Consolidated Financial Statements and Independent Auditors' Report

December 31, 2020 and 2019



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Report of Independent Auditors

The Board of Directors and Shareholder Partner Reinsurance Company Ltd.

We have audited the accompanying consolidated financial statements of Partner Reinsurance Company Ltd. (the Company), which comprise the consolidated balance sheets as of December 31, 2020 and 2019, and the related consolidated statements of operations and comprehensive income, shareholder's equity and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in conformity with U.S. generally accepted accounting principles; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements 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 entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.



We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Partner Reinsurance Company Ltd. at December 31, 2020 and 2019, and the consolidated results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

Required Supplementary Information

Accounting principles generally accepted in the United States require that the net incurred losses and loss expenses, and net paid losses and loss expenses, for the year ending 2019 and prior and the average annual percentage payout of incurred claims by age, net of reinsurance disclosed on pages 31 through to 34 be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Financial Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States, 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 financial statements, and other knowledge we obtained during our audit of the 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.

Ernst + Young Ltd.

Hamilton, Bermuda April 30, 2021

Consolidated Balance Sheets (Expressed in thousands of U.S. dollars, except parenthetical share data)

	D	December 31, 2020	December 31, 2019
Assets			
Investments:			
Fixed maturities, at fair value (amortized cost: 2020, \$3,387,558; 2019, \$3,246,521)	\$	3,511,924	\$ 3,309,970
Short-term investments, at fair value (amortized cost: 2020, \$95,040; 2019, \$400,809)		95,204	400,708
Equities, at fair value (cost: 2020, \$780,251; 2019, \$735,498)		1,405,354	1,202,038
Other invested assets		1,826,865	 2,027,642
Total investments		6,839,347	6,940,358
Cash and cash equivalents		457,906	554,031
Accrued investment income		24,769	29,269
Reinsurance balances receivable		1,593,376	1,791,982
Reinsurance recoverable on paid and unpaid losses		319,096	349,255
Prepaid reinsurance premiums		19,780	19,883
Funds held by reinsured companies		939,442	908,704
Deferred acquisition costs		418,627	444,411
Deposit assets		88,990	100,000
Intercompany loans and balances receivable		1,241,642	729,765
Net tax assets		_	5,126
Goodwill		26,014	26,014
Intangible assets		69,715	71,321
Other assets		26,581	11,285
Total assets	\$	12,065,285	\$ 11,981,404
Liabilities			
Non-life reserves	\$	4,987,829	\$ 4,659,112
Life and health reserves		1,571,226	1,401,934
Unearned premiums		949,164	1,065,601
Other reinsurance balances payable		191,656	287,586
Intercompany loans and balances payable		95,690	268,626
Net taxes liabilities		4,591	
Accounts payable, accrued expenses and other		137,865	 161,073
Total liabilities		7,938,021	 7,843,932
Shareholder's Equity			
Common shares (par value \$1.00; issued: 2020 and 2019, 3,000 shares)		3,000	3,000
Additional paid-in capital		1,643,886	1,643,886
Accumulated other comprehensive loss		(41,819)	(85,781)
Retained earnings		2,522,197	 2,576,367
Total shareholder's equity		4,127,264	4,137,472
Total liabilities and shareholder's equity	\$	12,065,285	\$ 11,981,404

Consolidated Statements of Operations and Comprehensive (Loss) Income (Expressed in thousands of U.S. dollars)

	For the year ended December 31, 2020			r the year ended December 31, 2019
Revenues				
Gross premiums written	\$	2,939,658	\$	3,339,270
Net premiums written	\$	2,776,775	\$	3,173,323
Decrease (increase) in unearned premiums		139,169		(59,320)
Net premiums earned		2,915,944		3,114,003
Net investment income		137,820		193,864
Interest income on intercompany loans		2,321		
Net realized and unrealized investment gains		331,364		607,448
Other income		12,972		10,206
Total revenues		3,400,421		3,925,521
Expenses				
Losses and loss expenses		2,459,739		2,247,519
Acquisition costs		660,479		772,648
Other operating expenses		30,397		29,400
Amortization of intangible assets		1,606		1,831
Net foreign exchange losses (gains)		286,233		(9,731)
Total expenses		3,438,454		3,041,667
(Loss) income before taxes and interest in losses of equity investments		(38,033)		883,854
Income tax (benefit) expense		(98)		10,783
Interest in losses of equity investments		(10,942)		(7,275)
Net (loss) income	\$	(48,877)	\$	865,796
Comprehensive (loss) income				
Net (loss) income	\$	(48,877)	\$	865,796
Change in net unrealized gains (losses) on investments, net of tax		6		(1,755)
Change in currency translation adjustment		43,956		33,598
Comprehensive (loss) income	\$	(4,915)	\$	897,639

Consolidated Statements of Shareholder's Equity (Expressed in thousands of U.S. dollars)

	For the year ended December 31, 2020			the year ended December 31, 2019
Common shares				
Balance at beginning and end of year	\$	3,000	\$	3,000
Additional paid-in capital				
Balance at beginning and end of year		1,643,886		1,643,886
Accumulated other comprehensive loss				
Currency translation adjustment:				
Balance at beginning of year		(85,781)		(117,624)
Change in net unrealized gains or losses on investments		6		(1,755)
Change in currency translation adjustment		43,956		33,598
Balance at end of year		(41,819)		(85,781)
Retained earnings				
Balance at beginning of year		2,576,367		2,100,571
Net (loss) income		(48,877)		865,796
Cumulative effect of adoption of accounting guidance (Note 2)		(5,293)		
Dividends on common shares				(390,000)
Balance at end of year		2,522,197		2,576,367
Total shareholder's equity	\$	4,127,264	\$	4,137,472

Consolidated Statements of Cash Flows (Expressed in thousands of U.S. dollars)

	the year ended December 31, 2020	F	or the year ended December 31, 2019
Cash flows from operating activities	 		
Net (loss) income	\$ (48,877)	\$	865,796
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Amortization of intangible assets	1,606		1,905
Amortization of deferred gains	(9,186)		(7,093)
Amortization of net premium (discount) on investments	2,497		(2,092)
Net realized and unrealized investment gains	(331,364)		(607,448)
Changes in:			
Reinsurance balances, net	144,514		(46,237)
Reinsurance recoverable on paid and unpaid losses, net of ceded premiums payable	27,958		167,416
Funds held by reinsured companies	35,564		(97,124)
Deferred acquisition costs	39,651		(36,323)
Net tax assets and liabilities	4,675		8,531
Non-life and life and health reserves	264,393		(98,561)
Unearned premiums	(139,169)		59,320
Other net changes in operating assets and liabilities	304,076		9,652
Net cash provided by operating activities	296,338		217,742
Cash flows from investing activities			
Sales of fixed maturities	2,868,067		7,917,484
Redemptions of fixed maturities	363,464		209,156
Purchases of fixed maturities	(3,695,506)		(6,468,100)
Sales and redemptions of short-term investments	2,270,348		1,560,349
Purchases of short-term investments	(1,932,661)		(1,611,603)
Sales of equities	59,169		64,610
Purchases of equities	(112,041)		(189,123)
Net intercompany balances receivable ⁽¹⁾	(111,561)		(139,605)
Sales of other invested assets	432,066		_
Purchase of other invested assets	(383,628)		(972,508)
Other, net	 9,987		(21,604)
Net cash (used in) provided by investing activities	(232,296)		349,056
Cash flows from financing activities			
Cash dividends paid to Parent ⁽¹⁾	_		(75,000)
Payments on behalf of Parent	 (173,720)		(246,057)
Net cash used in financing activities	(173,720)		(321,057)
Effect of foreign exchange rate changes on cash	13,553		2,319
(Decrease) increase in cash and cash equivalents	 (96,125)		248,060
Cash and cash equivalents—beginning of year	554,031		305,971
Cash and cash equivalents—end of year	\$ 457,906	\$	554,031
Supplemental cash flow information:			
Taxes paid	\$ 3,485	\$	2,950

⁽¹⁾ The Company declared non-cash dividends to its Parent, PartnerRe Ltd., of nil and \$315 million for the year ended December 31, 2020 and 2019 respectively. These dividends were paid by a reduction of intercompany loans and balances receivable.

Notes to Consolidated Financial Statements

1. Organization

Partner Reinsurance Company Ltd. (the Company) is a 100% owned subsidiary of PartnerRe Ltd. (the Parent). At December 31, 2020 and 2019, approximately 99.7% of the Parent's total common shares were owned by EXOR Nederland N.V., which is a subsidiary of the ultimate parent company, EXOR N.V. The Company commenced operations in November 1993.

The Company is licensed as a Class 4 and Class E insurer under the Insurance Act 1978 of Bermuda and related regulations, as amended (the Insurance Act) and is therefore authorized to carry on general and long-term insurance business in Bermuda. Non-life risks reinsured include agriculture, aviation/space, casualty, catastrophe, energy, engineering, financial risks, marine, motor, multiline, property and U.S. health. Life and health risks reinsured include mortality, morbidity and longevity.

The Company also enters into reinsurance contracts with subsidiaries of the Parent, including a 65% quota-share agreement with Partner Reinsurance Europe SE (PartnerRe Europe), a 50% quota-share agreement with Partner Reinsurance Asia Pte. Ltd (PartnerRe Asia), a 90% quota-share agreement with PartnerRe Life Reinsurance Company of Canada (PartnerRe Canada) and stop loss agreements with PartnerRe Asia, PartnerRe Canada, Partner Reinsurance Company of the U.S. Canada Branch and PartnerRe Ireland Insurance dac (see Note 15).

The consolidated financial statements of the Company include the financial position and results of operations of its wholly-owned subsidiary, Partner Reinsurance Life Company of Bermuda Ltd. (PartnerRe Life). The Company also maintains an operating branch in Canada and a representative office in Mexico. The Canada branch is licensed to write life and accident and sickness business in Ontario, limited to reinsurance and is subject to regulation in Canada by the Office of the Superintendent of Financial Institutions (OSFI).

2. Significant Accounting Policies

The Company's Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP). The Consolidated Financial Statements include the accounts of the Company and its subsidiaries. Intercompany accounts and transactions have been eliminated. Certain reclassifications have been made to prior period amounts to conform to the current year presentation.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. While management believes that the amounts included in the Consolidated Financial Statements reflect its best estimates and assumptions, actual results could differ from those estimates. The Company's principal estimates include:

- Non-life reserves;
- Life and health reserves;
- Reinsurance recoverable for unpaid losses;
- Gross and net premiums written and net premiums earned;
- Recoverability of deferred acquisition costs;
- · Valuation of certain investments that are measured using significant unobservable inputs; and
- Valuation of goodwill and intangible assets.

Notes to Consolidated Financial Statements - (Continued)

The following are the Company's significant accounting policies:

(a) Premiums

Gross premiums written and earned are based upon reports received from ceding companies, supplemented by the Company's own estimates of premiums written and earned for which ceding company reports have not been received. The determination of premium estimates requires a review of the Company's experience with cedants, familiarity with each market, an understanding of the characteristics of each line of business and management's assessment of the impact of various other factors on the volume of business written and ceded to the Company. Premium estimates are updated as new information is received from cedants and differences between such estimates and actual amounts are recorded in the period in which the estimates are changed or the actual amounts are determined. Net premiums written and earned are presented net of ceded premiums.

Premiums related to non-life business are earned on a basis that is consistent with the risks covered under the terms of the reinsurance contracts, which is generally one to two years. Reinstatement premiums are recognized as written and earned at the time a loss event occurs, where coverage limits for the remaining life of the contract are reinstated under pre-defined contract terms. The accrual of reinstatement premiums is based on management's estimate of losses and loss expenses associated with the loss event. Unearned premiums represent the portion of premiums written which is applicable to the unexpired risks under contracts in force.

Premiums related to life and annuity business are recorded over the premium-paying period on the underlying policies. Premiums on contracts for which there is no significant mortality or critical illness risk are accounted for in a manner consistent with accounting for interest-bearing financial instruments and are not reported as revenues, but rather as direct deposits to the contract. Amounts assessed against annuity and universal life policyholders are recognized as revenue in the period assessed.

(b) Losses and Loss Expenses

The reserves for non-life business include amounts determined from loss reports on individual treaties (case reserves), additional case reserves when the Company's loss estimate is higher than reported by the cedants (ACRs) and amounts for losses incurred but not yet reported to the Company (IBNR). Such reserves are estimated by management based upon reports received from ceding companies, supplemented by the Company's own actuarial estimates of reserves for which ceding company reports have not been received, and based on the Company's own historical experience. To the extent that the Company's own historical experience is inadequate for estimating reserves, such estimates may be determined based upon industry experience and management's judgment. The estimates are regularly reviewed and the ultimate liability may be materially in excess of, or less than, the amounts provided. Any adjustments are reflected in the periods in which they are determined, which may affect the Company's operating results in future periods. See Note 7(a) for further details.

The life and health reserves have been established based upon information reported by ceding companies, supplemented by the Company's actuarial estimates, which for life include mortality, morbidity, critical illness, persistency and future investment income, with appropriate provision to reflect uncertainty. For traditional and limited payment long-duration contracts, the assumptions are locked in at contract inception and are subject to annual loss recognition testing. Future policy benefit reserves for annuity and universal life contracts are carried at their accumulated values. Reserves for policy claims and benefits include both mortality, morbidity and critical illness claims in the process of settlement, and claims that have been incurred but not yet reported. See Note 7(b) for further details.

(c) Deferred Acquisition Costs

Acquisition costs, comprising primarily incremental brokerage fees, commissions and excise taxes, which vary directly with, and are related to, the acquisition of reinsurance contracts, are capitalized and charged to expense as the related premium is earned. All other acquisition related costs, including indirect costs, are expensed as incurred. Acquisition costs are shown net of commissions earned on ceded reinsurance.

Acquisition costs related to individual life and annuity contracts are deferred and amortized over the premium-paying periods in proportion to anticipated premium income, allowing for lapses, terminations and anticipated investment income. Acquisition costs related to universal life and single premium annuity contracts for which there is no significant mortality or critical illness risk are deferred and amortized over the lives of the contracts as a percentage of the estimated gross profits expected to be realized on the contracts.

Notes to Consolidated Financial Statements - (Continued)

The Company establishes a premium deficiency reserve to the extent the deferred acquisition costs are insufficient to cover the excess of expected losses and loss expenses, settlement costs and deferred acquisition costs over the related unearned premiums. Actual and anticipated losses and loss expenses, other costs, and investment income related to underlying premiums are considered in determining the recoverability of deferred acquisition costs for the Company's short-duration contracts. Actual and anticipated loss experience, together with the present value of future gross premiums, the present value of future benefits, and settlement and maintenance costs are considered in determining the recoverability of deferred acquisition costs related to the Company's life and annuity business.

(d) Reinsurance

The Company purchases retrocessional contracts to reduce its exposure to risk of losses on reinsurance assumed. Ceded premiums, which represent the cost of retrocessional protection purchased by the Company, are expensed over the coverage period. Prepaid reinsurance premiums represent the portion of premiums ceded applicable to the unexpired term of policies in force.

Reinsurance recoverable on paid and unpaid losses involves actuarial estimates consistent with those used to establish the associated liabilities for non-life and life and health reserves and are recorded net of a valuation allowance for estimated uncollectible recoveries.

Retroactive reinsurance reimburses a ceding company for liabilities incurred as a result of past insurable events covered under contracts subject to the reinsurance. Premiums payable for retroactive reinsurance coverage meeting the conditions of reinsurance accounting are reported as reinsurance recoverables to the extent that those amounts do not exceed recorded liabilities relating to underlying reinsurance contracts. To the extent that recorded liabilities on an underlying reinsurance contract exceed premiums payable for retroactive coverage, a deferred gain is recognized in the Company's Consolidated Balance Sheets.

(e) Funds Held by Reinsured Companies

The Company writes certain business on a funds held basis. Under such contractual arrangements, the cedant retains the premiums that would have otherwise been paid to the Company and the Company is credited with investment income on these funds. The Company generally earns investment income on the funds held balances based upon a predetermined interest rate, either fixed contractually at the inception of the contract or based upon a recognized index (e.g. LIBOR). However, in certain circumstances, the Company may receive an investment return based upon either the result of a pool of assets held by the cedant, generally used to collateralize the funds held balance, or the investment return earned by the cedant on its entire investment portfolio. In these arrangements, gross investment returns are typically reflected in net investment income in the Company's Consolidated Statements of Operations. In these arrangements, the Company is exposed, to a limited extent, to the underlying credit risk of the pool of assets inasmuch as the underlying policies may have guaranteed minimum returns. In such cases, an embedded derivative exists and its fair value is recorded by the Company as an increase or decrease to the funds held balance.

(f) Deposit Assets

In the normal course of its operations, the Company writes certain contracts that do not meet the risk transfer provisions of U.S. GAAP. The Company's deposit assets relate to receivables included as an element of certain life reinsurance agreements that do not meet risk transfer.

(g) Investments

The Company elects the fair value option for Fixed maturities and Equities with changes in fair value recorded in Net realized and unrealized investment gains or losses in the Consolidated Statements of Operations.

Short-term investments, which comprise securities with a maturity greater than three months but less than one year from the date of purchase, are recorded at fair value by electing either the fair value option with changes in fair value recorded in Net realized and unrealized gains or losses included in the Consolidated Statements of Operations.

The Company recognizes Other invested assets at fair value, except for those that are accounted for using the equity method of accounting. Other invested assets consist of equity investments in non-publicly traded companies; privately placed corporate loans, notes and loans receivable and notes securitization; and derivative financial instruments. Non-publicly traded

Notes to Consolidated Financial Statements - (Continued)

entities in which the Company has significant influence are accounted for using either the equity method or the fair value option. Where the equity method is used, the Company's share of profits or losses of the investee are recorded in Interest in earnings or losses of equity method investees in the Consolidated Statements of Operations. Where the fair value option is elected, the investment is recognized in the Consolidated Balance Sheets at fair value with changes in fair value recorded in Net realized and unrealized investment gains or losses in the Consolidated Statements of Operations. See Note 2(m) below for significant accounting policy for derivatives.

Net investment income includes interest and dividend income, amortization of premiums and discounts on fixed maturities and short-term investments, and is net of investment expenses and withholding taxes. Investment income is recognized when earned and accrued to the balance sheet date. Realized gains or losses on the disposal of investments are determined on a first-in, first-out basis. Investment purchases and sales are recorded on a trade-date basis.

The Company defines fair value as the price received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company measures the fair value of financial instruments according to a fair value hierarchy that prioritizes the information used to measure fair value into three broad levels. The Company's policy is to recognize transfers between the hierarchy levels at the beginning of the period. Refer to Note 3 for the valuation techniques used by the Company.

(h) Cash and Cash Equivalents

Cash equivalents are carried at fair value and include fixed income securities that, from the date of purchase, have a maturity of three months or less.

(i) Goodwill

Goodwill represents the excess of the purchase price over the fair value of net assets acquired in a historical acquisition by PartnerRe Europe, which was re-allocated from PartnerRe Europe to the Company during 2012. The Company assesses the appropriateness of its valuation of goodwill on an annual basis (as of December 31) or more frequently if events or changes in circumstances indicate that the carrying amount may not be recoverable. If, as a result of the assessment, the Company determines that the value of its goodwill is impaired, goodwill will be written down in the period in which the determination is made.

(j) Intangible Assets

Intangible assets represent the fair value adjustments related to value of life business acquired (life VOBA). This intangible asset is being amortized over its expected life of 100 years (see Note 6) and the amortization expense is recorded in the Consolidated Statement of Operations.

(k) Income Taxes

Certain subsidiaries and a branch of the Company operate in jurisdictions where they are subject to taxation. Current and deferred income taxes are charged or credited to Net income or loss or, in certain cases, to Accumulated other comprehensive income or loss, based upon enacted tax laws and rates applicable in the relevant jurisdiction in the period in which the tax becomes accruable or realizable. Deferred income taxes are provided for all temporary differences between the bases of assets and liabilities used in the Consolidated Balance Sheets and those used in the various jurisdictional tax returns. When management's assessment indicates that it is more likely than not that deferred tax assets will not be realized, a valuation allowance is recorded against the deferred tax assets. Where appropriate, the valuation allowance assessment considers tax planning strategies.

The Company recognizes a tax benefit relating to uncertain tax positions only where the position is more likely than not to be sustained assuming examination by tax authorities. A liability is recognized for any tax benefit (along with any interest and penalty, if applicable) claimed in a tax return in excess of the amount recognized in the financial statements under U.S. GAAP. Any changes in amounts recognized are recorded in the period in which they are determined.

Notes to Consolidated Financial Statements - (Continued)

(l) Foreign Exchange

In recording foreign currency transactions, revenue and expense items in a currency other than the functional currency are converted into the functional currency at the average rates of exchange for the period. Monetary assets and liabilities originating in currencies other than the functional currency are remeasured into the functional currency at the rates of exchange in effect at the balance sheet dates. The resulting foreign exchange transaction gains or losses are included in Net foreign exchange gains or losses in the Consolidated Statements of Operations.

The reporting currency of the Company is the U.S. dollar. The functional currency of the Company's subsidiaries and branch is generally their national currency or the U.S. dollar, except for the Company's wholly owned subsidiary, Partner Reinsurance Life Company of Bermuda Ltd., whose functional currency is the Canadian dollar. In translating the financial statements of those subsidiaries or branch whose functional currency is other than the U.S. dollar, assets and liabilities are converted into U.S. dollars using the rates of exchange in effect at the balance sheet dates, and revenues and expenses are converted using the average foreign exchange rates for the period. The effect of translation adjustments are reported in the Consolidated Balance Sheets as Currency translation adjustment, a separate component of Accumulated other comprehensive income or loss. The change in currency translation adjustment is reflected in Other comprehensive income or loss.

(m) Derivatives

The Company's investment strategy allows for the use of derivative instruments, subject to strict limitations. The Company may use derivative financial instruments such as foreign exchange forward contracts, foreign currency option contracts, futures contracts, to-be-announced mortgage-backed securities (TBAs), total return swaps, interest rate swaps, insurance-linked securities, and credit default swaps for the purpose of managing overall currency risk, market exposures and portfolio duration, for hedging certain investments, or for enhancing investment performance that would be allowed under the Company's investment policy if implemented in other ways.

On the date the Company enters into a derivative contract, management determines whether or not the derivative is to be used and designated as a hedge of an identified underlying risk exposure (a designated hedge). The Company's derivative instruments are recorded in Other invested assets in the Consolidated Balance Sheets at fair value, with gains and losses associated with changes in fair value recognized in either Net realized and unrealized investment gains or losses or Net foreign exchange gains or losses in the Consolidated Statements of Operations, or in Other comprehensive income, depending on the nature and designation of the derivative instrument (see also Note 5).

The Company formally documents all relationships between designated hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedge transactions. In this documentation, the Company specifically identifies the asset or liability that has been designated as a hedged item and states how the hedging instrument is expected to hedge the risks related to the hedged item. The Company formally measures effectiveness of its designated hedging relationships both at the hedge inception and on an ongoing basis. There were no derivatives designated as hedges at December 31, 2020 and 2019.

The Company will discontinue hedge accounting prospectively if it is determined that the derivative is no longer effective in hedging the exposure to variability in expected future cash flows that is attributable to the risk it was meant to hedge; if the derivative instrument expires, is sold, or is otherwise terminated; or if the Company removes the designation of the hedge. To the extent that the Company discontinues hedge accounting because, based on management's assessment, the derivative no longer qualifies as an effective hedge, or the Company otherwise de-designates the hedge, the derivative will continue to be carried in the Consolidated Balance Sheet at its fair value, with changes in its fair value recognized in in the Consolidated Statements of Operations, or in Other comprehensive income, depending on the type of derivative held.

(n) Variable Interest Entities

The Company is involved in the normal course of business with variable interest entities (VIEs). An assessment is performed as of the date the Company becomes initially involved in the VIE followed by a reassessment upon certain events related to its involvement in the VIE. The Company consolidates a VIE when it is the primary beneficiary having a controlling financial interest as a result of having the power to direct the activities that most significantly impact the economic performance of the VIE and the obligation to absorb losses, or right to receive benefits, that could potentially be significant to the VIE.

Notes to Consolidated Financial Statements - (Continued)

(o) Recent Accounting Pronouncements

Adopted during 2020

In June 2016, the FASB issued updated guidance on the recognition of credit losses by replacing the incurred loss impairment methodology with new accounting models related to how credit losses on financial instruments are determined. The new guidance is applicable to financial assets measured at amortized cost such as loans, reinsurance receivables, trade receivables, debt securities, off-balance sheet credit exposures, and other financial assets that have a contractual right to receive cash. The Company's investments, except for certain Other invested assets that are accounted for using the equity method of accounting, are measured at fair value through net income, and therefore those investments are not impacted by the adoption of this guidance. The guidance is effective for annual periods beginning after December 15, 2022, with early adoption permitted. The Company adopted the guidance on January 1, 2020 and recorded an after-tax cumulative effect adjustment as a decrease to retained earnings of \$5.3 million upon adoption. Refer to Notes 8(a) and 13(a) for further information regarding the impacts of adoption of this guidance.

In January and April 2017, the FASB issued updated guidance on the accounting for goodwill impairment. This update removes the second step of the goodwill impairment test and requires entities to apply a one-step quantitative test and record the amount of goodwill impairment as the excess of a reporting unit's carrying amount over its fair value, not to exceed the total amount of goodwill allocated to the reporting unit. The new guidance does not amend the optional qualitative assessment of goodwill impairment. The guidance is effective for annual impairment tests in fiscal years beginning after December 15, 2022, with early adoption permitted. The Company adopted the guidance effective January 1, 2020. The adoption did not have a material impact on the company's Consolidated Financial Statements.

In August 2018, the FASB issued updated guidance to the disclosure requirements for fair value measurement as part of the disclosure framework project. The updated guidance allows for the removal and modification of certain disclosures to improve the effectiveness of disclosures in the notes to financial statements. This guidance is effective for fiscal years beginning after December 15, 2019. The Company adopted this guidance effective January 1, 2020. As the guidance is disclosure-related only, it did not have a material impact on the Company's Consolidated Financial Statements. Refer to Note 3 for the relevant disclosures.

Not yet adopted

In August 2018, the FASB issued updated guidance to improve financial reporting for insurance companies that issue long duration contracts such as life insurance and annuities. The objective of the new guidance is to improve, simplify, and enhance the financial reporting of long-duration contracts by providing financial statement users with useful information in a timely and transparent manner. This guidance is effective for annual periods beginning after December 15, 2022 for public business entities that are SEC filers and do not meet the definition of smaller reporting companies. For all other entities, the guidance is effective for fiscal years beginning after December 15, 2024. The Company is currently evaluating the impact of this guidance on its Consolidated Financial Statements and disclosures. This guidance could have a material impact on the measurement recognition of long duration contracts and will result in additional disclosures once adopted.

In March 2020, the FASB issued guidance which provides optional expedients and exceptions for applying U.S. GAAP to modification of contracts, hedging relationships and other transactions that reference the London Interbank Offered Rate (LIBOR) or another reference rate expected to be discontinued because of reference rate reform. Along with the optional expedients, the amendments include a general principle that permits an entity to consider contract modifications due to reference reform to be an event that does not require contract re-measurement at the modification date or reassessment of a previous accounting determination. This guidance may be elected over time through December 31, 2022 as reference rate reform activities occur. The Company is currently evaluating the impact of adopting this guidance on its Consolidated Financial Statements and disclosures.

Notes to Consolidated Financial Statements - (Continued)

3. Fair Value

(a) Fair Value of Financial Instrument Assets

The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value by maximizing the use of observable inputs and minimizing the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing an asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about what market participants would use in pricing the asset or liability based on the best information available in the circumstances. The level in the hierarchy within which a given fair value measurement falls is determined based on the lowest level input that is significant to the measurement.

The Company determines the appropriate level in the hierarchy for each financial instrument that it measures at fair value. In determining fair value, the Company uses various valuation approaches, including market, income and cost approaches. The hierarchy is broken down into three levels based on the observability of inputs as follows:

- Level 1 inputs—Unadjusted, quoted prices in active markets for identical assets or liabilities that the Company has the ability to access.
 - The Company's financial instruments that it measures at fair value using Level 1 inputs generally include equities listed on a major exchange.
- Level 2 inputs—Quoted prices in active markets for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in inactive markets and significant directly or indirectly observable inputs, other than quoted prices, used in industry accepted models.
 - The Company's financial instruments that it measures at fair value using Level 2 inputs generally include: U.S. government issued bonds; U.S. government sponsored enterprises bonds; U.S. state, territory and municipal entities bonds; non-U.S. sovereign government, supranational and government related bonds; investment grade and high yield corporate bonds; mortgage-backed securities; short-term investments; certain common and preferred equities; foreign currency option contracts; foreign exchange forward contracts; and interest rate swaps.
- Level 3 inputs—Unobservable inputs.
 - The Company's financial instruments that it measures at fair value using Level 3 inputs generally include: privately placed corporate loans, inactively traded fixed maturities including U.S. state, territory and municipal bonds; special purpose financing asset-backed bonds; certain corporate bonds; unlisted or private equities; certain other mutual fund equities; notes and loans receivables and notes securitizations included in Other invested assets; and certain other derivatives, including weather derivatives, longevity insurance-linked securities and total return swaps included in other invested assets.

Notes to Consolidated Financial Statements - (Continued)

At December 31, 2020 and 2019, the Company's financial instruments measured at fair value were classified between Levels 1, 2 and 3 as follows (in thousands of U.S. dollars):

D	active iden	ted prices in markets for itical assets		Significant other observable inputs		Significant unobservable inputs (Level 3)		Total
December 31, 2020 Fixed maturities		Level 1)	_	(Level 2)	_	(Level 3)	_	
U.S. government and government sponsored enterprises	\$	_	\$	333,373	\$	_	\$	333,373
U.S. states, territories and municipalities	•	_	Ψ	4,978	4	_	4	4,978
Non-U.S. sovereign government, supranational and government related		_		894,146		_		894,146
Corporate bonds		_		1,178,668		16,530		1,195,198
Asset-backed securities		_				17,528		17,528
Residential mortgage-backed securities		_		1,066,701		_		1,066,701
Fixed maturities	<u>\$</u>	_	\$	3,477,866	\$	34,058	\$	3,511,924
Short-term investments	\$	_	\$	95,204	\$	_	\$	95,204
Equities								
Finance	\$	213	\$	_	\$	_	\$	213
Insurance		_		117		_		117
Industrials		_		_		39		39
Consumer non-cyclical		_		_		5,559		5,559
Consumer cyclical		13,312		_		475		13,787
Energy		_		_		1,042		1,042
Diversified		_		_		3,099		3,099
Mutual funds		_		_		1,381,498		1,381,498
Equities	\$	13,525	\$	117	\$	1,391,712	\$	1,405,354
Other invested assets								
Derivative assets								
Foreign exchange forward contracts	\$	_	\$	1,426	\$	_	\$	1,426
Insurance-linked securities		_		_		3,074		3,074
Total return swaps		_		_		796		796
Equity options - asset		_		_		223		223
Other								
Corporate loans (1)		_		_		610,056		610,056
Notes and loan receivables and notes securitization		_		_		4,434		4,434
Private equities		_				455,341		455,341
Derivative liabilities								
Interest rate swaps		_		(603)		_		(603)
Foreign exchange forward contracts		_		(10,214)		_		(10,214)
Total return swaps		_				(3,152)		(3,152)
Other invested assets	\$	_	\$	(9,391)	\$	1,070,772	\$	1,061,381
Total	\$	13,525	<u> </u>	3,563,796	\$	2,496,542	\$	6,073,863

Notes to Consolidated Financial Statements - (Continued)

December 31, 2019	active iden	ed prices in markets for tical assets Level 1)		Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)			Total
Fixed maturities				<u> </u>		<u> </u>		
U.S. government and government sponsored enterprises	\$	_	\$	243,669	\$	_	\$	243,669
U.S. states, territories and municipalities		_		1,519		143,427		144,946
Non-U.S. sovereign government, supranational and government related		_		1,072,088		_		1,072,088
Corporate bonds		_		1,007,258		18,687		1,025,945
Asset-backed securities		_		_		18,228		18,228
Residential mortgage-backed securities		_		805,093		_		805,093
Other mortgage-backed securities		_		1		_		1
Fixed maturities	<u> </u>	_	\$	3,129,628	\$	180,342	\$	3,309,970
Short-term investments	\$	_	\$	400,708	\$	´—	\$	400,708
Equities				,				,
Finance	\$	18,007	\$	_	\$	_	\$	18,007
Insurance		, 		273		_		273
Consumer cyclical		8,912		_		_		8,912
Mutual funds		_		_		1,174,846		1,174,846
Equities	\$	26,919	\$	273	\$	1,174,846	\$	1,202,038
Other invested assets								
Derivative assets								
Foreign exchange forward contracts	\$	_	\$	3,102	\$	_	\$	3,102
Insurance-linked securities		_		_		2,728		2,728
Foreign currency option contracts		_		266		_		266
Total return swaps		_		_		1,448		1,448
Other								
Corporate loans (1)		_		_		864,718		864,718
Notes and loan receivables and notes securitization		_		_		3,085		3,085
Private equities		_		_		413,468		413,468
Derivative liabilities								
Interest rate swaps		_		(12,378)		_		(12,378)
Insurance-linked securities		_		(1 2,0 70)		(1,871)		(1,871)
Foreign exchange forward contracts		_		(4,896)		(1,0/1)		(4,896)
Total return swaps		_				(2,962)		(2,962)
Other invested assets			_	(13,906)	_	1,280,614	_	1,266,708
Total	\$	26,919	\$	3,516,703	<u> </u>	2,635,802	<u> </u>	6,179,424
	-	-3,717	Ψ	3,013,700	4	_,000,002	-	-,,· - ·

⁽¹⁾ Corporate loans include a portfolio of third-party, individually managed privately issued corporate loans that are managed under an externally managed mandate with a fair value of \$498.1 million and \$758.9 million at December 31, 2020 and 2019, respectively. The mandate primarily invests in U.S. floating rate, first lien, senior secured broadly syndicated loans with a focus on facility sizes greater than \$300 million. Corporate loans also include \$112.0 million and \$105.8 million of other privately issued corporate loans at December 31, 2020 and 2019, respectively.

Notes to Consolidated Financial Statements - (Continued)

At December 31, 2020 and 2019, the aggregate carrying amounts of items included in Other invested assets that the Company did not measure at fair value were \$765.5 million and \$760.9 million, respectively, which related to the Company's investments that are accounted for using the equity method of accounting. Refer to Note 4(f) for further information on the Company's equity method investments.

At December 31, 2020 and 2019, the carrying value of accrued investment income approximated fair value due to its short-term nature.

During the year ended December 31, 2020, there were no transfers from or to Level 3. During the year ended December 31, 2019, an equity security issued by a financial services company valued at \$14 million was transferred from Level 3 to Level 1 due to the availability of quoted prices in active markets.

Disclosures about the fair value of financial instruments that the Company does not measure at fair value exclude insurance contracts and certain other financial instruments. At December 31, 2020 and 2019, the fair values of financial instrument assets recorded in the Consolidated Balance Sheets not described above approximate their carrying values.

The reconciliations of the beginning and ending balances for all financial instruments measured at fair value using Level 3 inputs for the years ended December 31, 2020 and 2019, were as follows (in thousands of U.S. dollars):

For the year ended December 31, 2020		Balance at beginning of year		Realized and unrealized investment gains (losses) included in net income		Purchases		Settlements and sales (1)		Net transfers into/ (out of) Level 3		Balance at end of year	
Fixed maturities													
U.S. states, territories and municipalities	\$	143,427	\$	(5,785)	\$	_	\$	(137,642)	\$	_	\$	_	
Corporate bonds		18,687		(128)		_		(2,029)		_		16,530	
Asset-backed securities		18,228		_		_		(700)		_		17,528	
Fixed maturities	\$	180,342	\$	(5,913)	\$	_	\$	(140,371)	\$	_	\$	34,058	
Equities													
Industrial	\$	_	\$	(491)	\$	530	\$	_	\$	_	\$	39	
Diversified		_		(706)		3,805		_		_		3,099	
Energy		_		1,141		_		(99)		_		1,042	
Consumer cyclical		_		_		475		_		_		475	
Consumer non-cyclical		_		_		5,559		_		_		5,559	
Mutual funds		1,174,846		185,072		47,391		(25,811)		_	1	,381,498	
Equities	\$	1,174,846	\$	185,016	\$	57,760	\$	(25,910)	\$		\$ 1	,391,712	
Other invested assets													
Derivatives, net	\$	(657)	\$	(8,292)	\$	4,886	\$	5,004	\$	_	\$	941	
Corporate loans		864,718		(21,219)		316,885		(550,328)		_		610,056	
Notes and loan receivables and notes		, ,		() -)		,		()-				,	
securitization		3,085		124		4,447		(3,222)		_		4,434	
Private equities		413,468		71,334		60,008		(89,469)		_		455,341	
Other invested assets	\$	1,280,614	\$	41,947	\$	386,226	\$	(638,015)	\$	_	\$ 1	,070,772	
Total	\$	2,635,802	\$	221,050	\$	443,986	\$	(804,296)	\$		\$ 2	2,496,542	
	_		_		_		_						

⁽¹⁾ Settlements and sales of Equities and Other invested assets include sales of \$25.9 million, and \$571.2 million, respectively. Sales of Other invested assets of \$571.2 million included sales of corporate loans of \$485.5 million, private equities of \$88.0 million. Settlements and sales of Fixed maturities include a \$120 million reduction associated with the sale of the Company's interest in PartnerRe Capital Investments Corp. ("PCIC") as described in Note 15(b).

Notes to Consolidated Financial Statements - (Continued)

For the year ended December 31, 2019	_	Balance at beginning of year	u in ga in	ealized and inrealized investment ins (losses) included in iet income	 Purchases	Settlements and sales (1)		Net transfers into/ (out of) Level 3		Balance at end of year	
Fixed maturities											
U.S. states, territories and municipalities	\$	120,898	\$	12,959	\$ 10,455	\$	(885)	\$	_	\$	143,427
Corporate bonds		21,470		157	_		(2,940)		_		18,687
Asset-backed securities		17,596		1,274			(642)				18,228
Fixed maturities	\$	159,964	\$	14,390	\$ 10,455	\$	(4,467)	\$	_	\$	180,342
Equities											
Finance	\$	13,582	\$	102	\$ _	\$	_	\$	(13,684)	\$	_
Technology		12,255		(1,537)	_		(10,718)		_		_
Mutual funds		621,759		388,023	181,685		(16,621)		_	1	1,174,846
Equities	\$	647,596	\$	386,588	\$ 181,685	\$	(27,339)	\$	(13,684)	\$	1,174,846
Other invested assets											
Derivatives, net	\$	(1,279)	\$	115	\$ _	\$	507	\$	_	\$	(657)
Corporate loans		_		(1,071)	942,601		(76,812)				864,718
Notes and loan receivables and notes											
securitization		6,507		(717)	_		(2,705)		_		3,085
Private equities		265,651		56,428	102,676		(11,287)				413,468
Other invested assets	\$	270,879	\$	54,755	\$ 1,045,277	\$	(90,297)	\$	_	\$	1,280,614
Total	\$	1,078,439	\$	455,733	\$ 1,237,417	\$	(122,103)	\$	(13,684)	\$ 2	2,635,802

⁽¹⁾ Settlements and sales of Equities and Other invested assets include sales of \$27.3 million, and \$53.8 million, respectively. Sales of Other invested assets of \$53.8 million included sales of corporate loans of \$40.6 million and private equities of \$11.3 million.

The significant unobservable inputs used in the valuation of financial instruments measured at fair value using Level 3 inputs at December 31, 2020 and 2019 were as follows (fair value in thousands of U.S. dollars):

December 31, 2020	Fair value	Valuation techniques	Unobservable inputs	Range (Weighted average) (1)
Fixed maturities				
Asset-backed securities	17,528	Discounted cash flow	Credit spreads	4.7% (4.7%)
Other invested assets				
Total return swaps, net	(2,356)	Discounted cash flow	Credit spreads	2.7% – 36.7% (29.8%)
Insurance-linked securities - longevity swaps	3,074	Discounted cash flow	Credit spreads	2.7% (2.7%)
Private equity – funds	151,402	Lag reported market value	Net asset value, as reported	100.0% (100.0%)
			Market adjustments	16.0% (16.0%)

Notes to Consolidated Financial Statements - (Continued)

December 31, 2019	Fair value	Valuation techniques	Unobservable inputs	Range (Weighted average) (1)
Fixed maturities				
U.S. states, territories and municipalities	\$ 143,427	Discounted cash flow	Credit spreads	-0.1% – 9.6% (3.5%)
Asset-backed securities	18,228	Discounted cash flow	Credit spreads	4.7% (4.7%)
Other invested assets				
Total return swaps, net	(1,514)	Discounted cash flow	Credit spreads	2.3% – 24.0% (16.9%)
Insurance-linked securities - longevity swaps	2,728	Discounted cash flow	Credit spreads	1.9% (1.9%)
Insurance-linked securities - pandemic swaps	(1,871)	Discounted cash flow	Credit spreads	56.2% (56.2%)
Notes and loan receivables	2,153	Discounted cash flow	Credit spreads	17.5% (17.5%)
			Gross revenue/fair value	1.1 (1.1)
Notes securitization	932	Discounted cash flow	Credit spreads	1.2% (1.2%)
Private equity – funds	122,854	Lag reported market value	Net asset value, as reported	100.0% (100.0%)
			Market adjustments	1.9% – 15.0% (9.0%)

⁽¹⁾ Unobservable inputs were weighted by the relative fair value of the instruments.

The tables above do not include financial instruments that are measured using unobservable inputs (Level 3) where the unobservable inputs were obtained from external sources and used without adjustment. These financial instruments include corporate bonds (included within Fixed maturities), equities and mutual fund investments (included within Equities), certain private equity funds (private equity funds included within Other invested assets), privately placed corporate loans (included within Other invested assets), and certain derivatives (included within Other invested assets).

Changes in the fair value of the Company's financial instruments subject to the fair value option during the years ended December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

	 2020	2019
Fixed maturities and short-term investments	\$ 66,015	\$ 18,453
Equities	161,433	394,300
Other invested assets	 67,154	 48,749
Total	\$ 294,602	\$ 461,502

Substantially all of the above changes in fair value are included in the Consolidated Statements of Operations under the caption Net realized and unrealized investment gains (losses). The change in the fair value of Other invested assets subject to the fair value option does not include certain derivatives.

The following methods and assumptions were used by the Company in estimating the fair value of each class of financial instrument recorded in the Consolidated Balance Sheets. There have been no material changes in the Company's valuation techniques during the periods presented.

Fixed maturities

U.S. government and government sponsored enterprises—consists primarily of bonds issued by the U.S.
 Treasury and corporate debt securities issued by government sponsored enterprises and federally owned or established corporations. These securities are generally priced by independent pricing services. The independent pricing services may use actual transaction prices for securities that have been actively traded. For securities that have not been actively traded, each pricing source has its own proprietary method to determine the fair value, which may incorporate option adjusted spreads (OAS), interest rate data and market news. The Company generally classifies these securities in Level 2.

Notes to Consolidated Financial Statements - (Continued)

- *U.S. states, territories and municipalities*—these securities are generally priced by independent pricing services using the techniques described for U.S. government and government sponsored enterprises above. The Company generally classifies these securities in Level 2. As of December 31, 2019, the balance also included bonds issued by U.S. states, territories and municipalities and the Federal Home Loan Mortgage Corporation. Certain of the bonds that are issued by municipal housing authorities and the Federal Home Loan Mortgage Corporation are not actively traded and are priced based on internal models using unobservable inputs (credit spreads). Accordingly, the Company classified these securities in Level 3.
- Non-U.S. sovereign government, supranational and government related—consists primarily of bonds issued by non-U.S. national governments and their agencies, non-U.S. regional governments and supranational organizations. These securities are generally priced by independent pricing services using the techniques described for U.S. government and government sponsored enterprises above. The Company generally classifies these securities in Level 2.
- Corporate bonds—consists primarily of bonds issued by U.S. and foreign corporations covering a variety of
 industries and issuing countries. Corporate securities also include real estate investment trusts, catastrophe bonds,
 longevity and mortality bonds and government guaranteed corporate debt. These securities are generally priced
 by independent pricing services and brokers. The pricing provider incorporates information including credit
 spreads, interest rate data and market news into the valuation of each security. The Company generally classifies
 these securities in Level 2. When a corporate security is inactively traded or the valuation model uses
 unobservable inputs, the Company classifies the security in Level 3.
- Asset-backed securities—consists of special purpose financing securities. Special purpose financing securities are generally inactively traded and are priced based on valuation models using unobservable inputs (credit spreads).
 The Company generally classifies these securities in Level 3. A significant increase (decrease) in credit spreads in isolation could result in a significantly lower (higher) fair value measurement.
- Residential mortgage-backed securities—consists primarily of bonds issued by the Government National
 Mortgage Association, the Federal National Mortgage Association, the Federal Home Loan Mortgage
 Corporation, as well as private, non-agency issuers. These residential mortgage-backed securities are generally
 priced by independent pricing services and brokers. When current market trades are not available, the pricing
 provider or the Company will employ proprietary models with observable inputs including other trade
 information, prepayment speeds, yield curves and credit spreads. The Company generally classifies these
 securities in Level 2.
- Other mortgage-backed securities—consists primarily of commercial mortgage-backed securities. These securities are generally priced by independent pricing services and brokers. The pricing provider applies dealer quotes and other available trade information, prepayment speeds, yield curves and credit spreads to the valuation. The Company generally classifies these securities in Level 2.

In general, the methods employed by the independent pricing services to determine the fair value of the securities that have not been actively traded primarily involve the use of "matrix pricing" in which the independent pricing source applies the credit spread for a comparable security that has traded recently to the current yield curve to determine a reasonable fair value. The Company generally uses one pricing source per security and uses a pricing service ranking to consistently select the most appropriate pricing service in instances where it receives multiple quotes on the same security. When fair values are unavailable from these independent pricing sources, quotes are obtained directly from broker-dealers who are active in the corresponding markets. Most of the Company's fixed maturities are priced from the pricing services or dealer quotes. The Company will typically not make adjustments to prices received from pricing services or dealer quotes; however, in instances where the quoted external price for a security uses significant unobservable inputs, the Company will classify that security as Level 3. The methods used to develop and substantiate the unobservable inputs used are based on the Company's valuation policy and are dependent upon the facts and circumstances surrounding the individual investments which are generally transaction specific. The Company's inactively traded fixed maturities are classified as Level 3. For all fixed maturity investments, the bid price is used for estimating fair value.

To validate prices, the Company compares the fair value estimates to its knowledge of the current market and will investigate prices that it considers not to be representative of fair value. The Company also reviews an internally generated fixed maturity price validation report which converts prices received for fixed maturity investments from the independent

Notes to Consolidated Financial Statements - (Continued)

pricing sources and from broker-dealers quotes and plots OAS and duration on a sector and rating basis. The OAS is calculated using established algorithms developed by an independent risk analytics platform vendor. The OAS on the fixed maturity price validation report are compared for securities in a similar sector and having a similar rating, and outliers are identified and investigated for price reasonableness. In addition, the Company completes quantitative analyses to compare the performance of each fixed maturity investment portfolio to the performance of an appropriate benchmark, with significant differences identified and investigated.

Short-term investments

Short-term investments are valued in a manner similar to the Company's fixed maturity investments and are generally classified in Level 2.

Equities

Equity securities include U.S. and foreign common and preferred stocks, real estate investment trusts and mutual funds. Publicly traded equities are generally classified in Level 1 as the Company uses prices received from independent pricing sources based on quoted prices in active markets. Equities classified as Level 2 are generally mutual funds invested in fixed income securities, where the net asset value of the fund is provided on a daily basis, and certain common and preferred equities. Equities classified as Level 3 are generally mutual funds invested in securities other than the common stock of publicly traded companies, where the net asset value is not provided on a daily basis, and inactively traded common stocks.

To validate prices, the Company completes quantitative analyses to compare the performance of each equity investment portfolio to the performance of an appropriate benchmark, with significant differences identified and investigated.

Other invested assets

The Company's foreign exchange forward contracts, foreign currency option contracts and interest rate swaps are generally classified as Level 2 within the fair value hierarchy and are priced by independent pricing services.

Included in the Company's Level 3 classification, in general, are privately placed corporate loans, certain derivatives, including weather derivative insurance-linked securities and total return swaps; notes and loan receivables and notes securitizations; and private equities. For Level 3 instruments, the Company will generally (i) receive a price based on a manager's or trustee's valuation for the asset; (ii) develop an internal discounted cash flow model to measure fair value; or (iii) use market return information, adjusted if necessary and weighted using management's judgment, from comparable selected publicly traded equity funds in a similar region and of a similar size. Where the Company receives prices from the manager or trustee, these prices are based on the manager's or trustee's estimate of fair value for the assets and are generally audited on an annual basis. Where the Company develops its own discounted cash flow models, the inputs will be specific to the asset in question, based on appropriate historical information, adjusted as necessary, and using appropriate discount rates. The significant unobservable inputs used in the fair value measurement of other invested assets classified as Level 3 include credit spreads and gross revenue to fair value ratios. Significant unobservable inputs used in the fair value measurement of other invested assets classified as Level 3 also include market return information, weighted using management's judgment, from comparable selected publicly traded companies in the same industry, in a similar region and of a similar size. As part of the Company's modeling to determine the fair value of an investment, the Company considers counterparty credit risk as an input to the model, however, the majority of the Company's counterparties are investment grade rated institutions and the failure of any one counterparty would not have a significant impact on the Company's consolidated financial statements.

To validate prices, the Company will compare them to benchmarks, where appropriate, or to the business results generally within that asset class and specifically to those particular assets.

(b) Fair Value of Financial Instrument Liabilities

At December 31, 2020 and 2019, the carrying values of financial instrument liabilities recorded in the Consolidated Balance Sheets approximate their fair values. Disclosures about the fair value of financial instrument liabilities exclude insurance contracts and certain other financial instruments.

Notes to Consolidated Financial Statements - (Continued)

4. Investments

(a) Net Realized and Unrealized Investment Gains (Losses)

The components of the net realized and unrealized investment gains (losses) for the years ended December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

	2020		 2019
Net realized investment gains on fixed maturities and short-term investments	\$	50,746	\$ 149,710
Net realized investment gains on equities		19,421	5,392
Net realized losses on other invested assets		(27,536)	(4,709)
Change in net unrealized investment gains on fixed maturities and short-term investments		66,015	18,453
Change in net unrealized investment gains on equities		161,433	394,300
Change in net unrealized gains on other invested assets		61,285	44,302
Total net realized and unrealized investment gains	\$	331,364	\$ 607,448

(b) Net Investment Income

The components of net investment income for the years ended December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

	2020	2019
Fixed maturities	\$ 103,549	\$ 153,682
Other invested assets	44,308	31,625
Short-term investments, cash and cash equivalents	5,790	15,098
Equities, funds held and other (1)	11,647	12,580
Investment expenses	(27,474)	(19,121)
Net investment income	\$ 137,820	\$ 193,864

⁽¹⁾ The Company generally earns investment income on funds held by reinsured companies, including the 65% quota-share agreement with PartnerRe Europe (see Note 15), based upon a predetermined interest rate, either fixed contractually at the inception of the contract or based upon a recognized index (e.g., LIBOR). Interest rates ranged from 0.3% to 5.3% for the year ended December 31, 2020 and from 0.3% to 4.6% for the year ended December 31, 2019.

(c) Pledged and Restricted Assets

At December 31, 2020 and 2019, approximately \$80.5 million and \$182.0 million, respectively, of cash and cash equivalents and approximately \$2,059.3 million and \$2,083.6 million, respectively, of securities were deposited, pledged, held in trust or escrow accounts in favor of ceding companies and other counterparties or government authorities to comply with reinsurance contract provisions and insurance laws.

The Company operates a multi-beneficiary U.S. reinsurance trust (the trust) to enable its U.S. cedants to take statutory financial statement credit without the need to post contract-specific security. The trust is required to maintain sufficient assets to support both its liabilities related to some of its U.S. cedants, for contracts incepting after June 2010, and a minimum surplus of \$20.0 million. At December 31, 2020 and 2019, assets held by the trust exceeded liabilities and minimum surplus by \$148.1 million and \$401.7 million, respectively. The Company is currently approved to utilize the trust in all U.S. jurisdictions.

Notes to Consolidated Financial Statements - (Continued)

(d) Receivable for Securities Sold and Payable for Securities Purchased

At December 31, 2020 and 2019, receivables for securities sold of \$14.6 million and \$10.3 million, respectively, were recorded within Other assets in the Consolidated Balance Sheets. At December 31, 2020 and 2019, payables for securities purchased of \$62.8 million and \$89.9 million, respectively, were recorded within Accounts payable, accrued expenses, and other in the Consolidated Balance Sheets.

(e) Variable Interest Entities

The Company holds variable interests in VIEs including certain limited liability companies or partnerships, fixed maturity investments and asset-backed securities. The holdings in these VIEs are reported within fixed maturities and other invested assets in the Company's Consolidated Balance Sheets. The Company's involvement in these entities is, for the most part, passive in nature. The Company's maximum exposure to loss with respect to these investments is limited to the amounts invested in and advanced to the VIEs, and any unfunded commitments.

(f) Equity Method Investments

Investments accounted for under the equity method at December 31, 2020 and 2019, totaled \$765.5 million and \$760.9 million, respectively. At December 31, 2020 and 2019, the Company held a 36% shareholding in the privately held United Kingdom real estate investment and development group, Almacantar Group Limited (Almacantar), accounted for under the equity method. At December 31, 2020 and 2019, the total carrying value of this investment was \$494 million and \$483 million, respectively, included within Other invested assets in the Consolidated Balance Sheets.

5. Derivatives

The Company's objectives for holding or issuing derivatives are as follows:

Foreign Exchange Forward Contracts—The Company utilizes foreign exchange forward contracts as part of its overall currency risk management and investment strategies.

Futures Contracts and Foreign Currency Option Contracts —The Company uses exchange traded treasury note futures contracts to manage portfolio duration and equity futures to hedge certain investments. The Company utilizes foreign currency option contracts to mitigate foreign currency risk.

Insurance-linked Securities—The Company enters into various derivatives for which the underlying risks reference parametric weather risks and pandemic outbreaks, in addition to longevity total return swaps for which the underlying risks reference longevity risks.

Total Return and Interest Rate Swaps—The Company enters into total return swaps referencing certain investments in Other invested assets. The Company enters into interest rate swaps to mitigate the interest rate risk on certain of the total return swaps and certain fixed maturity investments.

TBAs—The Company utilizes TBAs as part of its overall investment strategy and to enhance investment performance.

Notes to Consolidated Financial Statements - (Continued)

There were no derivatives designated as hedges for the years ended December 31, 2020 and 2019. The net fair values of derivatives included in Other invested assets within the Company's Consolidated Balance Sheets and the related net notional exposures at December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

	de		Liability erivatives		Net derivatives				
December 31, 2020	at fair value			at fair value	Fair value		Net notional exposure		
Derivatives not designated as hedges									
Foreign exchange forward contracts	\$	1,426	\$	(10,214)	\$	(8,788)	\$ 1,757,538		
Insurance-linked securities (1)		3,074		_		3,074	15,350		
Total return swaps		796		(3,152)		(2,356)	31,580		
Other		223				223	_		
Interest rate swaps (2)		_		(603)		(603)	_		
		5,519	\$	(13,969)	\$	(8,450)			
Total derivatives not designated as hedges	<u>\$</u>	3,319	Ψ	(10,505)	Ψ	(0,100)			
-	<u></u>	Asset		Liability	<u> </u>	Net der	ivatives		
-	<u></u>	· ·					ivatives Net notional exposure		
Total derivatives not designated as hedges	<u></u>	Asset erivatives at fair		Liability erivatives at fair		Net der	Net notional		
Total derivatives not designated as hedges December 31, 2019	<u></u>	Asset erivatives at fair		Liability erivatives at fair	F	Net der	Net notional exposure		
Total derivatives not designated as hedges December 31, 2019 Derivatives not designated as hedges	de	Asset erivatives at fair value	d	Liability erivatives at fair value	F	Net der	Net notional exposure		
December 31, 2019 Derivatives not designated as hedges Foreign exchange forward contracts	de	Asset erivatives at fair value	d	Liability erivatives at fair value	F \$	Net deri Pair value (1,794)	Net notional exposure		
December 31, 2019 Derivatives not designated as hedges Foreign exchange forward contracts Foreign currency option contracts	de	Asset erivatives at fair value 3,102 266	d	Liability erivatives at fair value (4,896)	F \$	Net der Fair value (1,794) 266	Net notional exposure \$ 3,091,754		
December 31, 2019 Derivatives not designated as hedges Foreign exchange forward contracts Foreign currency option contracts Insurance-linked securities (1)	de	Asset crivatives at fair value 3,102 266 2,728	d	Liability erivatives at fair value (4,896) — (1,871)	F \$	Net deri Fair value (1,794) 266 857	Net notional exposure \$ 3,091,754 44,250		

⁽¹⁾ Insurance-linked securities include longevity swaps for which the notional amounts are not reflective of the overall potential exposure of the swaps. The net notional exposure above included the Company's best estimate of the present value of future expected claims.

⁽²⁾ The Company enters into interest rate swaps to mitigate notional exposures on certain total return swaps and certain fixed maturities. The net notional exposure for interest rate swaps above relates to fixed maturities.

Notes to Consolidated Financial Statements - (Continued)

The gains and (losses) in the Consolidated Statements of Operations for derivatives not designated as hedges for the years ended December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

	2020		 2019
Foreign exchange forward contracts	\$	(148,352)	\$ (4,293)
Total included in net foreign exchange gains and losses	\$	(148,352)	\$ (4,293)
Futures contracts			(7,952)
Credit default swaps (protection purchased)			(67)
Insurance-linked securities		(2,683)	(4,381)
Total return swaps		845	_
Interest rate swaps		(8,364)	(5,230)
TBAs		(162)	_
Other		1,301	 530
Total included in net realized and unrealized investment gains and losses	\$	(9,063)	\$ (17,100)
Total (losses) gains on derivatives not designated as hedges	\$	(157,415)	\$ (21,393)

Offsetting of Derivatives

The gross and net fair values of derivatives that are subject to offsetting in the Consolidated Balance Sheets at December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

		Gross amounts Net amounts of balanc											
December 31, 2020	Gross amounts recognized (1)		Gross amounts offset in the balance sheet		ets / liabilities esented in the alance sheet	Financial Cash collater received / instruments pledged				ial received /		N	let amount
Total derivative assets	\$ 5,519	\$	16,906	\$	22,425	\$	_	\$	(26,853)	\$	(4,428)		
Total derivative liabilities	\$ (13,969)	\$	(16,906)	\$	(30,875)	\$	_	\$	5,781	\$	(25,094)		
December 31, 2019	 					_		_	(10.707)		(11.000)		
Total derivative assets	\$ 7,544	\$	_	\$	7,544	\$	_	\$	(19,537)	\$	(11,993)		
Total derivative liabilities	\$ (22,107)	\$	_	\$	(22,107)	\$	_	\$	2,391	\$	(19,716)		

⁽¹⁾ Amounts include all derivative instruments, irrespective of whether there is a legally enforceable master netting arrangement in place.

Notes to Consolidated Financial Statements - (Continued)

6. Goodwill and Intangible Assets

The Company's goodwill was re-allocated to the Company from PartnerRe Europe during 2012 (see Note 2(i)). The Company's intangible asset (see Note (j)) relates to life VOBA from the Parent's acquisition of Aurigen Capital Limited (Aurigen Capital) in 2017. Aurigen Capital owned 100% of Aurigen Reinsurance Limited (ARL). In 2018, Aurigen Capital merged into the Parent, with the Parent being the sole survivor. The Parent's share interest in ARL was transferred to the Company and ARL was then merged into PartnerRe Life, with PartnerRe Life being the sole survivor, resulting in the Company's recognition of life VOBA.

The Company's goodwill and intangible assets were as follows at December 31, 2020 and 2019 (in thousands of U.S. dollars):

	Goodwill		ntangible assets		
Balance at January 1, 2020	\$ 26,014	\$	71,321		
Intangible assets amortization ⁽¹⁾	n/a		(1,606)		
Balance at December 31, 2020	\$ 26,014	\$	69,715		
	Goodwill		Intangible assets		
	 Goodwill	Iı	0		
Balance at January 1, 2019	\$ Goodwill 26,014	\$	0		
Balance at January 1, 2019 Intangible assets amortization ⁽¹⁾			assets		

n/a: Not applicable

As of December 31, 2020, the gross carrying amount and accumulated amortization of the Company's intangible assets were \$82.2 million and \$12.5 million, respectively. As of December 31, 2019, the gross carrying amount and accumulated amortization were \$82.2 million and \$10.9 million, respectively.

The estimated future amortization expense related to the Company's definite-lived intangible assets is as follows (in thousands of U.S. dollars):

ear		Intangible assets		
2021	\$	1,486		
2022		2,478		
2023		2,272		
2024		2,296		
2025		2,070		
Thereafter		59,113		
Total	\$	69,715		

⁽¹⁾ The life VOBA is a definite-lived intangible asset which is being amortized over 100 years from the date of acquisition of Aurigen Capital by PartnerRe Ltd. on April 3, 2017.

Notes to Consolidated Financial Statements - (Continued)

7. Non-life and Life and Health Reserves

(a) Non-life Reserves

Non-life reserves are categorized into three types of reserves: case reserves, ACRs and IBNR reserves. Case reserves represent unpaid losses reported by the Company's cedants and recorded by the Company. ACRs are established for particular circumstances where, on the basis of individual loss reports, the Company estimates that the particular loss or collection of losses covered by a treaty may be greater than those advised by the cedant. IBNR reserves represent a provision for claims that have been incurred but not yet reported to the Company, as well as future loss development on losses already reported, in excess of the case reserves and ACRs. See also Note 2(b).

The reconciliation of the beginning and ending gross and net liability for non-life reserves for the years ended December 31, 2020 and 2019 was as follows (in thousands of U.S. dollars):

_	2020	2019
Gross liability at beginning of year	\$ 4,659,112	\$ 4,841,419
Reinsurance recoverable at beginning of year	305,516	484,284
Net liability at beginning of year	4,353,596	4,357,135
Net incurred losses related to:		
Current year	1,602,845	1,505,952
Prior years	35,744	(37,260)
•	1,638,589	1,468,692
Net paid losses related to:		
Current year	(230,733)	(199,302)
Prior years	(1,212,400)	(1,269,385)
	(1,443,133)	(1,468,687)
Effects of foreign exchange rate changes and other	150,296	(3,544)
Net liability at end of year	4,699,348	4,353,596
Reinsurance recoverable at end of year	288,481	305,516
Gross liability at end of year	\$ 4,987,829	\$ 4,659,112

During the years ended December 31, 2020 and 2019, the Company's Non-life business reported net adverse loss development of \$35.7 million and net favorable loss development of \$37.3 million for prior accident years, respectively.

Reported net adverse loss development for prior accident years during the year ended December 31, 2020 was driven by adverse loss emergence in the Specialty business, which was partially offset by favorable loss emergence for the P&C business. Aggregate losses reported in 2020 for the P&C business were better than Company's expectations as losses for most lines of business continue to emerge below expectations. This was partially offset by adverse activity primarily in P&C Asia catastrophe. Aggregate losses reported in 2020 for the Specialty business were worse than Company's expectations as losses for most of the recent underwriting years were worse than expected. The worse than expected loss emergence within the Specialty business was predominantly driven by Specialty Property, Engineering, Marine and Energy (SPEME), Specialty Other, Agriculture, and Aviation. The Company reflected this experience by adjusting the selected loss ratios accordingly for these lines of business.

Reported net favorable loss development for prior accident years during the year ended December 31, 2019 was driven by favorable loss emergence in the P&C business, which was partially offset by adverse loss emergence for the Specialty business. Aggregate losses reported in 2019 for the P&C business were better than Company's expectations as losses for most lines of business continue to emerge below expectations. This was partially offset by adverse activity primarily in U.S. casualty and U.S. multiline business. Aggregate losses reported in 2019 for the Specialty business were worse than Company's expectations as losses for most underwriting years were worse than expected. The worse than expected loss emergence within the Specialty business was predominantly driven by engineering, multiline and aviation but partially offset

Notes to Consolidated Financial Statements - (Continued)

by favorable emergence primarily in agriculture and financial risks exposures. The Company reflected this experience by adjusting the selected loss ratios accordingly for these lines of business.

Asbestos and Environmental Claims

The Company's net non-life reserves at December 31, 2020 and 2019 included \$22.9 million and \$23.2 million, respectively, related to asbestos and environmental claims.

Ultimate loss estimates for such claims cannot be estimated using traditional reserving techniques and there are significant uncertainties in estimating the Company's potential losses for these claims. In view of the legal and tort environment that affect the development of such claims, the uncertainties inherent in estimating asbestos and environmental claims are not likely to be resolved in the near future. There can be no assurance that the reserves established by the Company will not be adversely affected by development of other latent exposures, and further, there can be no assurance that the reserves established by the Company will be adequate. The Company does, however, actively evaluate potential exposure to asbestos and environmental claims and establishes additional reserves as appropriate. The Company believes that it has made a reasonable provision for these exposures and is unaware of any specific issues that would materially affect its unpaid losses and loss expense reserves related to this exposure.

Non-life Reserving methods

The reserving methods commonly employed by the Company are summarized as follows:

Chain Ladder (CL) Development Methods (Reported or Paid)

These methods use the underlying assumption that losses reported (paid) for each underwriting year at a particular development stage follow a stable pattern. The CL development method assumes that on average, every underwriting year will display the same percentage of ultimate liabilities reported by the Company's cedants at 24 months after the inception of the underwriting year. The percentages reported (paid) are established for each development stage after examining historical averages from the loss development data. These are sometimes supplemented by external benchmark information. Ultimate liabilities are estimated by multiplying the actual reported (paid) losses by the reciprocal of the assumed reported (paid) percentage. Reserves are then calculated by subtracting paid claims from the estimated ultimate liabilities.

Expected Loss Ratio (ELR) Method

This method estimates ultimate losses for an underwriting year by applying an estimated loss ratio to the earned premium for that underwriting year. Although the method is insensitive to actual reported or paid losses, it can often be useful at the early stages of development when very few losses have been reported or paid, and the principal sources of information available to the Company consist of information obtained during pricing and qualitative information supplied by the cedant. However, the lack of sensitivity to reported or paid losses means that the method is usually inappropriate at later stages of development.

Bornhuetter-Ferguson (B-F) Methods (Reported or Paid)

These methods aim to address the variability at early stages of development and incorporates external information such as pricing. The B-F methods are more sensitive to reported and paid losses than the ELR method, and can be seen as a blend of the ELR and CL development methods. Unreported (unpaid) claims are calculated using an expected reporting (payment) pattern and an externally determined estimate of ultimate liabilities (usually determined by multiplying an a priori loss ratio with estimates of premium volume). The accuracy of the a priori loss ratio is a critical assumption in this method. Usually a priori loss ratios are initially determined on the basis of pricing information, but may also be adjusted to reflect other information that subsequently emerges about underlying loss experience.

Notes to Consolidated Financial Statements - (Continued)

Loss Event Specific Method

The ultimate losses estimated under this method are derived from estimates of specific events based on reported claims, client and broker discussions, review of potential exposures, market loss estimates, modeled analysis and other event specific criteria.

Method Weights

In determining the loss reserves, the Company often relies on a blend of the results from two or more methods (e.g., weighted averages). The judgment as to which of the above method(s) is most appropriate for a particular underwriting year and reserving cell could change over time as new information emerges regarding underlying loss activity and other data issues. Furthermore, as each line is typically composed of several reserving cells, it is likely that the reserves for the line will be dependent on several reserving methods. This is because reserves for a line are the result of aggregating the reserves for each constituent reserving cell and that a different method could be selected for each reserving cell.

The principal reserving methods used for Specialty business and P&C business were ELR, Reported/Paid B-F, and Reported/Paid CL, with the exception of catastrophe risks within P&C where the principal reserving methods used were ELR based on exposure analysis and loss event specific methods.

(b) Life and Health Reserves

The reconciliation of the beginning and ending gross and net liability for life and health reserves for the years ended December 31, 2020 and 2019 was as follows (in thousands of U.S. dollars):

	_	2020	2019
Gross and net liability at beginning of period	\$	1,401,934	\$ 1,299,674
Net incurred losses		821,150	778,827
Net losses paid		(754,226)	(663,381)
Effects of foreign exchange rate changes and other		102,368	(13,186)
Gross liability at end of period	\$	1,571,226	\$ 1,401,934

Net incurred losses includes unfavorable prior years' loss development of \$31 million during the year ended December 31, 2020 driven by the Company's disability business.

The Company used interest rate assumptions to estimate its liabilities for policy benefits for life and annuity contracts which ranged from 0% to 11% at December 31, 2020 and 0% to 7% at December 31, 2019.

Life and health reserving methods

The reserving methods commonly employed by the Company are summarized as follows:

Mortality

The reserves for the short-term mortality/morbidity business consist of case reserves calculated at the treaty level based upon cedant information. IBNR is calculated at the segment level using the ELR method described above for Non-life business.

The reserves for the traditional and limited payment long-duration contracts are established based upon accepted actuarial valuation methods which require us to make certain assumptions regarding future claims and policy benefits and includes a provision for adverse deviation. The provision for adverse deviation contemplates reasonable deviations from the best estimate assumptions for the key risk elements relevant to the product being evaluated, including mortality, disability, critical illness, expenses, and discount rates. The assumptions are locked in at contract inception and are subject to annual loss recognition testing (LRT). LRT occurs at the product group level, based on the manner of acquiring, servicing and measuring profitability of the reinsurance contracts. The LRT framework incorporates deferred acquisition cost (DAC) recoverability testing and involves determining an LRT reserve by re-measuring the policy benefit liabilities using current best estimate actuarial assumptions and current discount rates without any provisions for adverse deviation. If the aggregate LRT reserve is higher than the carrying amount of future policy benefit liabilities, net of DAC and VOBA, for a particular

Notes to Consolidated Financial Statements - (Continued)

product grouping then a loss recognition event occurs. The DAC and VOBA asset balances for the given product grouping are first reduced, and if the balances are fully written off, the reserves will be increased, such that the current best estimate assumptions become the new locked-in basis.

The reserves for the guaranteed minimum death benefit (GMDB) reinsurance business are established similar to provisions for universal life contracts. Key actuarial assumptions for this business are mortality, lapses, interest rates, expected returns on cash and bonds and stock market performance. For the latter parameter, a stochastic option pricing approach is used and the benefits used in calculating the liabilities are based on the average benefits payable over a range of scenarios. The assumptions of investment performance and volatility are consistent with expected future experience of the respective underlying funds available for policyholder investment options. Recorded reserves for GMDB reflect management's best estimate based upon actuarial indications.

Longevity

Reserves for the annuity portfolio of reinsurance contracts within the longevity book are established using the reserving methodology discussed above for long-term traditional mortality.

(c) Losses and Loss Expenses

Losses and loss expenses in the Consolidated Statements of Operations for the years ended December 31, 2020 and 2019 was as follows (in thousands of U.S. dollars):

	2020	2019
Net incurred losses related to:		
Non-life	\$ 1,638,589	\$ 1,468,692
Life and health	821,150	778,827
Losses and loss expenses	\$ 2,459,739	\$ 2,247,519

Non-life net incurred and paid losses and loss expense development

The net incurred and paid losses and loss expenses development by accident year for each of the years ended December 31, 2012 through 2020, and the total of IBNR plus expected development on reported claims included within the net incurred claims amounts, as at each of the years ended December 31, 2012 through 2020, are presented in the tables below (in thousands of U.S. dollars).

The information presented below for incurred and paid claims development and the average annual percentage payout of incurred claims by age, net of reinsurance, for each of the years ended December 31, 2012 through 2019 is presented as supplementary information and is unaudited. The tables below reflect losses incurred and paid losses translated to U.S. dollars at the exchange rate as of the balance sheet date whereas the losses and loss expenses in the Consolidated Statement of Operations reflected losses incurred at the average exchange rate for the period.

Notes to Consolidated Financial Statements - (Continued)

NET INCURRED LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - NON-LIFE

For the year ended December 31,

December 31, 2020

Accident year	2012	2013	2014	2015	2016	2017	2018	2019	2020	e deve	of IBNR plus xpected lopment on rted claims
2012	\$1,182,160	\$1,058,416	\$ 975,336	\$ 923,855	\$ 908,044	\$ 903,253	\$ 888,606	\$ 874,474	\$ 867,416	\$	15,350
2013		1,296,195	1,196,762	1,118,261	1,091,379	1,068,733	1,051,890	1,049,333	1,039,564		38,237
2014			1,290,320	1,179,865	1,128,709	1,114,313	1,116,474	1,114,613	1,103,838		51,744
2015				1,314,326	1,173,675	1,126,925	1,120,667	1,116,604	1,104,241		71,456
2016					1,337,052	1,223,030	1,177,345	1,176,030	1,179,481		79,648
2017						1,746,722	1,733,639	1,688,174	1,677,794		159,464
2018							1,635,878	1,722,263	1,723,489		378,093
2019								1,556,096	1,707,161		574,406
2020									1,779,504		1,103,040
Total									\$12,182,488	\$	2,471,438

NET PAID LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - NON-LIFE For the year ended December 31,

Accident year		2012		2013		2014		2015		2016	2017	2018	2019		2020
2012	\$	130,545	\$	460,017	\$	612,504	\$	680,485	\$	720,126	\$ 754,875	\$ 774,557	\$ 798,373	\$	805,456
2013				116,914		570,184		730,509		819,462	872,389	909,196	934,992		947,550
2014						146,307		608,805		748,148	837,825	896,011	939,523		974,185
2015								142,305		549,218	732,255	832,419	901,315		943,284
2016										146,224	604,248	775,966	903,579		956,873
2017											262,280	933,337	1,186,397]	1,351,945
2018												138,823	769,571	1	1,110,539
2019													196,583		710,661
2020															229,177
Total														\$8	3,029,670
Net reserv	ves i	for Accider	nt Ye	ars and exp	osui	res included	l in t	he triangles						2	4,152,818
All outsta	ndii	ng liabilitie	s bei	fore Accide	nt Y	ear 2012, n	et of	reinsurance)						499,580
Total outs	stan	ding net lia	biliti	es for unpa	id cl	aims								\$ 4	4,652,398

AVERAGE ANNUAL PERCENTAGE PAYOUT OF INCURRED CLAIMS BY AGE, NET OF REINSURANCE - NON-LIFE

Years	1	2	3	4	5	6	7	8	9
Non-life	12 %	38 %	16 %	9 %	5 %	4 %	3 %	2 %	1 %

Notes to Consolidated Financial Statements - (Continued)

NET INCURRED LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - PROPERTY

For the year ended December 31,

December 31, 2020

Accident year	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total of IBNR plus expected development on reported claims
2012	\$ 311,969	\$ 324,731	\$ 271,312	\$ 261,777	\$ 255,108	\$ 253,972	\$ 246,502	\$ 243,944	\$ 243,931	\$ (3,707)
2013		391,799	324,342	309,499	300,586	296,938	290,249	289,149	288,658	(512)
2014			257,578	226,428	216,531	216,156	214,521	214,263	213,446	205
2015				288,960	259,206	247,511	240,877	239,001	236,843	2,639
2016					342,110	311,725	280,402	268,952	266,754	(7,157)
2017						709,114	731,752	663,941	639,993	(1,989)
2018							550,684	576,337	578,221	65,183
2019								455,821	488,865	43,982
2020									602,798	351,904
Total									\$ 3,559,509	\$ 450,548

NET PAID LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - PROPERTY For the year ended December 31,

Accident year		2012		2013		2014		2015	2016	2017	2018	2019		2020
2012	\$	47,363	\$	165,028	\$	205,643	\$	222,877	\$ 229,109	\$ 233,639	\$ 235,677	\$ 240,128	\$	240,405
2013				45,729		189,960		246,495	265,918	276,237	278,137	280,852		281,931
2014						39,582		154,754	186,460	200,192	205,382	208,417		210,276
2015								42,585	165,506	207,054	220,026	225,177		227,412
2016									56,611	199,004	233,223	250,935		257,846
2017										170,354	515,668	573,829		603,906
2018											33,367	382,502		474,871
2019												21,327		264,028
2020														42,991
Total													\$ 2	2,603,666
Net reserve	es fo	or Accident	t Ye	ars and exp	osur	es included	in tl	ne triangles						955,843
All outstan	din	g liabilities	bef	ore Accider	nt Ye	ear 2012, ne	et of	reinsurance						11,545
Total outst	and	ing net liab	oiliti	es for unpai	id cla	aims							\$	967,388

Assidant

AVERAGE ANNUAL PERCENTAGE PAYOUT OF INCURRED CLAIMS BY AGE, NET OF REINSURANCE - PROPERTY

Years	1	2	3	4	5	6	7	8	9
Property	14 %	53 %	14 %	6 %	3 %	1 %	1 %	1 %	— %

Notes to Consolidated Financial Statements - (Continued)

NET INCURRED LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - CASUALTY

For the year ended December 31,

December 31, 2020

Accident year	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total of IBNR plus expected development on reported claims
2012	\$ 237,220	\$ 230,217	\$ 224,950	\$ 208,877	\$ 201,082	\$ 201,211	\$ 199,174	192,245	\$ 188,221	\$ 15,403
2013		287,844	291,590	276,784	269,431	263,381	259,940	258,288	251,336	30,405
2014			349,188	345,102	339,178	341,836	346,413	344,073	336,749	40,216
2015				355,076	337,660	329,927	341,173	337,087	334,092	56,839
2016					336,149	325,699	328,755	333,759	336,255	65,443
2017						345,154	330,226	338,128	342,376	88,237
2018							418,440	421,075	429,867	183,048
2019								327,248	332,776	173,037
2020									259,837	192,935
Total									\$ 2,811,509	\$ 845,563

NET PAID LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - CASUALTY For the year ended December 31,

Accident year		2012		2013		2014		2015		2016	2017	2018	2019	2020
2012	\$	22,219	\$	55,040	\$	75,323	\$	95,296	\$	110,249	\$ 128,051	\$ 137,610	145,266	\$ 150,398
2013				23,475		68,294		103,147		127,725	148,833	168,873	182,036	190,195
2014						32,086		92,377		129,941	163,966	195,155	220,417	247,859
2015								31,183		82,728	124,902	158,025	194,611	222,193
2016										12,139	66,387	103,499	145,827	178,038
2017											32,695	90,893	140,217	184,615
2018												37,297	115,604	170,890
2019													38,764	107,086
2020														34,824
Total														\$ 1,486,098
Net reserv	ves fo	or Acciden	t Yea	ars and exp	osure	s included	in th	ne triangles						1,325,411
All outsta	ındin	g liabilities	befo	ore Acciden	nt Ye	ar 2012, no	et of	reinsurance	;					484,611
Total outs	stand	ing net liab	oilitie	es for unpai	d cla	ims								\$ 1,810,022

AVERAGE A	ANNUAL PERO	CENTAGE PA	YOUT OF INC	CURRED CLA	IMS BY AGE,	NET OF REIN	SURANCE - C	CASUALTY
1	2	2	4	_	(7	0	0

Years	1	2	3	4	5	6	7	8	9
Casualty	9 %	18 %	12 %	11 %	9 %	8 %	6 %	4 %	3 %

Notes to Consolidated Financial Statements - (Continued)

NET INCURRED LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - SPECIALTY

For the year ended December 31,

December 31, 2020

Accident year	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total of IBNR plus expected development on reported claims
2012	\$ 632,971	\$ 503,468	\$ 479,074	\$ 453,201	\$ 451,854	\$ 448,070	\$ 442,930	\$ 438,285	\$ 435,263	\$ 3,654
2013		616,552	580,830	531,977	521,361	508,414	501,701	501,897	499,571	8,344
2014			683,553	608,335	573,001	556,321	555,539	556,277	553,643	11,323
2015				670,290	576,810	549,487	538,618	540,516	533,306	11,977
2016					658,794	585,607	568,189	573,318	576,472	21,362
2017						692,455	671,661	686,105	695,424	73,216
2018							666,754	724,851	715,401	129,863
2019								773,027	885,521	357,387
2020									916,869	558,201
Total									\$ 5,811,470	\$ 1,175,327

NET PAID LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE -SPECIALTY For the year ended December 31,

Accident year		2012		2013		2014		2015	2016	2017	2018	2019	2020
2012	\$	60,962	\$	239,949	\$	331,538	\$	362,312	\$ 380,768	\$ 393,184	\$ 401,270	\$ 412,978	\$ 414,654
2013				47,710		311,930		380,867	425,819	447,318	462,186	472,104	475,425
2014						74,640		361,673	431,746	473,667	495,474	510,689	516,050
2015								68,537	300,984	400,300	454,368	481,527	493,679
2016									77,475	338,857	439,244	506,817	520,989
2017										59,232	326,776	472,352	563,424
2018											68,159	271,465	464,778
2019												136,492	339,546
2020													 151,361
Total													\$ 3,939,906
Net reserv	ves fo	or Acciden	t Ye	ars and exp	osur	es included	in t	he triangles					1,871,564
All outsta	ndin	g liabilities	s bef	ore Accide	nt Ye	ear 2012, ne	et of	reinsurance					 3,424
Total outs	stand	ing net lial	oiliti	es for unpai	id cla	aims							\$ 1,874,988

AVERAGE ANNUAL PERCENTAGE PAYOUT OF INCURRED CLAIMS BY AGE, NET OF REINSURANCE - SPECIALTY

Years	1	2	3	4	5	6	7	8	9
Specialty	13 %	39 %	19 %	10 %	4 %	3 %	2 %	2 %	— %

The Company is predominantly a reinsurer of primary insurers and does not have access to claim frequency information held by our cedants due to the majority of the Company's business being written on a proportional basis. As such, the Company considers it impracticable to disclose information on the frequency of claims.

The Company has concluded that it is impracticable to provide net incurred and paid losses and loss expenses development data for 10 years and has therefore presented the data for 9 years. An additional year of data for each subsequent year will be included such that by 2021 a full 10 years of data will be disclosed.

Notes to Consolidated Financial Statements - (Continued)

The reconciliation of the net incurred and paid claims development information above to the Non-life reserves in the Consolidated Balance Sheet at December 31, 2020 was as follows (in thousands of U.S. dollars):

	D	December 31, 2020
Total outstanding liability for unpaid claims		
Property	\$	967,388
Casualty		1,810,022
Specialty		1,874,988
Total outstanding liabilities for unpaid claims	\$	4,652,398
Other liabilities (1)		46,950
Net liability at end of year	\$	4,699,348
Reinsurance recoverable on unpaid claims		
Property		272,888
Casualty		_
Specialty		15,593
Reinsurance recoverable at end of year	\$	288,481
Gross liability at end of year	\$	4,987,829

⁽¹⁾ Other liabilities included in the reconciliation relate primarily to unallocated loss expenses.

8. Reinsurance

(a) Reinsurance Recoverable on Paid and Unpaid Losses

The Company uses retrocessional agreements to reduce its exposure to risk of loss on reinsurance assumed. These agreements provide for recovery from retrocessionaires of a portion of losses and loss expenses. The Company remains liable to its cedants to the extent that the retrocessionaires do not meet their obligations under these agreements, and therefore the Company evaluates the financial condition of its reinsurers and monitors concentration of credit risk on an ongoing basis. The Company actively manages its reinsurance exposures by generally selecting retrocessionaires having a credit rating of A- or higher. In certain cases where an otherwise suitable retrocessionaire has a credit rating lower than A-, the Company generally requires the posting of collateral, including escrow funds and letters of credit, as a condition to its entering into a retrocession agreement. The Company regularly reviews its reinsurance recoverable balances to estimate an allowance for uncollectible amounts based on quantitative and qualitative factors.

The Company adopted updated accounting guidance on the recognition of credit losses effective January 1, 2020. In assessing an allowance for reinsurance recoverable balances, the Company considers historical information, financial strength and credit ratings of reinsurers, collateralization amounts and the remaining expected life of reinsurance recoverable balances to determine the appropriateness of the allowance. Historically, the Company has not experienced material credit losses from retrocessional agreements. In assessing future default for reinsurance recoverable balances, the Company evaluates the valuation allowance under the probability of default and loss given default method and utilizes counterparty credit ratings from major rating agencies, as well as assessing the current market conditions and reasonable and supportable forecasts for the likelihood of default. As a result of the adoption and at December 31, 2020, the Company recorded an allowance for credit losses of \$1.9 million on its reinsurance recoverable balance. This compared to no allowance for its reinsurance recoverable balance at December 31, 2019.

(b) Ceded Reinsurance

Net premiums written, net premiums earned and losses and loss expenses are reported net of reinsurance in the Company's Consolidated Statements of Operations. Assumed, ceded and net amounts for the years ended December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

Notes to Consolidated Financial Statements - (Continued)

		Premiums Written	Premiums Earned	Losses and Loss Expenses		
Assumed		2,939,658	\$ 3,078,813	\$	2,572,652	
Ceded	· 	162,883	 162,869		112,913	
Net	<u>\$</u>	2,776,775	\$ 2,915,944	\$	2,459,739	
2019						
Assumed	\$	3,339,270	\$ 3,284,969	\$	2,326,490	
Ceded		165,947	 170,966		78,971	
Net	\$	3,173,323	\$ 3,114,003	\$	2,247,519	

9. Shareholder's Equity

At December 31, 2020 and 2019, the total authorized and issued shares of the Company were 3,000,000 shares with a par value of \$1.00 per share.

10. Dividend Restrictions and Statutory Requirements

The Company is licensed as a Class 4 and Class E insurer and is therefore authorized to carry on general and long-term insurance business in Bermuda. The Insurance Act regulates insurance business in Bermuda and requires the Company to maintain minimum levels of solvency and liquidity and to comply with risk-based capital requirements and licensing rules, including its minimum solvency margin ("MSM"), defined as the prescribed minimum amount by which the value of the assets of the Company must exceed the value of its liabilities. As at December 31, 2020, the Company's solvency, liquidity and risk-based capital levels were in excess of the minimum levels required.

The Insurance Act also provides that the Company shall not in any financial year pay dividends which would exceed 25% of its total statutory capital and surplus, as shown on its statutory balance sheet in relation to the previous financial year, unless at least 7 days before payment of those dividends it files with the BMA an affidavit signed by at least two directors, and by the Company's principal representative in Bermuda, which states that in the opinion of those signing, declaration of those dividends has not caused the insurer to fail to meet its relevant margins. Further, the Company must obtain the BMA's prior approval before reducing its total statutory capital as shown in its previous financial year statutory balance sheet by 15% or more. The Company may declare dividends subject to it continuing to meet these minimum levels of solvency, liquidity, and its risk-based capital requirement, which is to hold statutory capital and surplus equal to or exceeding the Target Capital Level (equivalent to 120% of the Enhanced Capital Requirement (ECR)). The ECR is calculated using the Bermuda Solvency Capital Requirement model which is a risk-based capital model. At December 31, 2020, the maximum dividend that PartnerRe Bermuda could pay out of retained earnings was approximately \$1,226 million.

The Company is required to file annual statements with the Bermuda Monetary Authority (BMA) on an accounting basis as prescribed by the BMA. The typical adjustments to insurance statutory basis amounts to convert to U.S. GAAP include recognition of goodwill, intangible assets and deferred income taxes, and presentation of ceded reinsurance balances gross of assumed balances. The statutory financial return and capital and solvency return of the Company as at, and for the year ended, December 31, 2020 are due to be submitted to the BMA by April 30, 2021. The statutory financial return and capital and solvency return are subject to the review and final approval of the BMA.

Notes to Consolidated Financial Statements - (Continued)

The required and actual statutory capital and surplus of the Company at December 31, 2020 and 2019 was as follows (in millions of U.S. dollars):

	2020	2019
Required statutory capital and surplus (1)	\$ 2,359	\$ 2,249
Actual statutory capital and surplus	5,070	4,903

⁽¹⁾ The required statutory capital and surplus is calculated at the Target Capital Level equivalent to 120% of the ECR.

In addition to the required statutory capital and surplus requirements in the table above, the Company assesses its own solvency capital needs taking into account factors which may not be fully reflected in statutory requirements. The Company's solvency capital requirements determined under these self assessments may impact the level of dividends paid to its Parent.

11. Taxation

The Company is not subject to Bermuda income or capital gains tax under current Bermuda law. In the event that there is a change in current law such that taxes on income or capital gains are imposed, the Company would be exempt from such tax until March 2035 pursuant to the Bermuda Exempted Undertakings Tax Protection Act of 1966.

The Company has subsidiaries and branches that operate in various other jurisdictions around the world that are subject to tax in the jurisdictions in which they operate. The significant jurisdictions in which the Company's subsidiaries and branches are subject to tax are Canada and the United States.

Income tax returns are open for examination for the tax years 2016 - 2020 in Canada and 2018 - 2020 in the United States. As a global organization, the Company may be subject to a variety of transfer pricing or permanent establishment challenges by taxing authorities in various jurisdictions. While management believes that adequate provision has been made in the Consolidated Financial Statements for any potential assessments that may result from tax examinations for all open tax years, the completion of tax examinations for open years may result in changes to the amounts recognized in the Consolidated Financial Statements.

Income tax (benefit) expense for the years ended December 31, 2020 and 2019 was as follows (in thousands of U.S. dollars):

	 020	2019
Current income tax (benefit) expense	\$ (5,013) \$	5,852
Deferred income tax expense	 4,915	4,931
Total income tax (benefit) expense	\$ (98) \$	10,783

Notes to Consolidated Financial Statements - (Continued)

The reconciliation of the actual income tax rate for the years ended December 31, 2020 and 2019 to the amount computed by applying the effective tax rate of 0% under Bermuda law to net (loss) income before taxes was as follows (in thousands of U.S. dollars):

	2020	2019
Net (loss) income	\$ (48,877)	\$ 865,796
Income tax (benefit) expense	(98)	10,783
Net (loss) income before taxes	\$ (48,975)	\$ 876,579
Reconciliation of effective tax rate (% of income before taxes)		
Expected tax rate	0.0 %	0.0 %
Foreign taxes at local expected tax rates	0.9	1.5
Tax exempt income	_	(0.3)
Ceding commission	2.7	(0.2)
Tax reassessment	_	(0.1)
Valuation allowance	(5.5)	
Other	2.1	0.3
Actual tax rate	0.2 %	1.2 %

The net tax assets (liabilities) and their components at December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

	2020	2019	1
Net current tax assets	\$ 2,457	\$ 12	,578
Net deferred tax liabilities	(7,048)	(7	,452)
Net tax (liabilities) assets	\$ (4,591)	\$ 5.	,126

Deferred tax liabilities reflect the tax impact of temporary differences between the carrying amounts of assets (liabilities) for financial reporting and income tax purposes. Net deferred tax liabilities of \$7.0 million and \$7.5 million at December 31, 2020 and 2019, respectively, primarily relate to life and health reserves, deductible expenses, deferred acquisition cost, unrealized gains on investments, and deferred income; partially offset by tax loss carryforwards, tax credits, and valuation allowance.

The total amount of unrecognized tax benefits for the years ended December 31, 2020 and 2019 was \$nil.

12. Retirement Benefit Arrangements

For employee retirement benefits, the Company maintains certain defined contribution plans. Contributions are made by the Company, and these contributions are supplemented by the local plan participants. Contributions are based on a percentage of the participant's base salary depending upon competitive local market practice and vesting provisions meeting legal compliance standards and market trends. The accumulated benefits generally vest immediately or over a two-year period. As required by law, certain retirement plans also provide for death and disability benefits and lump sum indemnities to employees upon retirement.

The Company incurred expenses for these defined contribution arrangements of \$0.8 million and \$0.5 million for the years ended December 31, 2020 and 2019, respectively, within Other Operating Expenses in the Consolidated Statements of Operations.

Notes to Consolidated Financial Statements - (Continued)

13. Commitments and Contingencies

(a) Concentration of Credit Risk

Fixed maturities

The Company's investment portfolio is managed following prudent standards of diversification and a prudent investment philosophy. The Company is not exposed to any significant credit concentration risk on its investments, except for debt securities issued by the U.S. government and government sponsored enterprises and other highly rated non-U.S. sovereign governments' and supranational organizations' securities. At December 31, 2020 and 2019, other than the U.S. and Canadian governments and U.S. government sponsored enterprises, the Company's fixed maturity investment portfolio did not contain exposure to any non-U.S. sovereign government or any other issuer that accounted for more than 10% of the Company's shareholder's equity. The Company keeps cash and cash equivalents in several banks and ensures that there are no significant concentrations of credit risk in any one bank.

Equities

In 2017, the Company invested \$500 million in two Exor managed equity funds. At December 31, 2020 and 2019, the carrying value of these investments totaled \$1,039 million and \$948 million, respectively, included within Equities in the Consolidated Balance Sheets. See Note 15(d).

Other Invested Assets

At December 31, 2020 and 2019, the total carrying value of the Company's investment in Almacantar, accounted for under the equity method, was \$494 million and \$483 million, respectively, included within Other invested assets in the Consolidated Balance Sheets. See Note 4(f) and 15(d).

Derivatives

The Company's investment strategy allows for the use of derivative instruments, subject to strict limitations. Derivative instruments may be used to replicate investment positions and for the purpose of managing overall currency risk, market exposures and portfolio duration, for hedging certain investments, or for enhancing investment performance that would be allowed under the Company's investment policy if implemented in other ways. The Company is exposed to credit risk in the event of non-performance by the counterparties to the Company's derivative contracts. However, the Company diversifies the counterparties to its derivative contracts to reduce credit risk, and because the counterparties to these contracts are high credit quality international banks, the Company does not anticipate non-performance. These contracts are generally of short duration and settle on a net basis. The difference between the contract amounts and the related market value represents the Company's maximum credit exposure.

Underwriting operations

The Company is also exposed to credit risk in its underwriting operations, most notably in the credit/surety line. Loss experience in these lines of business is cyclical and is affected by the state of the general economic environment. The Company provides its clients in these lines of business with reinsurance protection against credit deterioration, defaults or other types of financial non-performance of or by the underlying credits that are the subject of the reinsurance provided and, accordingly, the Company is exposed to the credit risk of those credits. The Company mitigates the risks associated with these credit-sensitive lines of business through the use of risk management techniques such as risk diversification, careful monitoring of risk aggregations and accumulations and, at times, through the use of retrocessional reinsurance protection and the purchase of credit default, total return and interest rate swaps.

The Company has exposure to credit risk as it relates to its business written through brokers, if any of the Company's brokers is unable to fulfill their contractual obligations with respect to payments to the Company. In addition, in some jurisdictions, if the broker fails to make payments to the insured under the Company's policy, the Company might remain liable to the insured for the deficiency. The Company's exposure to such credit risk is somewhat mitigated in certain jurisdictions by contractual terms.

The Company has exposure to credit risk related to reinsurance balances receivable, reinsurance recoverable on paid and unpaid losses, funds held by reinsured companies and deposit assets. The credit risk exposure related to these balances is mitigated by several factors, including but not limited to, credit checks performed as part of the underwriting process,

Notes to Consolidated Financial Statements - (Continued)

monitoring of aged receivable balances and, in certain cases, the contractual right to offset amounts payable by the Company to the counterparty against amounts due to the Company from the counterparty. The majority of the reinsurance receivable and funds held balances are from related parties (see Note 15).

The Company adopted updated accounting guidance on the recognition of credit losses effective January 1, 2020. In assessing future default for reinsurance balances receivable, the Company evaluates the valuation allowance under the loss rate method and utilizes historic loss activity, adjusted for its assessment of current market conditions and reasonable and supportable forecasts on loss rates. The Company increased its allowance for credit losses from \$2.1 million at December 31, 2019 to \$5.6 million at December 31, 2020. In assessing an allowance for funds held by reinsured companies and deposit assets, the Company considers historical information and the financial strength and credit ratings of counterparties to determine the appropriateness of the allowance. In assessing future default for these balances, the Company evaluates the valuation allowance under the probability of default and loss given default method and utilizes counterparty credit ratings from major rating agencies, as well as assessing the current market conditions and reasonable and supportable forecasts for the likelihood of default. As a result of the adoption and at December 31, 2020, the Company recorded an allowance for credit losses of \$0.1 million on its funds held by reinsurance companies and \$1.0 million on its deposit assets. This compared to no credit allowance for funds held by reinsured companies and deposit assets at December 31, 2019. See Note 8 for discussion of credit risk related to reinsurance recoverable on paid and unpaid losses.

(b) Other Agreements

The Company has entered into strategic investments with unfunded capital commitments. In the next five years, the Company expects to fund capital commitments totaling \$299.0 million, with \$124.7 million, \$114.0 million, \$35.7 million, and \$24.6 million to be paid during 2021, 2022, 2023, and 2024, respectively.

The Company has committed to a 10 year structured letter of credit facility issued by a high credit quality international bank which has a final maturity of December 31, 2024. At December 31, 2020 and 2019, the Company's participation in the facility was \$69 million. At December 31, 2020, the letter of credit facility has not been drawn down and can only be drawn down in the event of certain specific scenarios, which the Company considers remote. Unless canceled by the bank, the credit facility automatically extends for one year, each year until maturity.

On December 31, 2013, the Company entered into an agreement with PartnerRe America Insurance Company to guarantee the financial obligations of an affiliated company in the event of non-performance on ceded reinsurance agreements. At December 31, 2020, there were no reinsurers in default.

On June 2, 2017, the Company entered into an agreement to guarantee and indemnify any and all of the obligations of PartnerRe Life Reinsurance Company of America and PartnerRe Canada under reinsurance agreements with third party cedants, in the event of non-payment or non-performance. There were no amounts due under this guarantee at December 31, 2020.

In exchange for a fee, the Company has committed to provide statutory reserve support to a third party by funding loans if certain events occur. At December 31, 2020, the Company does not believe that it will be required to provide any funding under this commitment, as the occurrence of the defined events is considered remote.

(c) Legal Proceedings

Litigation

The Company and its subsidiaries and branch, and the insurance and reinsurance industry in general, are subject to litigation and arbitration in the normal course of their business operations. In addition to claims litigation, the Company and its subsidiaries and branch may be subject to lawsuits and regulatory actions in the normal course of business that do not arise from or directly relate to claims on reinsurance treaties. This category of business litigation typically involves, among other things, allegations of underwriting errors or omissions, employment claims or regulatory activity. While the outcome of business litigation cannot be predicted with certainty, the Company will dispute all allegations against the Company and/or its subsidiaries and branch that management believes are without merit.

At December 31, 2020, the Company was not a party to any litigation or arbitration that it believes could have a material effect on the financial condition, results of operations or liquidity of the Company. Refer to Note 16 for additional details related to litigation settled after December 31, 2020.

Notes to Consolidated Financial Statements - (Continued)

14. Credit Agreements

In the normal course of its operations, the Parent enters into agreements with financial institutions to obtain unsecured and secured credit facilities. At December 31, 2020, the total amount of such credit facilities available to the Company related to a secured credit facility of \$100 million that matures on December 21, 2021, and automatically extends for a further year unless canceled by either counterparty. The committed secured credit facility maintained by the Company is used for the issuance of letters of credit which must be fully secured with either cash or government bonds.

Under the terms of certain reinsurance agreements, irrevocable letters of credit were issued by the Company on a secured basis in the amount of \$77 million at December 31, 2020, in respect of reported loss and unearned premium reserves.

15. Agreements with Related Parties

(a) Reinsurance Agreements

In the normal course of its underwriting activities, the Company has entered into reinsurance agreements with companies affiliated with the Company.

As at December 31, 2020 and 2019, the Company had the following quota-share reinsurance agreements with subsidiaries of the Parent:

- a 65% quota-share agreement to assume existing and new business (increased from 50% for underwriting years 2016 and prior), except for natural catastrophe business at a 90% quota-share, from PartnerRe Europe, including certain of its branches. During 2020, the quota-share on certain longevity business was also increased to 90%. The quota-share reinsurance excludes various special businesses written mainly in Latin and North America and life business written in PartnerRe Europe's Hong Kong branch. PartnerRe Europe is a limited liability company incorporated and domiciled in Ireland, and regulated by the Central Bank of Ireland..
- a 50% quota-share agreement to assume existing and new business, except for agriculture business at a 85% quota-share, from PartnerRe Asia. During 2020, the quota-share on certain critical illness business was also increased to 85%. PartnerRe Asia is licensed by the Monetary Authority of Singapore (MAS) to operate as a non-life and life reinsurer in Singapore and is the principal reinsurance carrier for the Parent's business underwritten in the Asia Pacific region.
- a 90% quota-share agreement to assume existing and new business from PartnerRe Canada. PartnerRe Canada is licensed by OSFI to operate as a life and health reinsurer in Canada.

The Company also provides quota-share reinsurance to Partner Reinsurance Company of the U.S. (excluding its Canada Branch) for certain underwriting years prior to 2018. The agreements provided that the Company would accept a 45% participation for underwriting year 2017, 30% participation for underwriting years 2013 to 2016, and 25% participation for certain underwriting years prior to 2012.

In addition, the company has stop loss agreements with PartnerRe Asia, PartnerRe Canada, Partner Reinsurance Company of the U.S. Canada Branch and PartnerRe Ireland Insurance dac.

During 2019, the Company provided stop loss reinsurance to Partner Reinsurance Company of the U.S. (excluding its Canada Branch) and PartnerRe America Insurance Company. The Company did not renew these stop loss agreements for the 2020 underwriting year.

Notes to Consolidated Financial Statements - (Continued)

The activity included in the Consolidated Statements of Operations related to subsidiaries of the Parent for the years ended December 31, 2020 and 2019 was as follows (in thousands of U.S. dollars):

	2020	2019
Gross premiums written	2,310,110	2,674,770
Net premiums written	2,310,110	2,674,770
Net premiums earned	2,409,890	2,596,198
Net investment income on funds held	14,931	17,427
Losses and loss expenses	1,963,171	1,805,201
Acquisition costs	564,189	664,144

Included in the Consolidated Balance Sheets at December 31, 2020 and 2019 were the following balances related to subsidiaries of the Parent (in thousands of U.S. dollars):

	2020	2019
Reinsurance balances receivable	\$ 1,051,119	\$ 1,211,361
Funds held by reinsured companies	920,514	887,219
Deferred acquisition costs	376,987	389,162
Non-life reserves	3,687,317	3,467,088
Life and health reserves	1,345,671	1,168,570
Unearned premiums	799,617	878,282
Other reinsurance balances payable	143,924	231,274

In addition, accounts payable, accrued expenses and other at December 31, 2020 and 2019 also included a deferred gain of \$70.1 million and \$72.3 million, respectively, related to an Assumption Reinsurance Agreement with the Canadian Life branch of PartnerRe Europe entered into in 2014.

(b) Amounts due to/from Related Parties and Loan Agreements

On April 27, 2017, the Company received a Promissory Note (the "loan") from the Parent of Canadian \$270.6 million (approximately U.S. \$207.8 million). The loan was non-interest bearing and repayable on or before April 28, 2022. Effective December 18, 2020, the Promissory Note was terminated and fully offset in a non-cash exchange against intercompany balances receivable from the Parent. At December 31, 2020 and 2019, the amount due to the Parent related to this loan was nil and \$205.8 million, respectively.

On November 19, 2020, the Company entered into an agreement with its Parent to sell the shares of its 100% interest in PCIC in exchange for a 10-year promissory note bearing interest at an annual rate of 4.4%. The carrying value of the investment at the time of sale, which approximated market value, was \$458.5 million. At December 31, 2020, the carrying value of the note receivable was \$458.5 million with accrued interest of \$2.3 million. At the time of sale, the carrying value of PCIC primarily consisted of investments in fixed maturities, cash and cash equivalents, other invested assets, and equities in the amounts of \$327.6 million, \$59.4 million, \$52.0 million, and \$26.3 million, respectively. The transaction was recognized as a sale of ownership interest between entities under common control at carrying amounts with no gain or loss recognized.

Notes to Consolidated Financial Statements - (Continued)

The Company had other advances to affiliates totaling \$780.8 million and \$729.8 million at December 31, 2020 and 2019, respectively, which were primarily related to amounts advanced to or paid on behalf of its Parent.

The Company had other liabilities to affiliates totaling \$95.7 million and \$62.8 million, respectively, at December 31, 2020 and 2019. These represent expenses incurred in the normal course of operations.

(c) Service Agreements

In the normal course of its operations, the Company entered into service agreements with other subsidiaries of the Parent. Revenues earned under the service agreements for each of the years ended December 31, 2020 and 2019 were \$0.4 million. Expenses incurred under the service agreements for the years ended December 31, 2020 and 2019 were \$9.7 million and \$16.1 million, respectively.

(d) Other

In the normal course of its investment operations, the Company bought or held securities of companies affiliated with the Company, including the following:

- In 2016, the Company purchased a 36% shareholding in Almacantar from Exor. Refer to Note 4(f) for a discussion of the Company's interest in Almacantar.
- In 2017, the Company invested \$500 million in two Exor managed equity funds. At December 31, 2020 and 2019, the carrying value of these investments totaled \$1,039 million and \$948 million, respectively. These investments are recorded at fair value and are included within Equities in the Consolidated Balance Sheets. Net realized and unrealized investment gains related to these funds of \$91 million and \$385 million were recorded in the Consolidated Statements of Operations for the years ended December 31, 2020 and 2019, respectively.
- In 2018, the Company entered into an agreement with Exor to invest in a newly formed limited partnership, Exor Seeds L.P. At December 31, 2020 and 2019, the carrying value of the Company's investment in the limited partnership was \$51 million and \$32 million, respectively, with the increase from 2019 driven primarily by additional capital contributions. This investment is accounted for using the equity method and is included within Other invested assets in the Consolidated Balance Sheets.

16. Subsequent Events

In March 2019, a cedant (the "Cedant") brought a motion for a declaratory judgment against the Company seeking a declaration that the Cedant had properly exercised its right, pursuant to an agreement between the parties, to recapture certain portfolios of life reinsurance contracts that the Cedant had retroceded to the Company. In February 2021, the Company reached a settlement with the Cedant. The Company determined that no accrual for a contingent liability was required at December 31, 2020.

In February 2021, winter storm Uri brought freezing temperatures, snow and widespread power outages across Texas, U.S., causing severe damage. The Company has exposure to this event and has estimated an incurred loss, net of retrocession and reinstatement premiums, of approximately \$80 million in the first quarter of 2021.

In 2021, the Company entered into an agreement with Exor to invest in a newly formed Exor Special Opportunities Fund. The Company contributed \$135 million to this fund in the second quarter of 2021.

The Company has evaluated subsequent events from the balance sheet date through to April 30, 2021, which is the date the consolidated financial statements were available to be issued. Other than the items described above, there were no other material subsequent events arising during this period.