					(in thousands	of	U.S. dollars)	-				
U.S. Treasury/Agency	\$ 42,410	\$	(2,451)	\$	8,797	\$	(1,400)	\$	51,207	\$	(3,851)	
Non-U.S.	109,388		(9,643)		20,215		(2,816)		129,603		(12,459)	
Corporate securities	905,187		(69,096)		128,604		(16,340)		1,033,791		(85,436)	
Mortgage-backed securities	361,662		(19,855)		98,907		(8,894)		460,569		(28,749)	
Municipal	61,969		(3,338)		1,456		(229)		63,425		(3,567)	
Total	\$ 1,480,616	\$	(104,383)	\$	257,979	\$	(29,679)	\$	1,738,595	\$	(134,062)	

2021

		0 – 12 Months			Over 1	Months		Total			
	•	Fair Value		Gross Unrealized Loss	 Fair Value		Gross Unrealized Loss	•	Fair Value		Gross Unrealized Loss
			•		(in thousands	of	U.S. dollars)	•			
U.S. Treasury/Agency	\$	9,947	\$	(231)	\$ -	\$	_	\$	9,947	\$	(231)
Non-U.S.		75,921		(1,192)	8,593		(317)		84,514		(1,509)
Corporate securities		380,440		(6,627)	32,072		(915)		412,512		(7,542)
Mortgage-backed securities		254,776		(3,789)	4,561		(145)		259,337		(3,934)
Municipal		1,674		(11)	-		-		1,674		(11)
Total	\$	722,758	\$	(11,850)	\$ 45,226	\$	(1,377)	\$	767,984	\$	(13,227)

b) Net realized (losses) gains

The following table presents the net realized losses and the losses included in net realized and the change in net unrealized appreciation (depreciation) on investments.

		2022	2021		
		(in thousands	of U.S	. dollars)	
Fixed maturities available for sale:					
Gross realized gains excluding OTTI	\$	15,635	\$	16,845	
Gross realized losses excluding OTTI		(120,902)		(2,526)	
Recovery of expected credit losses		(9,349)		1,051	
Impairment (i)		(6,668)		(47)	
Total fixed maturities		(121,284)		15,323	
Equity securities		(1,087)		3,784	
Investment and embedded derivative instruments		25,752		4,851	
Foreign exchange loss		(535)		(3,107)	
Net realized (losses) gains	\$	(97,154)	\$	20,851	
Change in net unrealized depreciation and other on investments:					
Fixed maturities available for sale	\$	(341,026)	\$	(76,470)	
Short-term and other investments		3,536		(3,586)	
Income tax recovery		1,497		275	
Change in net unrealized depreciation and other on investments	_	(335,993)		(79,780)	
Total net realized losses and change in net unrealized depreciation and other on investments	\$	(433,147)		(58,930)	

⁽i) Relates to certain securities the Company intended to sell and securities written to market entering default.

Realized gains and losses from equity securities include both sales of securities and unrealized gains and losses as follows:

	2022		2021
	(in thousands	of U	.S. dollars)
Net (losses) gains recognized during the period	\$ (1,087)	\$	3,784
Less: Net gains (losses) recognized from sales of equity securities	2,603		(659)
Unrealized gains recognized for equity securities still held at reporting date	\$ 1,516	\$ _	3,125

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

	2022	2021
	(in thousands	of U.S. dollars)
Available for sale		
Valuation allowance for expected credit losses - beginning of period \$	1,488	\$ 2,706
Provision for expected credit loss	14,566	3
Initial allowance for purchased securities with credit deterioration	19	-
Foreign currency revaluation	20	-
Recovery of expected credit loss	(5,085)	(1,221)
Valuation allowance for expected credit losses - end of period \$	11,008	\$ 1,488
Held to maturity		
Valuation allowance for expected credit losses - beginning of period \$	19	\$ 8
Provision for expected credit loss	2	18
Recovery of expected credit loss	(5)	(7)
Valuation allowance for expected credit losses - end of period \$	16	\$ 19

Purchased credit deterioration (PCD) securities

During the years ended December 31, 2022 and December 31, 2021 we did not purchase securities with credit deterioration categorized as available for sale.

c) Other investments

Other investments primarily include investments in two highly diversified investment partnerships that invest in a variety of investment styles such as long/short equity, and arbitrage/distressed. Included in limited partnerships and partially owned investment companies are 59 individual limited partnerships covering a broad range of investment strategies including large cap buyouts, specialist buyouts, growth capital, distressed, mezzanine, real estate, and coinvestments. 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. These investments are measured at fair value using NAV as a practical expedient.

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

		December	r 31, 2022		December 31, 2021		
	Expected Liquidation Period of Underlying Assets	Fair Value	Maximum Future Funding Commitments		Fair Value	Maximum Future Funding Commitments	
			(in thousands	of $\overline{\mathrm{U}}$.	S. dollars)		
Financial	2 to 10 Years	\$ 309,828	157,127	\$	294,117	50,362	
Real Assets	2 to 13 Years	69,975	46,384		38,051	81,642	
Distressed	2 to 8 Years	108,243	53,179		103,084	70,679	
Private Credit	3 to 8 Years	7,383	12,396		22,957	12,592	
Traditional	2 to 14 Years	713,552	262,641		836,586	289,866	
Vintage	1 to 2 Years	5,871	-		6,933	-	
Investment Funds	Not Applicable	124,326	-		89,227	-	
		\$ 1,339,178	531,727	\$	1,390,955	505,141	

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 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

Investment funds

The Company's 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 range up to 270 days. The Company can redeem its investment funds without consent from the investment fund managers.

d) Investment in partially owned insurance companies

The Company has investments in partially owned insurance companies over which the Company has significant influence and meets the requirements for the equity method of accounting. The balance is primarily comprised of a 10.9% (2021 – 10.9%) investment in Huatai Group, a Chinese domiciled insurance company, with carrying value of \$660.4 million (2021 - \$716.0 million) with Goodwill of \$356.1 million (2021 - \$388.8 million). Chubb also maintains a direct investment in Huatai Group and the collective ownership establishes significant influence.

e) Net investment income

Investment income mainly comprises interest on fixed maturities of \$111.7 million (2021 - \$149.0 million) offset by investment expense of \$5.8 million (2021 - \$7.7 million).

f) Other income

Other income mainly comprises equity in net income of partially owned investment companies and partially owned insurance companies over which the Company exercises significant influence.

g) Restricted assets

The Company has investments in segregated portfolios held in trust accounts to fund unpaid losses and loss expenses as required under the terms of certain insurance and reinsurance agreements. Restricted assets as at December 31, 2022 of \$362 million (2021 - \$423 million) are included in fixed maturities and short-term investments.

5. Variable interest entity

The Company entered into an excess of loss reinsurance agreement in 2003 on a block of long-term disability reinsurance. In accordance with the terms of the reinsurance agreement a separate trust has been established for the benefit of the ceding company. Upon the expiration of the reinsured liabilities, the Company is entitled to the remainder of the assets, less a \$2 million margin. The Company absorbs the majority of the expected losses and receives a majority of the expected residual returns on investment results of the trust assets. These Consolidated financial statements include the trust assets with an aggregate value of \$241.1 million (2021 – \$282.0 million) and corresponding liabilities. The assets are primarily included in fixed maturities available for sale. The Company's estimate of its direct liability under the excess of loss reinsurance agreement is reflected in unpaid losses and loss expenses.

6. 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 policies 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 we believe that our reserves for unpaid losses and loss expenses at December 31, 2022 are adequate, new information or trends may lead to future developments in incurred loss 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 our 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.

		2022		2021
	_	(in thousands	of U.	S. dollars)
Gross unpaid losses and loss expenses, beginning of year	\$	2,370,870	\$	2,403,899
Reinsurance recoverable on unpaid losses		(806,358)		(930,588)
Net unpaid losses and loss expenses, beginning of year	_	1,564,512		1,473,311
Net losses and loss expenses incurred in respect of losses occurring in:				
Current year		374,708		342,881
Prior years		(126,577)		(136,971)
Total	_	248,131		205,910
Net losses and loss expenses paid in respect of losses occurring in:				
Current year		(9,973)		(9,398)
Prior years		(72,782)		(103,892)
Total	_	(82,755)		(113,290)
Other movements:				
Value of reinsurance business assumed		(1,107)		(1,178)
Foreign exchange revaluation		78		(241)
Total	_	(1,029)		(1,419)
Net unpaid losses and loss expenses, end of year	\$ =	1,728,859	\$	1,564,512
Represented by:				
Gross unpaid losses and loss expenses, end of year	\$	2,951,434	\$	2,370,870
Reinsurance recoverable on unpaid losses, end of year	Ψ	(1,222,575)	4	(806,358)
	\$	1,728,859	\$ —	1,564,512
	_		_	

As indicated in the table above, the prior period development for loss and loss expenses was net favorable of \$127 million in 2022. This result is driven by favorable development of \$71 million in short-tailed lines driven by favorable development in excess property for all prior period years except 2020 which has unfavorable development on known claims. There was favorable development of \$56 million in long-tailed lines due to favorable development on known claims, notably in the 2012 and 2015 report years, offset by unfavorable development on known claims in the 1997, 2003 and 2019 years.

The 2021 prior period development for loss and loss expenses was net favorable of \$137 million. This result is driven by favorable development of \$76 million in long-tailed lines due to favorable development on known claims in the 2014 and prior accident or report years offset by unfavorable development on known claims in the 2012, 2017, 2018 and 2019 years. There was favorable development of \$61.0 million in short-tailed lines driven by favorable development in excess property for all prior period years except 2017 which has unfavorable development on known claims.

The following table presents a reconciliation of the loss development tables above to the gross loss reserve liability in the Consolidated balance sheets.

		2022
		thousands of U.S. dollars)
Presented in the loss development tables:		
Long-tail	\$	1,430,839
Short-tail Short-tail		188,594
Excluded from loss development tables:		
Other		67,161
Net unpaid loss and allocated loss adjustment expense		1,686,594
Ceded unpaid loss and allocated loss adjustment expense:		
Long-tail		961,589
Short-tail		275,806
Ceded unpaid loss and allocated loss adjustment expense		1,237,395
Unpaid unallocated loss adjustment expenses	_	27,445
Gross unpaid loss and loss adjustment expense	\$	2,951,434

Business excluded from the loss development tables

"Other" shown in the reconciliation table above comprises businesses excluded from the loss development tables for subsets of our business due to data limitations or unsuitability to the development table presentation, including:

- Loss portfolio transfers, which we underwrite at various times; by convention, all premium and losses
 associated with these transactions are recorded to the policy period of the transaction, even though the accident
 dates of the claims covered may be a decade or more in the past. We also underwrite certain high attachment,
 high limit, multiple-line and excess of aggregate coverages for large commercial clients. Changes in incurred
 loss and cash flow patterns are volatile and sufficiently different from those of typical insureds.
- Alternative risk solutions business which is in runoff.

a) Description of reserving methodologies

Our 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 reserves 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 our 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, claims, legal, and finance departments and culminates with the input of the reserve committee. The reserve committee includes the participation of the relevant parties from actuarial, finance, claims, and unit senior management and has the responsibility for finalizing, recommending and approving the estimate to be used as management's best estimate. Reserves are further reviewed by Chubb's Chief Actuary and senior management. The objective of such a process is to determine a single estimate that we believe 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 the 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;
- inflation;
- the legal environment;
- facts and circumstances of large claims;
- terms and conditions of the contracts sold to our insured parties;
- impact of applicable reinsurance recoveries; and
- nature and extent of underlying assumptions.

We have actuarial staff who analyze loss reserves (including loss expenses) and regularly project estimates of ultimate losses and the corresponding indications of the required IBNR reserve. Our reserving approach is a comprehensive ground-up process using data at a detailed level that reflects the specific types and coverages of our diverse product offering. The data presented in this disclosure was prepared on a more aggregated basis and with a focus on changes in incurred loss estimates over time as well as associated cash flows. We note that data prepared on this basis may not demonstrate the full spectrum of characteristics that are evident in the more detailed level studied internally.

We perform an actuarial reserve review for each product line at least once a year. 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.

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, we may use other recognized actuarial methods and approaches. Implicit in the standard actuarial methods that we generally utilize 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).

Our 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 our 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. We usually apply 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 actually occurs. This would include most excess property policies that we write. Due to the short reporting and development pattern for these product lines, the uncertainty associated with our estimate of ultimate losses for any particular accident period diminishes relatively quickly as actual loss experience emerges. We typically assign 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 claims department, in conjunction with underwriters and actuaries, of our exposure and estimated losses immediately following an event and then subsequent revisions of the estimated losses as our 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 and financial lines, as well as political risk policies. There are various factors contributing to the uncertainty and volatility of long-tail business. Among these are:

- The nature and complexity of underlying coverage provided and net limits of exposure provided;
- Our 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 our reserve analysis we may utilize industry loss ratios or industry
 benchmark development patterns that we believe 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 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.

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 our 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).
- The amounts in both triangles for the years ended December 31, 2013 to December 31, 2022 and average historical claim duration 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 note on a constant-currency basis, which is achieved by assuming constant foreign exchange rates between 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 U.S. GAAP

disclosures of incurred prior period reserve development amounts, which include the effect of fluctuations in exchanges rates.

We provided guidance above on key assumptions that should be considered when reviewing this disclosure and information relating to how loss reserve estimates are developed. We believe 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.

Cumulative number of reported claims

Reported claim counts, on a cumulative basis, are provided to the far right of each paid loss development table. We generally consider a reported claim to be one claim per coverage per claimant. We exclude claims closed without payment. Use of the presented claim counts in analysis of company experience has significant limitations, including:

- Within Financial Lines, Professional liability and certain other lines have a high proportion of claims reported which will be closed without any payment; shifts in total reported counts may not meaningfully impact reported and ultimate loss experience.
- Claims for certain events and/or product lines, such as portions of assumed reinsurance are not reported on an individual basis, but rather in bulk and thus not available for inclusion in this disclosure.

Reported claim counts include reported claims which have paid loss or case reserves and exclude claims that have been incurred but not reported. As such the reported claims are consistent with reported losses, which can be calculated by subtracting incurred but not reported losses from incurred losses. Reported claim counts are inconsistent with losses in the incurred loss triangle, which include incurred but not reported losses, and are also inconsistent with losses in the paid loss triangle, which exclude case reserves.

Long-tail

This business consists of excess liability exposures, including medical liability, political risk and financial lines, including directors and officers' liability, errors and omissions liability, employment practices liability, and fiduciary liability.

Net Incurred Loss and Allocated Loss Adjustment Expense Reported at Years Ended December 31

(in thousa	ands of U.S	S. dollars)									2022
Accident				1	Unaudited					Audited	Net IBNR
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Reserves
2013	\$151,938	151,829	151,550	\$151,550	\$130,368	151,346	\$151,349	\$46,941	\$43,847	\$ 43,568	\$ 20,261
2014		156,829	156,145	156,121	\$155,086	155,227	\$154,966	154,951	27,396	24,667	10,026
2015			143,919	169,214	\$234,291	255,136	\$230,998	230,969	230,954	153,033	43,634
2016				137,470	\$138,764	150,184	\$149,615	131,773	131,902	119,652	83,602
2017					\$140,292	190,586	\$237,311	267,339	253,349	240,058	132,860
2018						177,995	\$220,166	237,813	291,603	285,411	91,980
2019							\$174,948	137,142	192,053	208,311	183,215
2020								211,344	191,111	173,186	139,998
2021									225,653	209,858	207,174
2022										233,181	231,294
									Total	\$1,690,926	

(in thousan	ds of U.S.	. dollars)									2022
Accident					Unaudite	d				Audited	Reported
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Claims
2013	\$ 1,815	\$ 4,754	\$ 5,075	\$ 5,298	\$ 5,485	\$ 5,813	\$ 7,061	\$13,520	\$19,082	\$ 20,859	\$ 47
2014		5,149	8,752	9,988	10,410	10,587	10,718	14,534	14,544	14,639	82
2015			659	1,656	2,689	65,661	75,942	88,536	103,981	109,231	63
2016				3,538	19,572	14,636	15,598	19,961	20,501	21,014	87
2017					866	9,140	10,357	83,303	88,341	104,866	90
2018						860	70,165	128,602	175,700	183,308	110
2019							1,402	5,177	8,320	24,887	73
2020								3,772	21,067	33,072	49
2021									657	2,327	51
2022										726	20
									Total	\$514,930	
Net Liabili	ties for Cl	laims and	Allocated	Claim A	djustment	Expenses	5				2022
For acciden	t years pri	or to 2013								\$	254,843
For all accid	dent years									\$	1,430,839
Supplementa	ary Inform	ation: Ave	rage Annua	al Percenta	ige Payout	of Net Incu	rred Claim	is by Age, a	s of Decem	nber 31, 2022	2
Age in Year	rs 1		2	3	4	5	6	7	8	9	10
Percentage	19	6 8	3%	6%	19%	3%	5%	6%	5%	8%	4%

Short-tail

Short-tail represents product lines that are short-tailed in nature, such as excess property (including property catastrophe, property proportional, and property per risk books). There is a wide diversity of products, excess coverages, and policy sizes. During this ten-year period, this product line was impacted by natural catastrophes.

Net Incurred Loss and Allocated Loss Adjustment Expense Reported at Years Ended December 31

(in thousa	ands of U.	S. dollars)								2022
Accident					Unaudite	d				Audited	Net IBNR
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Reserves
2013	\$33,224	\$33,222	\$ 8,278	\$23,284	\$13,079	\$12,922	\$12,920	\$12,909	\$12,909	\$ 12,909	\$ 8
2014		54,221	52,633	29,807	29,697	29,968	29,968	28,203	28,140	28,140	169
2015			35,748	28,885	14,335	10,892	10,197	7,203	7,277	7,279	126
2016				54,856	64,601	66,341	58,742	58,209	56,188	56,188	45
2017					40,802	43,800	41,672	41,866	42,709	37,215	(4,980)
2018						25,487	20,183	12,794	9,433	3,566	-
2019							53,088	32,648	23,696	15,875	(3)
2020								65,676	17,727	20,356	17,381
2021									105,539	51,276	23,173
2022										126,475	118,435
									Total	\$359,280	-

Cumulative Paid Claims and Allocated Claim Adjustments Expenses, Net of Reinsurance, For the Years Ended December 31

					Б	moer 51					
(in thousan	ds of U.S	S. dollars)									2022
Accident					Unaudite	d				Audited	Reported
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Claims
2013	\$ 3	\$ 2,258	\$ 2,260	\$ 2,268	\$12,828	\$12,906	\$12,901	\$12,901	\$12,901	\$ 12,901	\$ 6
2014		7,434	18,681	25,488	26,348	26,828	27,741	27,970	27,972	27,972	10
2015			-	1,300	2,045	4,018	6,936	7,053	7,139	7,150	4
2016				448	22,733	35,645	47,234	47,517	56,123	56,123	3
2017					-	15,805	25,643	38,482	34,192	34,556	15
2018						3,451	3,530	3,538	3,540	3,545	6
2019							14	15,394	15,672	15,779	6
2020								13	1,057	2,975	128
2021									269	15,427	6
2022										1	1
									Total	\$176,427	-
Net Liabili	ties for C	laims and	Allocated	l Claim A	djustmen	t Expense	s				2022
For acciden										\$	5,741
For all accid										\$	188,594
Supplementary Information: Average Annual Percentage Payout of Net Incurred Claims by Age, as of December 31, 2022								22			
Age in Year	rs1	1	2	3	4	5	6	7	8	9	10
Percentage	3'	% 3	66%	18%	17%	7%	7%	0%	0%	0%	0%

Prior period development

The following table presents a reconciliation of the loss development triangles above to prior period development for the year ended December 31, 2022:

2022 (in thousands of U.S. dollars)

(favorable)/unfavorable	2013-2021 accident years	Accident years prior to 2013	Other	PPD on loss reserves
Total Long-tail	(130,123)	76,577	(2,297)	(55,843)
Total Short-tail	(70,814)	53	27	(70,734)
Total	\$ (200,937)	\$ 76,630	\$ (2,270)	\$ (126,577)

The Other column in the table above includes favorable development related to our alternative risk solutions business and ACE Capital Title Reinsurance Company.

7. Reinsurance

The Company purchases reinsurance to manage various exposures including catastrophe 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. The following table presents direct, assumed, and ceded premiums for the years ended December 31, 2022 and 2021:

	2022		2021	
Premiums written	 (in thousands of U.S. dollars)			
Direct	\$ 755,045	\$	702,736	
Assumed	346,719		301,634	
Ceded	(305,931)		(304,598)	
Net	\$ 795,833	\$	699,772	
Premiums earned				
Direct	\$ 732,873	\$	700,564	
Assumed	343,985		296,241	
Ceded	(312,983)		(328,496)	
Net	\$ 763,875	\$	668,309	

The Company evaluates the financial condition of its reinsurers and potential reinsurers on a regular basis and also monitors concentrations of credit risk with reinsurers. The composition of the Company's reinsurance recoverable at December 31, 2022 and 2021 is as follows:

	202	22		2021			
	(in thousands of U.S. dollars)						
	Net Reinsurance	Valuation Allowance					
Reinsurance recoverable on paid losses and loss expenses	\$ 9,687	-	\$	4,463	-		
Reinsurance recoverable on unpaid losses and loss expenses	1,222,575	14,820		806,358	13,121		
Total reinsurance recoverable	\$ 1,232,262	14,820	\$	810,821	13,121		

The increase in reinsurance recoverable on losses and loss expenses in 2022 was primarily due to higher underlying ceded exposures due to premium growth, and unfavorable prior period development in certain lines of business.

The following table presents a listing, at December 31, 2022, of the categories of the Company's reinsurers. The first category, largest reinsurers, represents all reinsurers where the gross unpaid recoverable exceeds one percent of the Company's total shareholder's equity. The valuation allowance for uncollectible reinsurance for the largest reinsurers, other reinsurers rated A- or better, and other reinsurers with ratings lower than A- is principally based on an analysis of the credit quality of the reinsurer and collateral balances. The Company establishes its valuation allowance for uncollectible reinsurance in this category based on a case-by-case analysis of individual situations including the merits of the underlying matter, credit and collateral analysis, and consideration of the Company's collection experience in similar situations. Refer to Note 3 e) for a discussion of the valuation allowance methodology.

	20	22	P	rovision	% of Gross
Categories	(in tho	usands o	of U.S.	dollars, exc	ept percentages)
Largest reinsurers	\$ 1,07	76,289	\$	12,498	1.2 %
Other reinsurers balances rated A- or better	15	55,046		2,046	1.3 %
Other reinsurers balances with ratings lower than A- or not rated		6,060		276	4.6 %
Total	\$ 1,23	37,395	\$	14,820	

Largest reinsurers

Munich Reinsurance Group
Renaissance Reinsurance Limited
Swiss Re Group
ABR Reinsurance Ltd

General Reinsurance Corp
Transatlantic Reinsurance Co
Arch Reinsurance Limited
Hannover Rueckversicherung SE

Hiscox In
Berkley

Partner Reinsurance Company Limited Lloyd's Syndicate 2987 Hiscox Insurance Company Ltd Berkley Insurance Co

8. Commitments, contingencies, and guarantees

a) Derivative instruments

The Company maintains positions in derivative instruments such as futures, options, 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. The Company also maintains positions in convertible securities that contain embedded derivatives. Investment derivative instruments are recorded in either other assets (OA) or accounts payable, accrued expenses, and other liabilities (AP), convertible bonds are recorded in fixed maturities available for sale (FM AFS) and convertible equity securities are recorded in equity securities (ES) in the Consolidated balance sheets. These are the most numerous and frequent derivative transactions.

In addition, the Company from time-to-time purchases to be announced mortgage-backed securities (TBAs) as part of its investing activities. 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 our derivative instruments:

			2022		
	Consolidated		Fair V	Notional Value/	
	Balance Sheet Location		Derivative Asset	Derivative (Liability)	Payment Provision
		(ir	n thousands of l	U.S. dollars)	
Investment and embedded derivative instruments:					
Foreign currency forward contracts	OA/(AP)	\$	9	(1,027)	23,821
Options/Futures contracts on notes, bonds and equities	OA/(AP)		1,258	(189)	87,100
		\$	1,267 \$	(1,216) \$	110,921
		•	_		
			2021		
	Consolidated		Fair V	⁷ alue	Notional Value/
	Balance Sheet Location	•	Derivative Asset	Derivative (Liability)	Payment Provision
		(ir	n thousands of l	U.S. dollars)	
Investment and embedded derivative instruments:					
Foreign currency forward contracts	OA/(AP)	\$	272	-	28,878
Options/Futures contracts on notes, bonds and equities	OA/(AP)		1,217	(3,482)	291,600
Convertible securities (i)	FM AFS/ES		10,743		12,362
		\$	12,232 \$	(3,482) \$	332,840
(i) Includes fair value of embedded derivatives.					

(i) includes fair value of consequent derivatives.

At December 31, 2022 net derivative liabilities of \$0.1 million (December 31, 2021 net derivative assets of \$2.0 million) 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 (losses) gains related to derivative instrument activity in the Consolidated statement of operations for the years ended December 31, 2022 and 2021.

	2022		2021			
	 (in thousands of U.S. dollars)					
Investment and embedded derivative instruments						
Foreign currency forward contracts	\$ 1,841	\$	1,026			
Futures contracts and options	24,474		3,921			
Convertible securities	(563)		(96)			
	\$ 25,752	\$	4,851			

b) Derivative instrument objectives

(i) Foreign currency exposure management

A foreign currency forward contract (forward) is an agreement between participants to exchange specific foreign 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. Exchange-traded futures contracts on money market instruments, notes and bonds are used in fixed maturity portfolios to more efficiently manage duration, as substitutes for ownership of the money market instruments, bonds and notes without

significantly increasing the risk in the portfolio. Investments in futures contracts may be made only to the extent that there are assets under management not otherwise committed.

Options

An option contract conveys to the holder the right, but not the obligation, to purchase or sell a specified amount or value of an underlying security at a fixed price. Option contracts are used in the investment portfolio as protection against unexpected shifts in interest rates, which would affect the duration of the fixed maturity portfolio. By using options in the portfolio, the overall interest rate sensitivity of the portfolio can be reduced. Option contracts may also be used as an alternative to futures contracts in the Company's synthetic strategy as described above. The price of an option is influenced by the underlying security, expected volatility, time to expiration, and supply and demand.

The credit risk associated with the above derivative financial instruments relates to the potential for non-performance by counterparties. Although non-performance is not anticipated, in order to minimize the risk of loss, management monitors the creditworthiness of its counterparties and obtains collateral. The performance of exchange-traded instruments is guaranteed by the exchange on which they trade. For non-exchange-traded instruments, the counterparties are principally banks which must meet certain criteria according to the Company's investment guidelines.

(iii) Convertible security investments

A convertible security is a debt instrument or preferred stock that can be converted into a predetermined amount of the issuer's equity. The convertible option is an embedded derivative within the host instruments which are classified in the investment portfolio as either available for sale or as an equity security. The Company purchases convertible securities for their total return and not specifically for the conversion feature.

(iv) TBA

By acquiring TBAs, we make a commitment to purchase a future issuance of mortgage-backed securities. For the period between purchase of the TBAs and issuance of the underlying security, we account for our position as a derivative in the Consolidated financial statements. The Company purchases TBAs both for their total return and for the flexibility they provide related to our mortgage-backed security strategy.

c) 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 we earn an incremental return. At December 31, 2022, the Company's securities lending payable, reflecting our obligation to return the collateral, plus interest was \$35.0 million (2021 - \$132.8 million) and the Company's securities lending collateral was \$35.0 million (2021 - \$132.8 million). 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 us 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 maturity date of the underlying agreements.

	Remaining contractual maturity Overnight and Continuous							
	2022		2021					
	 (in thousands	of U.S. d	lollars)					
Collateral held under securities lending agreements								
Cash	\$ 34,882	\$	132,842					
Mortgage-backed securities	109							
Total	\$ 34,991	\$	132,842					
Gross amount of recognized liabilities for lending payable	34,991		132,842					

d) Concentrations of credit risk

Our investment portfolio is managed following prudent standards of diversification. Specific provisions limit the allowable holdings of a single issue and issuer. We believe that there are no significant concentrations of credit risk associated with our investments. Our three largest exposures by issuer at December 31, 2022, were Bank of America Corp, Charter Communications Inc. and Citigroup Inc. Our largest exposure by industry at December 31, 2022 was Financial.

e) Letter 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 for revolving credit. The existing credit facilities have remaining terms expiring through October 2027. At December 31, 2022, the LOC usage was \$1.2 billion.

f) Legal proceedings

Claims and other litigation

The Company is subject to claims litigation (more specifically arbitrations) involving disputed interpretations of policy coverages and, in some jurisdictions, direct actions by third parties seeking damages from policyholders. Such contentious matters involving claims on policies issued by the Company, which are typical to the insurance industry in general and in the normal course of business, are considered in the Company's reserves for loss and loss expense. In addition to contentious claims, the Company is at times subject to lawsuits and regulatory actions in the normal course of business that do not arise from or directly relate to claims on insurance policies. This category of business litigation may involve, among other things, allegations of underwriting errors or misconduct, employment claims, regulatory activity or disputes arising from business activities. Although the outcomes of any such business litigation involving the Company cannot be predicted with certainty, the Company disputes and will continue to dispute allegations against it that are without merit and believes that the ultimate outcomes of any existing or potential matters in this category of business litigation will not have a material adverse effect on the financial condition, future operating results or liquidity of the Company.

g) Other investments

In connection with other investments, we have commitments that may require funding of up to \$532 million over the next several years.

9. Fair value measurements

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	anoted pri	ces for i	identical	assets or	liabilities i	n active markets;
	Chaqustea	quoted pii	CCS IOI	idelitiedi	abbetb of	iiuoiiitios i	ii active illaritetti,

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.

We categorize 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.

We use pricing services to obtain fair value measurements for the majority of our 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 our understanding of the market inputs used by the pricing services, all applicable investments have been valued in accordance with GAAP. We do 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.

Fixed maturities

We use pricing services to estimate fair value measurements for the majority of our 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, 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, twosided 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), which 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, we obtain a single broker quote (typically a market maker). Due to the disclaimers on the quotes that indicate that the price is indicative only, we include these fair value estimates in Level 3.

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.

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.

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.

Other investments

Fair values for the majority of Other investments including investments in partially owned investment companies are based on their respective net asset values or equivalent (NAV) and are excluded from the fair value hierarchy table below. Other investments for which pricing is unobservable are classified within Level 3.

Investment derivative instruments

Actively traded investment derivative instruments, including futures, options, and exchange-traded forward contracts, are classified within Level 1 as fair values are based on quoted market prices. Investment derivative instruments are recorded in either other assets or accounts payable, accrued expenses, and other liabilities in the Consolidated balance sheets.

The following table presents, by valuation hierarchy, the financial instruments measured at fair value on a recurring basis, as of December 31, 2022, and December 31, 2021:

,	,	2022					
	Quoted Prices in Active Markets for Identical Assets or Liabilities Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3				Total
Assets:							
Fixed maturities available for sale							
U.S. Treasury and agency	\$ 63,041	\$ 27,902	\$	-	5	\$	90,943
Non-U.S.	-	189,505		-			189,505
Corporate securities	-	1,297,825		10,346			1,308,171
Mortgage-backed securities	-	487,417		-			487,417
Municipal	-	115,345		_			115,345
	63,041	2,117,994	-	10,346			2,191,381
Equity securities	2,160	-		2,837			4,997
Short-term investments	72,847	18,605		-			91,452
Investment derivative instruments	1,267	-		-			1,267
Other investments(1)	-	-		6,579			6,579
Securities lending collateral	-	34,991	_			_	34,991
Total assets measured at fair value	\$ 139,315	\$ 2,171,590	\$_	19,762	9	\$	2,330,667

⁽¹⁾ Excluded from the table above are other investments of \$1,272 million as at December 31, 2022 primarily measured using NAV as a practical expedient.

There was \$1.2 million in investment derivative liability instruments classified as Level 1 as of the year ended December 31, 2022.

	December 31, 2021									
			Quoted Prices in Active Markets for Identical Assets or Liabilities Level 1 Quoted Prices in Active Markets Significant Other Observable Unobservable Inputs Level 2 Level 3							Total
Assets:				(in thousands of U	.S.	dollars)				
Fixed maturities available for sale										
U.S. Treasury and agency	\$	85,602	\$	37,024	\$	_	\$	122,626		
Non-U.S.	-	-	•	372,520	•	4,636	7	377,156		
Corporate securities		-		2,239,755		62,651		2,302,406		
Mortgage-backed securities		-		606,080		1,006		607,086		
Municipal		-		127,341		-		127,341		
		85,602		3,382,720		68,293		3,536,615		
Equity securities		4,766		_		4,830		9,596		
Short-term investments		211,938		3,000		-		214,938		
Investment derivative instruments		1,489		-		-		1,489		
Other investments (2)		-		-		7,020		7,020		
Securities lending collateral		-		132,842		-		132,842		
Total assets measured at fair value	\$	303,795	\$	3,518,562	\$	80,143	\$	3,902,500		

⁽²⁾ Excluded from the table above are other investments of \$1,417 million as at December 31, 2021 measured using NAV as a practical expedient.

There was \$3.5 million in investment derivative liability instruments classified as Level 1 as of the year ended December 31, 2021.

Level 3 financial instruments

Purchases

Settlements

Balance-End of year

Sales

The fair values of assets measured at fair value using significant unobservable inputs (Level 3) consist of various inputs and assumptions that management makes when determining fair value. Management analyzes changes in fair value measurements classified within Level 3 by comparing pricing and returns of our investments to benchmarks, including month-over-month movements, investment credit spreads, interest rate movements, and credit quality of securities.

The following table presents a reconciliation of the beginning and ending balances of financial instruments carried or disclosed at fair value using significant unobservable inputs (Level 3) for the year ended December 31, 2022 and 2021

2022

181

(1,205)

(103)

2,837

	Available-for-Sale Debt Securities										
	Non-U.S.	_	Corporate securities	_	MBS	Short term		Equity Securities			Other investments
Balance-Beginning of year	\$ 4,636	\$	62,651	\$	1,006	\$	-	\$	4,830	\$	7,020
Transfers into (Out of) Level 3	(1,862)		(5,621)		_		-		368		-
Change in Net Unrealized Gains (Losses) included in OCI	148		643		24		-		(472)		-
Net Realized Gains/	(436)		(8 457)		(94)		(181)		(581)		(441)

There was \$(6.3) million recorded in net realized gains (losses) attributable to changes in fair value at the balance sheet date.

(922)

2,946

(33,707)

(8,109)

10,346

(2,486)

		2021										
	_	Availab	le-f	or-Sale Debt	Sec	urities						
	_	Non-U.S.	_	Corporate securities	_	MBS	_	Short term	_	Equity securities		Other investments
Balance-Beginning of year	\$	-	\$	33,747	\$	23	\$	-	\$	3,742	\$	7,283
Transfers into (Out of) Level 3		5		11,793		(3,699)		-		-		-
Change in Net Unrealized Gains (Losses) included in OCI		(67)		668		(32)		-		-		-
Net Realized Gains/ (Losses)		(5)		972		-		-		1,112		(263)
Purchases		4,654		27,524		4,723		-		15		-
Sales		-		(2,209)		-		-		(40)		-
Settlements		49		(9,844)		(9)		-		1		-
Balance-End of year	\$	4,636	\$	62,651	\$	1,006	\$	-	\$	4,830	\$	7,020

There was \$1.9 million recorded in net realized gains (losses) attributable to changes in fair value at the balance sheet date.

Financial instruments disclosed, but not measured, at fair value

The Company uses various financial instruments in the normal course of its business. Our insurance contracts are excluded from fair value of financial instruments accounting guidance. The carrying values of cash, other assets, other liabilities, and other financial instruments approximated their fair values. Fair values for investments in

partially owned insurance companies are based on the Company's share of the net assets based on the financial statements provided by those companies.

Fixed maturities held to maturity investments are carried at amortized cost and are classified as level 2 in the valuation hierarchy as of December 31, 2022 and December 31, 2021. The fair values of held to maturity investments are disclosed in Note 4.

10. Related party transactions

The Company receives and pays amounts to various related parties for operating purposes and sundry back-office services. These amounts are included in amount due to parent and affiliates.

During the year ended December 31, 2022 the Company declared and paid a dividend of \$1.6 billion (2021 - \$870 million).

At December 31, 2022, loans payable to affiliates are \$12.1 million (2021 - \$11.9 million), due on demand and bearing interest at 1.57% to 4.91% (2021 - 1.25% to 1.81%) and are included in Amounts due to parent and affiliate.

At December 31, 2022, the Company maintains an interest free receivable of \$15.1 million (2021 – \$16.3 million) from a not-for-profit organization (Chubb Charitable Foundation Bermuda) for which the Board of Directors is principally comprised of Chubb management. Such receivable is included in amounts due from parent and affiliates in the accompanying Consolidated balance sheets. The borrower has used related proceeds to finance investments in Bermuda real estate properties, some of which have been rented to Chubb employees at rates established by independent, professional real estate appraisers, and intends to use income from the investments to both repay the note and fund future charitable activities. Accordingly, the Company reports the note receivable at the lower of its principal value or the fair value of assets held by the borrower, including the real estate properties, to repay the loan.

During the year ended December 31, 2022 the Company entered into reinsurance transactions with various affiliated companies which included net premiums earned of \$187.3 million (2021 – \$159.0 million) and net losses and loss recoveries of \$(1.3) million (2021 – \$(28.5) million). Unpaid losses and loss expenses, net of reinsurance recoverables at December 31, 2022 were \$222.8 million (2021 – \$225.9 million).

11. Taxation

The Company has received written assurances from the Bermuda government exempting it from all local income, withholding and capital gains taxes until March 28, 2035. At the present time, no such taxes are levied in Bermuda.

12. Statutory financial information

The Company and its insurance and reinsurance subsidiaries are subject to insurance laws and regulations in the jurisdictions in which they operate. These regulations include restrictions that limit the amount of dividends or other distributions, such as loans or cash advances, available to shareholders without prior approval of the insurance regulatory authorities.

The Company is registered under The Insurance Act 1978 (Bermuda), amendments thereto and related regulations (the "Act") as a Class 4 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 4 insurers.

For the year ended December 31, 2022, the Company had statutory economic capital and surplus, of \$2.4 billion (2021 - \$3.8 billion), which exceeded the combined ECR of \$1.0 billion (2021 - \$1.1 billion). The Act requires the Company to meet a minimum solvency margin and a minimum liquidity ratio. The minimum solvency margin required at December 31, 2022 and 2021 was met by the Company.

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 Authority. Further, a Class 4 insurer is prohibited from declaring or paying in any financial year dividends of more than 25% 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% or more of the total statutory capital as set forth in its previous

year's statutory financial statements. The maximum amount available for payment of dividends or other distributions in 2023 without prior regulatory approval is approximately \$480 million.

ACE Capital Title Reinsurance Company is subject to the New York insurance laws and regulations governing title insurers. A stock dividend may not be declared or distributed if such dividend reduces the Company's surplus to less than 50% of its outstanding capital shares. Without prior approval from the New York Department of Financial Services, the maximum amount payable by ACE Capital Title Reinsurance Company as a dividend during 2023 is \$33 million.

13. Subsequent events

The Company has performed an evaluation of subsequent events through April 27, 2023, which is the date that the financial statements were issued. No significant subsequent events requiring disclosure or accounting in these Consolidated financial statements were identified.