
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 20-F

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2020

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 001-14536

PartnerRe Ltd.

(Exact name of registrant as specified in its charter)

Bermuda

(Jurisdiction of incorporation or organization)

90 Pitts Bay Road, Pembroke, HM08, Bermuda

(Address of principal executive offices)

Nicolas Burnet

Executive Vice President and Chief Financial Officer

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(Name, Telephone, E-mail and/or Facsimile Number and Address of Company Contact Person)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
6.50% Series G Cumulative Preferred Shares, \$1.00 par value	PRE-G	New York Stock Exchange
7.25% Series H Cumulative Preferred Shares, \$1.00 par value	PRE-H	New York Stock Exchange
5.875% Series I Non-Cumulative Preferred Shares, \$1.00 par value	PRE-I	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report: 100,000,000 common shares and 274,664 Class B common shares

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards[†] provided pursuant to Section 13(a) of the Exchange Act.

[†] The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

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PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. Selected Financial Data

The selected consolidated financial data of PartnerRe Ltd. and its subsidiaries (the Company, PartnerRe or the Group) below should be read in conjunction with the Consolidated Financial Statements, and the accompanying Notes to the Consolidated Financial Statements in Item 18 and with other information contained in this report, including Operating and Financial Review and Prospects in Item 5 of this report.

The selected consolidated financial data for 2020, 2019, 2018, 2017 and 2016 (in millions of United States (U.S.) dollars) is as follows:

Statement of Operations Data	For the years ended December 31,				
	2020	2019	2018	2017	2016
Net premiums earned	\$ 6,537	\$ 6,525	\$ 5,514	\$ 5,025	\$ 4,970
Net investment income	361	449	416	402	411
Net realized and unrealized investment gains (losses)	454	887	(390)	232	26
Other income	13	15	50	15	15
Total revenues	\$ 7,365	\$ 7,876	\$ 5,590	\$ 5,675	\$ 5,422
Net income (loss)	\$ 254	\$ 937	\$ (86)	\$ 264	\$ 447
Net income (loss) attributable to common shareholder	\$ 206	\$ 890	\$ (132)	\$ 218	\$ 387

Balance Sheet Data	At December 31,				
	2020	2019	2018	2017	2016
Total assets	\$ 26,899	\$ 25,062	\$ 22,819	\$ 22,981	\$ 21,939
Total shareholders' equity	\$ 7,327	\$ 7,270	\$ 6,517	\$ 6,745	\$ 6,688
Common shareholder's equity ⁽¹⁾	\$ 6,690	\$ 6,566	\$ 5,812	\$ 6,041	\$ 5,984

(1) Common shareholder's equity is calculated as Total shareholders' equity less preferred shareholders' equity of \$637 million for 2020, the liquidation value of preferred shares. For 2019, 2018, 2017 and 2016, preferred shareholders' equity was \$704 million.

On March 18, 2016, the Company's common shares were acquired by EXOR N.V. (subsequently renamed EXOR Nederland N.V.). As a result, all of the Company's publicly traded common shares and all treasury shares were canceled and the Company's common shares were delisted. Accordingly, per share data is no longer meaningful and is no longer presented by the Company. See also Share Ownership section in Item 6.E and Notes 10 and 13 to the Consolidated Financial Statements in Item 18 of this report.

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

We expose ourselves to significant risks that can impact our financial strength as measured by United States generally accepted accounting principles (U.S. GAAP) or regulatory and rating agencies' capital requirements. Risk sources for which management has established key risk limits approved by the Board of Directors (the "Board"), and the related approved limits and actual limits deployed, at December 31, 2020 and 2019 are presented in the Risk Management section below in Item 4.B.

The following risks should be read in conjunction with the Safe Harbor Statement and the Operating and Financial Review and Prospects section in Item 5, and the Notes to the Consolidated Financial Statements in Item 18 of this report. These risks may affect our financial condition and operating results and, individually or in the aggregate, could cause our actual results to differ materially from past and projected future results. Some of these risks and uncertainties could affect particular business operations or segments, while others could affect all of our businesses. Although risks are discussed separately, many are interrelated.

Except as may be required by law, we undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events, or otherwise. It is impossible to predict or identify all risk factors and, consequently, the following factors should not be construed as a complete discussion of risks and uncertainties that may affect us.

As used in these Risk Factors, the terms "the Company", "PartnerRe", "we", "our" or "us" may, depending upon the context, refer solely to the Company, to one or more of the Company's consolidated subsidiaries or to all of them taken as a whole. The terms EXOR and Exor Group relate to the Company's ultimate parent, EXOR N.V. and its affiliated companies (see Information on the Company in Item 4 of this report).

Risks Related to COVID-19

Our results of operations may be materially and adversely affected by COVID-19 and other pandemics.

Pandemics could materially and adversely affect our results of operations. For example, the novel coronavirus disease (COVID-19) has been declared a pandemic and is continuing to spread throughout the world. This pandemic continues to rapidly evolve and disrupt the global economy, including the insurance and reinsurance markets. The rapid spread has resulted in authorities around the world implementing numerous measures to contain COVID-19, such as travel bans and restrictions, quarantines, shelter-in-place orders and business shutdowns. COVID-19 and these containment measures have had, and are expected to continue to have, a substantial negative impact on business around the world and on global, regional and national economies.

We cannot predict what impact COVID-19 will ultimately have on the global economy, markets or our business. These circumstances have introduced, and similar circumstances caused by pandemics in the future could introduce, significant risks and uncertainty with respect to our business. The scale and scope of COVID-19 may heighten the potential adverse effects on our business, reputation, results of operation, financial condition or liquidity, including without limitation the following:

- The economic downturn resulting from COVID-19 has the potential to cause elevated numbers of claims and increases in claims sizes for the insurance and reinsurance industry as a whole. Among other things, we incurred losses attributable to business interruption and event cancellation related coverages, credit exposures in financial risks lines and life and health business as a direct result of COVID-19 and the related effects of the economic downturn in 2020. For information relating to the net impact of COVID-19 related losses on our underwriting result for the year ended December 31, 2020, refer to Operating and Financial Review and Prospects section in Item 5 of this report. In addition, in the future, we may be exposed to claims relating to COVID-19 and indirect exposures arising from an ensuing economic downturn;
- Ultimate losses from COVID-19 related claims could be greater than our reserves for those losses;
- Reduced access to capital, if needed, and the cost of external capital could be elevated;
- Increased claims, losses, litigation and related expenses. For example, there are currently emerging litigation claims both in the U.S. and globally challenging whether insurers (and, by consequence, reinsurers) should be responsible for business interruption losses from insured's policies caused by COVID-19, notwithstanding the requirement of "physical loss or damage" and other policy limitations and exclusions. Litigation relating to business interruption coverage has currently been brought against insurers by a small number of U.S. businesses affected by the pandemic, including restaurants and other business owners, and we expect such litigation to increase significantly over time. The outcome of such litigation is uncertain, and if ultimately adjudicated against insurers, could result in significant and widespread commercial insurance losses across the reinsurance industry. While insurers are reviewing the subject business with a view to seeking a communicable disease exclusion for much of the subject business, there are no assurances that any such exclusion will be accepted by the policyholders. Such exclusions may also be subject to challenge by clients in the event of future COVID-19 and other pandemic related losses;

- Increased losses due to legislative, regulatory and judicial actions in response to COVID-19, including, but not limited to U.S. state and non-U.S. governments and regulatory bodies that are considering proposals that would seek to retroactively apply business interruption coverage to commercial insureds despite policy language to the contrary; some states are also considering "pooling" mechanisms to apply certain assessments more broadly to property and casualty insureds doing business in that state to cover business interruption claims;
- Heightened risk to which our investment and derivative instrument portfolios are subject, including interest rate fluctuations, prolonged periods of low or negative interest rates, equity price risk, foreign currency movements, prepayment or reinvestment risk, liquidity risk and credit risk, which could reduce future investment results;
- Certain of our policyholders, intermediaries and reinsurance and retrocession counterparties may not pay premiums or other amounts owed to us due to insolvency or other reasons. Insolvency, liquidity problems, distressed financial conditions due to the impact of COVID-19 or the general effects of economic recession may increase the risk that policyholders or intermediaries may not pay a part or the full amount of premiums owed to us, despite an obligation to do so. The terms of our contracts, or actions by our regulators, may not permit us to cancel our reinsurance even though we have not received payment. If refunds or non-payments become widespread, whether as a result of insolvency, lack of liquidity, adverse economic conditions, operational failure or otherwise, it could have a material adverse impact on our revenues and results of operations;
- We may experience decreased employee productivity, including as a result of prolonged remote working arrangements, increased medical, emergency or other leave;
- Claims handling by our policyholders may be affected during the pandemic as claims teams adapt to working from home. This could affect the pattern of emergence and settlement of claims. Loss adjusters may also be prevented from assessing premises leading to elevated uncertainty and delays in the assessment of case reserves; and
- Increased risk that weaknesses or failures in our business continuity plans could lead to disruption of operations, liability to clients, exposure to disciplinary action or harm to our reputation. Furthermore, weaknesses or failures within a vendor's business continuity plan can materially disrupt our business operations. Our information systems and those of our vendors and service providers may be more vulnerable to cyberattacks, computer viruses or other computer-related attacks, programming errors and similar disruptive problems during a business continuation event. This may be particularly in the event that there are any issues with our key reinsurance brokers or other partners.

COVID-19 could further exacerbate the risk factors described within this report. The above risks related to COVID-19, in combination with other risks described herein, may adversely affect our results of operations and financial condition.

Risks Related to Our Company

The catastrophe business that we underwrite will result in volatility of our earnings and could impair our financial condition.

Catastrophic losses result from events such as windstorms, hurricanes, typhoons, tsunamis, earthquakes, floods, hailstorms, tornadoes, severe winter weather, fires, drought, explosions, and other natural and man-made disasters, the incidence and severity of which are inherently unpredictable. We also have substantial exposure to unexpected, large losses resulting from future man-made catastrophic events, such as acts of terrorism, acts of war, nuclear accidents and political instability, or from other perils. Because catastrophe reinsurance accumulates large aggregate exposures to both man-made and natural disasters, our loss experience in this line of business could be characterized as low frequency and high severity. Although we may attempt to exclude losses from terrorism and certain other similar risks from some coverage we write, we continue to have exposure to such unforeseen or unpredictable events. Irrespective of the clarity and inclusiveness of policy language, there can be no assurance that a court or arbitration panel will not limit enforceability of policy language or otherwise issue a ruling adverse to us.

This is likely to result in substantial volatility in our financial results and potentially significant net losses from time to time, and may also result in a material decline of our book value or impairment of our financial condition that may limit our ability to make dividend, interest, or principal payments on our preferred shares and debt securities and may limit the funds available to make payments on policyholder claims.

Should we incur a very large catastrophic loss or a series of catastrophic losses, our ability to write future business may be adversely impacted if we are unable to replenish our capital.

Changing climate conditions, and the trend towards increasingly frequent and severe catastrophic events, may adversely affect our financial condition and results.

In recent years, changing weather patterns and climatic conditions, such as global warming, appear to have contributed to the unpredictability, frequency and severity of natural disasters and created additional uncertainty as to future trends and exposures. There is a scientific consensus that global warming and other climate changes are increasing the frequency and severity of

catastrophic weather events, such as hurricanes, tornadoes, windstorms, floods and other natural disasters. Such changes make it more difficult for us to predict and model catastrophic events, reducing our ability to accurately price our exposure to such events and mitigate our risks. Any increase in the frequency or severity of natural disasters may adversely affect our financial condition and results.

Epidemics and pandemics could adversely affect our business, financial condition and results of operations.

Epidemics and pandemics, including the current COVID-19 pandemic, could adversely affect our business, financial condition and results of operations because they could exacerbate mortality and morbidity risk. The likelihood, timing, and severity of these events cannot be predicted. A pandemic or other disaster could have a major impact on the global economy or the economies of particular countries or regions, including travel, trade, tourism, the health system, food supply, consumption, overall economic output, as well as on the financial markets. In addition, a pandemic or other disaster that affected our employees or the employees of companies with which we do business could disrupt our business operations. These events could cause a material adverse effect on our results of operations in any period and, depending on their severity, could also materially and adversely affect our financial condition.

If actual losses exceed our estimated loss reserves, our net income and capital position will be reduced.

Our success depends upon our ability to accurately assess the risks associated with the businesses that we reinsure. We establish loss reserves to cover our estimated liability for the payment of all losses and loss expenses incurred with respect to premiums earned on the reinsurance contracts that we write. Loss reserves are estimates involving actuarial and statistical projections at a given time to reflect our expectation of the costs of the ultimate settlement and administration of claims. Although we use actuarial models as well as historical reinsurance and insurance industry loss statistics, we also rely heavily on data provided by counterparties and on management's experience and judgment to assist in the establishment of appropriate claims and claim expense reserves. Because of the many assumptions and estimates involved in establishing reserves, the reserving process is inherently uncertain. Our estimates and judgments are based on numerous factors, and may be revised as additional experience and other data become available and are reviewed as new or improved methodologies are developed, as loss trends and claims inflation impact future payments, or as current laws or interpretations thereof change.

Estimates of losses are based on, among other things, a review of potentially exposed contracts, information reported by and discussions with counterparties and our estimate of losses related to those contracts and are subject to change as more information is reported and becomes available. Losses for casualty and liability lines often take a long time to be reported and frequently can be impacted by lengthy, unpredictable litigation and by the inflation of loss costs over time. Changes in the level of inflation also result in an increased level of uncertainty in our estimation of loss reserves, particularly for long-tail lines of business. As a consequence, actual losses and loss expenses paid may deviate substantially from the reserve estimates reflected in our financial statements.

Through various acquisitions, we assumed certain asbestos and environmental exposures. Our non-life reserves include an estimate of our ultimate liability for asbestos and environmental claims for which we cannot estimate the ultimate value using traditional reserving techniques, and for which there are significant uncertainties in estimating the amount of our potential losses. These liabilities are especially hard to estimate for many reasons, including the long delays between exposure and manifestation of any bodily injury or property damage, difficulty in identifying the source of the asbestos or environmental contamination, long reporting delays and difficulty in properly allocating liability for the asbestos or environmental damage. Certain of our subsidiaries have received and continue to receive notices of potential reinsurance claims from ceding insurance companies, which have in turn received claims asserting asbestos and environmental losses under primary insurance policies, in part reinsured by us. Such claims notices are often precautionary in nature and are generally unspecific, and the primary insurers often do not attempt to quantify the amount, timing or nature of the exposure. Given the lack of specificity in some of these notices and the legal and tort environment that affects the development of claims reserves, the uncertainties inherent in valuing asbestos and environmental claims are not likely to be resolved in the near future. As of December 31, 2020, the Company's net non-life reserves included \$43 million related to asbestos and environmental claims.

It is difficult to predict the timing of loss events or estimate the amount of loss any given occurrence will generate. Under U.S. GAAP, we are not permitted to establish reserves for potential losses associated with catastrophic events until an event that may give rise to such losses occurs. If such an event were to occur, our reported income would decrease in the affected period. In particular, unforeseen large losses could reduce our results of operations or impair our financial condition.

If ultimate losses and loss expenses exceed the reserves currently established, we will be required to increase loss reserves in the period in which we identify the deficiency to cover any such claims. As a result, even when losses are identified and reserves are established for any line of business, ultimate losses and loss expenses may deviate, perhaps substantially, from estimates reflected in loss reserves in our financial statements. Variations between our loss reserve estimates and actual emergence of losses could be material and could have a material adverse effect on our results of operations and financial condition.

See Note 7 to the Consolidated Financial Statements in Item 18 of this report for further details.

Given the inherent uncertainty of models, the usefulness of our proprietary and third-party models as a tool to evaluate risk is subject to a high degree of uncertainty that could result in actual losses that are materially different than our estimates, including probable maximum losses (PMLs), significantly impacting our financial results and condition.

We use our own proprietary catastrophe models and third-party vendor analytic and modeling capabilities to provide risk assessment for our reinsurance portfolio. We use these models to help us control risk accumulation and inform management and other stakeholders of capital requirements and to improve the risk/return profile. However, given the inherent uncertainty of modeling techniques and the application of such techniques, these models and databases may not accurately address a variety of matters that might impact certain of our coverages.

For example, catastrophe models that simulate loss estimates based on a set of assumptions are important tools used by us to estimate our PMLs. These assumptions address a number of factors that impact loss potential including, but not limited to, the characteristics of the natural catastrophe event; demand surge resulting from an event; the types, function, location and characteristics of exposed risks; susceptibility of exposed risks to damage from an event with specific characteristics; and the financial and contractual provisions of the reinsurance contracts that cover losses arising from an event. We run many model simulations in order to understand the impact of these assumptions on its catastrophe loss potential. Furthermore, there are risks associated with catastrophic events, which are either poorly represented or not represented at all by catastrophe models. Each modeling assumption or un-modeled risk introduces uncertainty into PML estimates that management must consider. These uncertainties can include, but are not limited to, the following:

- The models do not address all the possible hazard characteristics of a catastrophe peril (e.g., the precise path and wind speed of a hurricane);
- The models may not accurately reflect the true frequency of events;
- The models may not accurately reflect a risk's vulnerability or susceptibility to damage for a given event characteristic;
- The models may not accurately represent loss potential to reinsurance contract coverage limits, terms and conditions; and
- The models may not accurately reflect the impact on the economy of the area affected or the financial, judicial, political, or regulatory impact on insurance claim payments during or following a catastrophe event.

Our PMLs are selected after assessment of multiple third party vendor model outputs, internally constructed independent models, including our CatFocus[®] suite of models, and other qualitative and quantitative assessments by management, including assessments of exposure not typically modeled in vendor or internal models. Our methodology for estimating PMLs may differ from methods used by other companies and external parties given the various assumptions and judgments required to estimate a PML.

As a result of these factors and contingencies, our reliance on assumptions and data used to evaluate our entire reinsurance portfolio, and specifically to estimate a PML, is subject to a high degree of uncertainty that could result in actual losses that are materially different from our PML estimates and, as a result, our financial results and financial condition may be significantly and adversely impacted. See further information on PMLs in the Risk Management section in Item 4.B below for further details.

Our Life products expose us to volatility in net income arising from changes in the value of the Life and Health reserves liability that are directly affected by market risk and other factors and are based upon various assumptions.

The pricing and establishment of reserves for our Life and Health segment related to future policy benefits and the valuation of life insurance and annuity products are based upon various assumptions, including but not limited to market changes, mortality rates, morbidity rates and policyholder behavior. The process of establishing reserves for future policy benefits relies on our ability to accurately estimate insured events that have not yet occurred but that are expected to occur in future periods, as well as assumptions for investment returns. Significant deviations in actual experience from assumptions used for pricing and for establishing reserves for future policy benefits could have an adverse effect on the profitability of our products, our business and our financial results and condition.

Under reinsurance programs covering variable annuity guarantees we assume the risk of guaranteed minimum death benefits (GMDB). Our net income is directly impacted by changes in the reserves calculated in connection with the reinsurance of GMDB liabilities. Reported liabilities for GMDB reinsurance are determined using internal valuation models. Such valuations require considerable judgment and are subject to significant uncertainty. The valuation of these products is subject to fluctuations arising from, among other factors, changes in interest rates, changes in equity markets, changes in credit markets, changes in the allocation of the investments underlying annuitant's account values and assumptions regarding future policyholder behavior. Adverse changes in market factors and policyholder behavior will have an impact on both life underwriting income and net income. These risks may increase as we seek to expand our Life and Health business.

The reserves described above are included in Life and health reserves on the Consolidated Balance Sheets with changes in these reserves included in Losses and loss expenses within the Consolidated Statements of Operations.

In addition, the reserves that we have established may be inadequate. If ultimate losses and loss expenses exceed the reserves currently established, we will be required to increase loss reserves in the period in which we identify the deficiency to cover any such claims. As a result, even when losses are identified and reserves are established for any line of business, ultimate losses and loss expenses may deviate, perhaps substantially, from estimates reflected in loss reserves in our financial statements. Variations between our loss reserve estimates and actual emergence of losses could be material and could have a material adverse effect on our results of operations and financial condition.

See Liquidity and Capital Resources—Reserves in Item 5 and Notes 2(b) and 7 to the Consolidated Financial Statements in Item 18 of this report for further details.

We rely on a few reinsurance brokers for a large percentage of our business; loss of business provided by these brokers would reduce our premium volume and net income.

We produce our business both through brokers and through direct relationships with insurance company clients. For the year ended December 31, 2020, more than 70% of our gross premiums written were produced through brokers. The Company has two brokers that each individually accounted for 30% and 21% of the Company's total gross premiums written for 2020 (see Note 18 to the Consolidated Financial Statements in Item 18 of this report for further details). Because broker-produced business is concentrated with a small number of brokers, we are exposed to concentration risk. A significant reduction in the business produced by these brokers could potentially reduce our premium volume and net income.

We are exposed to credit risk relating to our reinsurance brokers and cedants.

In accordance with industry practice, we may pay amounts owed under our reinsurance policies to brokers, and they in turn pay these amounts to the ceding insurer. In some jurisdictions, if the broker fails to make such an onward payment, we might remain liable to the ceding insurer for the deficiency. Conversely the ceding insurer may pay premiums to the broker for onward payment to us in respect of reinsurance policies issued by us. In certain jurisdictions, these premiums are considered to have been paid to us at the time that payment is made to the broker, and the ceding insurer will no longer be liable to us for those amounts, whether or not we have actually received the premiums. We may not be able to collect all premiums receivable due from any particular broker at any given time. We also assume credit risk by writing business on a funds-withheld basis. At December 31, 2020, Funds held by reinsured companies recorded in the Consolidated Balance Sheet was \$705 million. Under such arrangements, the cedant retains the premium they would otherwise pay to us to cover future loss payments.

If we are downgraded by rating agencies, our standing with brokers and customers could be negatively impacted and may adversely impact our results of operations.

Rating agencies assess and rate the claims-paying ability and financial strength of insurers and reinsurers, such as our principal operating subsidiaries. These ratings are based upon criteria established by the rating agencies and have become an important factor in establishing our competitive position in the market. Insureds, insurers, ceding insurers and intermediaries use these ratings as one measure by which to assess the financial strength and quality of insurers and reinsurers. However, these ratings are not an evaluation directed to investors of our preferred shares or debt securities, and are not a recommendation to buy, sell or hold our preferred shares or debt securities.

Our financial strength ratings are subject to periodic review as rating agencies evaluate us to confirm that we continue to meet their criteria for ratings assigned to us by them. Such ratings may be revised downward or revoked at the sole discretion of such ratings agencies in response to a variety of factors, including capital adequacy, management strategy, operating earnings and risk profile. In addition, from time to time, one or more rating agencies may effect changes in their capital models and rating methodologies that could have a detrimental impact on our ratings. It is also possible that rating agencies may in the future heighten the level of scrutiny they apply when analyzing companies in our industry, may increase the frequency and scope of their reviews, may request additional information from the companies that they rate, and may adjust upward the capital and other requirements employed in their models for maintenance of certain rating levels. There can be no assurance that our ratings will remain at their current levels.

If our ratings were downgraded, our competitive position in the reinsurance industry may suffer, and it could result in a reduction in demand for our products. In addition, certain business that we write contains terms that give the ceding company or derivative counterparty the right to terminate cover and/or require collateral if our ratings are downgraded.

See Liquidity and Capital Resources—Shareholders' Equity and Capital Resources Management in Item 5 of this report for our current financial strength ratings. The status of any further changes to ratings or outlooks will depend on various factors.

The availability of retrocessional reinsurance, including that provided by third-party capital vehicles, to limit our exposure to risks may be limited and counterparty credit and other risks associated with our retrocession arrangements may result in losses which could adversely affect our financial condition and results of operations.

For the purposes of managing risk, we use retrocessional reinsurance, including that provided by third-party capital vehicles. The availability and cost of retrocessional protection is subject to market conditions, which are beyond our control. As a result of such market conditions and other factors, we may not be able to successfully mitigate risk through retrocessional, third-party capital and other arrangements.

We are subject to credit risk with respect to our retrocessions because the ceding of risk to retrocessionaires does not relieve us of our liability to the clients or companies we reinsure. Although we have not experienced any material credit losses to date, an inability of our retrocessionaires to meet their obligations to us could have a material adverse effect on our financial condition and results of operations. Our losses for a given event or occurrence may increase if our retrocessionaires dispute or fail to meet their obligations to us or the retrocessional protections purchased by us are exhausted or are otherwise unavailable for any reason. We are subject to risk if our third-party capital providers decide not to renew their commitments.

Our failure to establish adequate retrocessional arrangements or the failure of our existing retrocessional or capital market arrangements to protect us from overly concentrated risk exposure could adversely affect our financial condition and results of operations.

We may require additional capital in the future, which may not be available or may only be available on unfavorable terms.

Our future capital requirements depend on many factors, including rating agencies and regulatory requirements, our ability to write new business successfully, the frequency and severity of catastrophic events, and our ability to establish premium rates and reserves at levels sufficient to cover losses. We may need to raise additional funds through financings or curtail our growth and/or reduce our assets. Any equity or debt financing, if available at all, may be on terms that are not favorable to us. Financings could result in the issuance of securities that have rights, preferences and privileges that are senior to those of our other securities. Disruption in the increasingly volatile financial markets may limit our ability to access capital required to operate our business and we may be forced to delay raising capital or bear a higher cost of capital, which could decrease our profitability and significantly reduce our financial flexibility. The large amounts of recent industry-wide catastrophe losses have made access to capital more challenging, potentially making it more difficult and more expensive for us to raise additional financing if necessary. In addition, if we experience a credit rating downgrade, withdrawal or negative watch/outlook in the future, we could incur higher borrowing costs and may have more limited means to access capital. If we cannot obtain adequate capital on favorable terms or at all, our business, operating results and financial condition could be adversely affected. In such a severe event, we may be reliant on our parent company, EXOR Nederland N.V., to provide a further capital injection or contribution to us. However, all EXOR Group portfolio companies are managed independently and autonomously, and there can be no guarantee that EXOR Nederland N.V. would provide any additional capital.

Our investments are subject to interest rate, credit, equity and real estate related risks, which may adversely affect our net income and may adversely affect the adequacy of our capital.

We invest the net premiums we receive unless, or until such time as, we pay out losses and/or until they are made available for distribution to common and preferred shareholders, to pay interest on or redemption of debt and preferred shares, or otherwise used for general corporate purposes. Investment results comprise a substantial portion of our income. For the year ended December 31, 2020, we had net investment income of \$361 million, which represented approximately 5% of total revenues. In addition, we recorded net realized and unrealized gains on investments of \$454 million during 2020, which are included in the net income for the year. We are accordingly exposed to significant financial and capital market risks, including changes in interest rates, credit spreads, equity and real estate prices, foreign exchange rates, market volatility, the performance of the economy in general and other factors outside our control.

Interest rates are highly sensitive to many factors, including fiscal and monetary policies of major economies, inflation, economic and political conditions and other factors outside our control. Changes in interest rates can negatively affect net investment income in that, in a declining interest rate environment, investments in fixed maturities and short-term investments (fixed maturity portfolio) would earn interest income at lower rates. In a declining interest rate environment, the market value of our fixed income portfolio would increase; however, in a rising interest rate environment, the market value of our fixed income portfolio will decline. Depending on our liquidity needs and investment strategy, we may liquidate investments prior to maturity at a loss in order to cover liabilities as they become due or to invest in other investment opportunities that have better expected longer term profitability.

Our fixed maturity portfolio is primarily invested in high quality, investment grade securities. However, we invest a portion of the portfolio in securities that are below investment grade. We also invest a portion of our portfolio in other investments such as fixed income type funds, notes receivable, loans receivable, private placement bond investments, derivatives and other specialty

asset classes. These securities generally pay a higher rate of interest or return and may have a higher degree of credit or default risk. These securities may also be less liquid in times of economic weakness or market disruptions.

We also invest a portion of our portfolio in preferred and common stocks or equity-like securities. The value of these assets fluctuates with equity markets, which are increasingly volatile. In times of economic weakness, the market value and liquidity of these assets may decline, and may impact net income and capital. We use the term equity-like investments to describe our investments that have market risk characteristics similar to equities and are not investment grade fixed maturity securities. This category includes high-yield and convertible fixed maturity investments and private placement equity investments. Fluctuations in the fair value of our equity-like investments may reduce our income in any period or year and cause a reduction in our capital. There can be no assurance that our equity-like investments will maintain their current levels.

In addition, we invest directly and indirectly in real estate assets, which are subject to overall market conditions. We have investments in real estate in various locations (including the United Kingdom, New York, France and Brazil) through investments in limited partnerships, trust deeds, as well as through directly-owned investments in real estate and an equity method investment in a privately held real estate investment and development group, Almacantar Group Limited (Almacantar) in London. These real estate assets are exposed to various risks, including the supply and demand of leasable commercial and residential space and fluctuations in real estate prices globally. See also Item 4.D and Note 17 to the Consolidated Financial Statements in Item 18 below in this report for further details.

Refer to Item 11 below in this report for quantitative and qualitative disclosures about market risk.

The impending replacement of LIBOR may adversely affect our net investment income.

Actions by regulators in the United Kingdom (U.K.) and elsewhere are expected to result in the replacement of the London Interbank Offered Rate (LIBOR) with alternative rates. In July 2017, the U.K. Financial Conduct Authority (the "FCA") announced that it plans to phase out the use of LIBOR, which is expected to result in these widely used reference rates no longer being available. The U.S. Federal Reserve has begun publishing a Secured Overnight Financing Rate which is intended to replace U.S. dollar LIBOR. Plans for alternative reference rates for other currencies have also been announced. On November 30, 2020, ICE Benchmark Administration, the administrator for LIBOR, with the support of the U.S. Federal Reserve and the FCA announced plans to consult on ceasing publication of U.S. dollar LIBOR on December 31, 2021 for the one-week and two-month U.S. dollar LIBOR tenors, and on June 30, 2023 for all other U.S. dollar LIBOR tenors. The U.S. Federal Reserve concurrently issued a statement advising banks to stop new U.S. dollar LIBOR issuances by end of 2021. Such announcements indicate that continuation of LIBOR on the current basis cannot and will not be guaranteed after 2021. It appears highly likely that LIBOR will be discontinued or modified by 2021. The discontinuance or modification of LIBOR and the establishment of alternative reference rates may have an adverse impact on the market for LIBOR-based securities, the value of our investment portfolio and our net investment income.

Foreign currency fluctuations may reduce our net income and our capital levels.

Through our multinational reinsurance operations, we conduct business in a variety of foreign (non-U.S.) currencies, the principal exposures being the Euro, British pound, Canadian dollar, Japanese yen and Swiss Franc. Accordingly, we are subject to market risks associated with devaluations and fluctuations in currency exchange rates. Our assets and liabilities denominated in foreign currencies are therefore exposed to changes in currency exchange rates, which may be material. Our reporting currency is the U.S. dollar, and exchange rate fluctuations relative to the U.S. dollar may materially impact our financial results and condition. We employ various strategies, including the use of foreign exchange forward contracts and other derivative financial instruments, to manage our exposure to foreign currency exchange risk. To the extent that these exposures are not fully offset or hedged, or the hedges are ineffective at mitigating adverse effects, our financial results and condition may be negatively impacted by fluctuations in foreign currency exchange rates.

We may suffer losses due to defaults by various counterparties, including issuers of investment securities, reinsurance contracts and derivatives.

Issuers or borrowers whose securities we hold, reinsurers, clearing agents, clearing houses, joint venture partners, derivative instrument counterparties and other financial intermediaries may default on their obligations to us due to bankruptcy, insolvency, lack of liquidity, adverse economic conditions, operational failure, fraud or other reasons. Even if we are entitled to collateral when a counterparty defaults, such collateral may be illiquid or proceeds from such collateral when liquidated may not be sufficient to recover the full amount of the obligation. All or any of these types of default could have a material adverse effect on our results of operations, financial condition and liquidity.

Our debt, credit and International Swap Dealers Association (ISDA) agreements may limit our financial and operational flexibility, which may affect our ability to conduct our business.

We have incurred indebtedness, and may incur additional indebtedness in the future. At December 31, 2020, our total debt liabilities related to senior notes and junior subordinated notes were approximately \$2 billion.

Additionally, we have entered into letter of credit facilities and ISDA agreements (including but not limited to weather derivatives) with various institutions.

The agreements relating to our debt, letter of credit facilities and ISDA agreements contain various covenants that may limit our ability, among other things, to borrow money, make particular types of investments or other restricted payments, sell assets, merge or consolidate. Some of these agreements also require us to maintain specified ratings. If we fail to comply with these covenants, the lenders or counterparties under these agreements could declare a default and demand immediate repayment of all amounts owed to them. See Liquidity and Capital Resources—Shareholders’ Equity and Capital Resources Management—Credit Agreements in Item 5 of this report.

If we are in default under the terms of these agreements, we may also be restricted in our ability to declare or pay any dividends, redeem, purchase or acquire any shares or make a liquidation payment.

If any one of the financial institutions that we use in our operations, including those that participate in our credit facilities, fails or is otherwise unable to meet their commitments, we could incur substantial losses and reduced liquidity.

We maintain cash balances significantly in excess of the U.S. Federal Deposit Insurance Corporation insurance limits at various depository institutions. We also have funding commitments from a number of banks and financial institutions that participate in our credit facilities. See Liquidity and Capital Resources—Shareholders’ Equity and Capital Resources Management—Credit Agreements in Item 5 and Note 16 to the Consolidated Financial Statements in Item 18 of this report for details. Access to funds under these existing credit facilities is dependent on the ability of the banks that are parties to the facilities to meet their funding requirements. Those banks may not be able to meet their funding requirements if they experience shortages of capital and liquidity or if they experience excessive volumes of borrowing requests within a short period of time, and we might be forced to replace credit sources in a difficult market. If we cannot obtain adequate financing or sources of credit on favorable terms, or at all, our business, operating results and financial condition could be adversely impacted.

Strategic investments and merger and acquisition (M&A) activities could disrupt our ongoing business and present risks not originally contemplated.

We have made, and in the future may make, strategic investments or acquisitions. Such endeavors involve significant risks and uncertainties, including those related to distraction of management from current operations, greater than expected liabilities and expenses, inadequate return of capital and unidentified issues not discovered in due diligence. In addition, the integration of any acquired companies may place significant demands on our management, systems, internal controls and financial and physical resources. These new ventures or M&A activities are inherently risky and may not achieve the expected benefits.

Operational risks, including human or systems failures, are inherent in our business.

Operational risks and losses can result from many sources including fraud, errors by employees, failure to document transactions properly or to obtain proper internal authorization, failure to comply with regulatory requirements or information technology failures.

Our modeling, underwriting and information technology and application systems are critical to our business and reputation. Moreover, our technology and applications are an important part of our underwriting process and our ability to compete successfully. We have also licensed certain systems and data from third parties. We cannot be certain that we will have access to these, or comparable service providers, or that our technology or applications will continue to operate as intended. In addition, we cannot be certain that we would be able to replace these service providers or consultants without slowing our underwriting response time. A major defect or failure in our internal controls or information technology and application systems could result in management distraction, harm to our reputation, a loss or delay of revenues or increased expense.

Cybersecurity events could disrupt business operations, result in the loss of critical and confidential information, and adversely impact our reputation and results of operations.

We are dependent upon the effective functioning and availability of our information technology and application systems platforms. These platforms include, but are not limited to, our proprietary software programs such as catastrophe models as well as those licensed from third-party vendors including financial, analytic and modeling systems. We rely on the security of such platforms for the secure processing, storage and transmission of confidential information. Examples of cybersecurity incidents are unauthorized access, computer viruses, deceptive communications (phishing), data loss, malware, ransomware or other malicious code or cyber-attack, destructive attack, system failures and disruptions and other events that could have security consequences. A cybersecurity incident could materially impact our ability to adequately price products and services, establish reserves, provide efficient and secure services to our clients, brokers, vendors and regulators, value our investments and timely and accurately report our financial results. Although we have implemented controls and have taken protective measures to reduce the risk of cybersecurity incidents, we cannot reasonably anticipate or prevent all cybersecurity incidents. Cybersecurity incidents could expose us to a risk of loss or misuse of our information, litigation, reputational damage, violations of applicable privacy and other laws, fines, penalties or losses that are either not insured against or not fully covered by insurance maintained. We may be required to expend significant additional resources to modify our protective measures or to investigate and remediate vulnerabilities.

We believe there are frequent attempts to breach our cybersecurity measures. For example, in recent years we have encountered phishing attempts, such as where someone impersonating a senior executive sought payment. We cannot assure that our systems and processes will be able to identify and prevent such attempts in the future.

The loss of key management and other qualified personnel could adversely affect us.

Our success has depended, and will continue to depend, partly upon our ability to attract and retain management and other qualified personnel. If any of these key management or other employees ceased to continue in their present role, we could be adversely affected.

Our ability to execute our business strategy is dependent on our ability to attract and retain a staff of qualified executive officers, underwriters, actuaries and other key personnel. The skills, experience and knowledge of the reinsurance industry of our management team constitute important competitive strengths. If some or all of these managers leave their positions, and even if we were able to find persons with suitable skills to replace them, our operations could be adversely affected.

We may be adversely impacted by inflation.

Deficit spending by governments in our major markets and monetary stimulus provided by central banks exposes us to a heightened risk of inflation. We monitor the risk that the principal markets in which we operate could experience increased inflationary conditions, which would, among other things, cause policyholder loss costs to increase, and negatively impact the performance of our investment portfolio. Inflation related to medical costs, construction costs and tort issues in particular impact the property and casualty industry, and broader market inflation has the potential risk of increasing overall loss costs. The impact of inflation on loss costs could be more pronounced for those lines of business that are considered to be long-tail in nature, as they require a relatively long period of time to finalize and settle claims. Changes in the level of inflation also result in an increased level of uncertainty in our estimation of loss reserves, particularly for long-tail lines of business. The onset, duration and severity of an inflationary period cannot be estimated with precision.

Risks Related to Our Industry

Our profitability is affected by the cyclical nature of the reinsurance industry.

Historically, the reinsurance industry has experienced significant fluctuations in operating results due to competition, levels of available capacity, trends in cash flows and losses, general economic conditions and other factors, particularly in the non-life lines of business. Demand for reinsurance is influenced significantly by underwriting results of primary insurers, including catastrophe losses, and prevailing general economic conditions. The supply of reinsurance is related directly to prevailing prices and levels of capacity that, in turn, may fluctuate in response to changes in rates of return on investments being realized in the reinsurance industry. In addition, the cycle of our industry may fluctuate as a result of changes in the economic, legal, political and social landscape. Since cyclical nature is due in large part to the collective actions of insurers, reinsurers and general economic conditions and the occurrence of unpredictable events, we cannot predict the timing or duration of changes in the market cycle. If any of these factors were to result in a decline in the demand for reinsurance or an overall increase in reinsurance capacity, our profitability could be impacted. In the recent past, we experienced a prolonged period of a generally softening market cycle, with increased competition, surplus underwriting capacity, deteriorating rates and less favorable terms and conditions, all having an impact on our ability to write business. While the current reinsurance market has shifted toward a hard market phase and we expect this to persist, it is possible that we may return to a soft market in the future.

Although we are currently experiencing improving market conditions with increased or constant pricing in most non-life classes, primarily in those markets that have been exposed to the catastrophe losses in 2019, as a result of the persisting competition and excess capacity in the industry, it is not possible to forecast if improving pricing conditions will continue.

Competition, pricing pressure and any other negative factors noted above may adversely affect our profitability and results of operations in future periods, and the impact may be material.

We operate in a highly competitive environment.

The reinsurance industry is highly competitive and we compete with a number of worldwide reinsurance companies, including, Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft (Munich Re), Swiss Re Ltd. (Swiss Re), Hannover Rück SE (Hannover Re), SCOR SE, Transatlantic Reinsurance Company Inc. (Transatlantic), General Reinsurance Corporation (GenRe), Reinsurance Group of America, Incorporated (RGA), Everest Re Group, Ltd. (Everest Re) and RenaissanceRe Holdings Ltd. (RenRe).

The lack of strong barriers to entry into the reinsurance business means that we may also compete with new companies that may be formed to enter the reinsurance market. In addition, we may experience increased competition as a result of the consolidation in the insurance and reinsurance industry. These consolidated entities may try to use their enhanced market power and relationships to negotiate price reductions for our products and services and/or obtain a larger market share through increased line sizes. Consolidated companies may also purchase less reinsurance product and services, due to increased levels of capital.

Competition in the types of reinsurance that we underwrite is based on many factors, including the perceived and relative financial strength, pricing and other terms and conditions, services provided, ratings assigned by independent rating agencies, speed of claims payment, geographic scope of business, client and broker relationships, reputation and experience in the lines of business to be written. If competitive pressures reduce our prices, we may expect to write less business. In addition, competition for customers would become more intense and we could incur additional expenses relating to customer acquisition and retention, further reducing our operating margins.

Further, insurance-linked securities, derivatives and other non-traditional risk transfer mechanisms and alternative vehicles are being developed and offered, which could impact the demand for traditional insurance or reinsurance. A number of new, proposed or potential industry or legislative developments could further increase competition in our industry. New competition from these developments could cause the demand for reinsurance and/or prices to fall or the costs related to client acquisition and retention to increase, either of which could have a material adverse effect on our growth and profitability.

All of the above factors may adversely affect our profitability and results of operations in future periods, the impact of which may be material, and may adversely affect our ability to successfully execute our strategy as a global diversified reinsurance company.

Legal and Regulatory Risks

Political, regulatory, governmental and industry initiatives could adversely affect our business.

Our reinsurance operations are subject to extensive laws and regulations that are administered and enforced by a number of different governmental and non-governmental self-regulatory authorities and associations in each of their respective jurisdictions and internationally. Our businesses in each jurisdiction are subject to varying degrees of regulation and supervision. The laws and regulations of the jurisdictions in which our reinsurance subsidiaries are domiciled require, among other things, maintenance of minimum levels of statutory capital, surplus, and liquidity; various solvency standards; and periodic examinations of subsidiaries' financial condition. In some jurisdictions, laws and regulations also restrict payments of dividends and reductions of capital. Applicable statutes, regulations, and policies may also restrict the ability of these subsidiaries to write insurance and reinsurance policies, to make certain investments, and to distribute funds.

Some of these authorities regularly consider enhanced or new regulatory requirements intended to prevent future crises or otherwise assure the stability of institutions under their supervision. These authorities may also seek to exercise their supervisory authority in new and more robust ways, and new regulators could become authorized to oversee parts of our business.

It is not possible to predict all future impacts of these types of changes but they could affect the way we conduct our business and manage our capital, and may require us to satisfy increased capital requirements or to incur additional expenses, any of which, in turn, could affect our results of operations, financial condition and liquidity. Our material subsidiaries' regulatory environments are described in detail in Business Overview—Regulation in Item 4.B of this report.

If our compliance with any particular regulatory regime is challenged, we may be subject to monetary or other penalties. In addition, in order to ensure compliance with applicable regulatory requirements or as a result of any investigation, including remediation efforts, we could be required to incur expenses and undertake additional work, which in turn may divert resources from

our business. These, and other regulations relating to each of our material subsidiaries may in effect restrict each of those subsidiaries' ability to write new business, to make certain investments and to distribute funds or assets to us. For further information see Business Overview—Regulation in Item 4.B of this report.

The possibility of future government intervention have created uncertainty in the insurance and reinsurance markets. Government regulators are generally concerned with the protection of policyholders to the exclusion of other interested parties, including shareholders and debt holders of reinsurers. We believe it is likely there will continue to be increased regulation of, and other forms of government participation in, our industry in the future, which could materially adversely affect our business by, among other things:

- Providing reinsurance capacity in markets and to clients that we target or requiring our participation in industry pools and guaranty associations;
- Further restricting our operational or capital flexibility;
- Expanding the scope of coverage under existing policies;
- Regulating the terms of reinsurance policies;
- Adopting further or changing compliance requirements which may result in additional costs which may adversely impact our results of operation; or
- Disproportionately benefiting the companies domiciled in one country over those domiciled in another.

Legislative and regulatory activity in healthcare may affect our profitability as a provider of accident and health reinsurance products.

We derive revenues, in part, from the provision of accident and health reinsurance in the U.S. to institutions that participate in the U.S. healthcare delivery infrastructure. The Patient Protection and Affordable Care Act of 2010 (the Healthcare Act) made significant changes to the regulation of health insurance and may negatively affect our U.S. health reinsurance business including, but not limited to, the healthcare delivery system and the healthcare cost reimbursement structure in the U.S. In addition, we may be subject to regulations, guidance or determinations emanating from the various regulatory authorities authorized under the Healthcare Act. It is difficult to predict the effect that the Healthcare Act, any regulatory pronouncement made thereunder or changes to the Healthcare Act will have on our results of operations or financial condition. In addition, it is not possible to predict whether new legislation, rules or regulatory changes (such as the proposed "Medicare for all" plans) will be adopted or enacted in the future or what impact, if any, such legislation, rules or changes could have on our business, financial condition or results of operations.

Legal and enforcement activities relating to the insurance industry could affect our business and our industry.

The insurance industry has experienced substantial volatility as a result of litigation, investigations and regulatory activity by various insurance, governmental and enforcement authorities concerning certain practices within the insurance industry.

These investigations have resulted in changes in the insurance and reinsurance markets and industry business practices. While at this time, none of these changes have caused an adverse effect on our business, we are unable to predict the potential effects, if any, that future investigations may have upon our industry. As noted above, because we frequently assume the credit risk of the counterparties with whom we do business throughout our insurance and reinsurance operations, our results of operations could be adversely affected if the credit quality of these counterparties is severely impacted by investigations in the reinsurance or insurance industry or by changes to industry practices.

Emerging claim and coverage issues could adversely affect our business.

Unanticipated developments in the law, as well as changes in social and environmental conditions could potentially result in unexpected claims for coverage under our reinsurance and other contracts. These developments and changes may adversely affect our business by either extending coverage beyond our underwriting intent or by increasing the number or size of claims. With respect to our casualty businesses, these legal, social and environmental changes may not become apparent until sometime after their occurrence. Our exposure to these uncertainties could be exacerbated by an increase in insurance and reinsurance contract disputes, arbitration and litigation.

The full effects of these and other unforeseen emerging claim and coverage issues are extremely hard to predict. In some instances, these coverage changes may not become apparent until after we have issued reinsurance contracts that are affected by such changes. As a result, the full extent of our liability under such reinsurance contracts and, in particular, our casualty reinsurance contracts, may not be known for many years after a contract is issued.

The reinsurance industry is also affected by political, judicial and legal developments that may create new and expanded theories of liability, which may result in unexpected claim frequency and severity and delays or cancellations of products and services we provide, which could adversely affect our business.

The U.K. leaving the EU ("Brexit") could adversely affect our business.

In accordance with the withdrawal agreement implementing Brexit, the U.K. formally left the European Union (EU) on January 31, 2020. The transitional period provided for under the withdrawal agreement ended on December 31, 2020. While the U.K. and EU reached a trade deal on certain key matters, it did not address the provision of financial services between the U.K. and EU. Consequently, PartnerRe's Irish operating subsidiaries entered the U.K. Temporary Permission Regime which secures their right to continue to trade within the U.K. and access the U.K. (re)insurance market until the end of 2023.

Given the limited scope of the agreed U.K./EU trade deal, there remains risks associated with the potential uncertainty and consequences relating to Brexit, including with respect to volatility in financial markets, exchange rates and interest rates. These uncertainties could increase the volatility of, or reduce, our investment results in particular periods or over time. Brexit could adversely affect European or worldwide political, regulatory, economic or market conditions and could contribute to instability in global political institutions and regulatory agencies. Brexit could also lead to legal uncertainty and differing laws and regulations between the U.K. and the EU. In addition, these uncertainties relating to Brexit could affect the operations, strategic position or results of insurers or reinsurers on whom we ultimately rely to access underlying insured coverages. Any of these potential effects of Brexit, and others we cannot anticipate, could adversely affect our results of operations or financial condition.

Our business is subject to applicable laws and regulations relating to sanctions, anti-bribery and anti-money laundering, the violation of which could adversely affect our operations.

Our activities are subject to applicable economic and trade sanctions, anti-bribery and anti-money laundering laws and regulations in the jurisdictions where we operate including the U.S. and the EU, among others. Compliance with these regulations may impose significant costs, limit or restrict our ability to do business or engage in certain activities, or subject us to the possibility of civil or criminal actions or proceedings. Although we have policies and controls in place designed to comply with applicable laws and regulations, there can be no assurance that we, or an employee or agent acting on our behalf, would fully comply with applicable laws and regulations as interpreted by the relevant authorities. The divergence of regulatory requirements between the U.S. and the EU regarding business with Iran has increased these risks. Failure to accurately interpret, comply with or obtain appropriate authorizations and/or exemptions under such laws or regulations could expose us to investigations, civil penalties, criminal penalties and other sanctions, including fines, injunctions, loss of licenses or other punitive actions. In addition, such violations could damage our business and/or our reputation. Such criminal or civil sanctions, penalties, other sanctions, or damage to our business and/or reputation could have a material adverse effect on our financial condition and results of operations.

Our business is subject to applicable laws and regulations relating to data privacy and protection and cybersecurity, the changes or the violation of which could affect our operations.

Regulatory authorities around the world have implemented or are considering a number of legislative changes or regulations concerning data protection and cybersecurity which have required or may require us to incur additional expenses. We are subject to numerous U.S. federal and state laws and non-U.S. regulations governing the protection of personal and confidential information of our clients or employees, including in relation to medical records and financial information. Existing cybersecurity regulations vary by region or country in which PartnerRe operates and cover different aspects of business operations.

Our business is subject to General Data Protection Regulation (GDPR) which regulates data protection for all individuals within the EU, including foreign companies processing data of EU residents; it enhances individuals' rights, introduces complex and far-reaching company obligations and increases penalties significantly in case of violation. The GDPR sets out a number of requirements that must be complied with when handling personal data including: the obligation to appoint data protection officers in certain circumstances and the principal of accountability and the obligation to make public notification of significant data breaches. The interpretation and application of data protection laws in the U.S., Europe and elsewhere are developing and are often uncertain and in flux. It is possible that these laws or cybersecurity regulations may be interpreted and applied in a manner that is inconsistent with our data protection or security practices. If so, in addition to the possibility of fines, this will result in an order requiring that we change our data practices, which could have an adverse effect on our business and results of operations. Complying with these various laws will cause us to incur additional costs and could require us to change our business practices.

As a group operating worldwide, we strive to comply with all applicable data protection laws and regulations. It is however possible that we fail to comply with all applicable laws and regulations. The failure or perceived failure to comply may result in inquiries and other proceedings or actions against us by government entities or others, including monetary fees, or could cause us to lose clients which could potentially have an adverse effect on our business and results of operations.

See also Business Overview—Regulation in Item 4.B for further details on cybersecurity requirements.

Changes in current accounting practices and future pronouncements may materially impact our reported financial results.

Developments in accounting practices may require considerable additional time and cost to comply, particularly if we are required to prepare information relating to prior periods for comparative purposes or to apply the new requirements retroactively. The impact of changes in current accounting practices and future pronouncements may be significant. The impact may affect the results of our operations, including among other things, the calculation of net income, and may affect our financial position, including among other things, the calculation of unpaid losses and loss expenses, policy benefits for life and annuity contracts and total shareholders' equity. The changes to accounting standards could affect the way we manage and report significant areas of our business and could impose demands on us in the areas of governance, employee training, internal controls and disclosures.

Our Consolidated Financial Statements are prepared in accordance with U.S. GAAP, and accordingly, we are required to adopt new or revised accounting standards issued by the Financial Accounting Standards Board (FASB). The FASB has issued Accounting Standards Update (ASU) 2018-12, Targeted Improvements to the Accounting for Long-Duration Contracts, which will result in changes to how we account for and report our long-duration insurance contracts. The Company is currently evaluating the impact of this guidance on its Consolidated Financial Statements and disclosures required to be adopted for the year ended December 31, 2023.

In addition, the Company will be required to adopt new or revised accounting standards issued by other recognized authoritative bodies for purposes of reporting to our controlling shareholder or for the preparation of the Company's subsidiaries' statutory financial statements.

See Note 2(s) to the Consolidated Financial Statements in Item 18 in this report for details of recent accounting pronouncements.

Risks Related to Our Preferred Shares

PartnerRe Ltd. is a holding company, and if our subsidiaries do not pay dividends or make other distributions to us, we may not be able to pay dividends on our preferred shares or settle principal payments as they become due.

PartnerRe Ltd. is a holding company with no operations to generate income to provide liquidity other than the cash received for issuance of common shares and preferred shares. We have cash outflows in the form of other expenses and dividends to both common and preferred shareholders. We rely primarily on cash dividends and payments from our subsidiaries to meet our cash outflows. We expect future dividends and other permitted payments from our subsidiaries to be the principal source of funds to pay expenses and dividends. The ability of our subsidiaries to pay dividends or to advance or repay funds to us is subject to general economic, financial, competitive, regulatory and other factors beyond our control. In particular, the payment of dividends by our reinsurance subsidiaries is limited under Bermuda, Irish and Singapore laws and certain statutes of U.S. states in which our U.S. subsidiaries are domiciled, which statutes include minimum solvency and liquidity thresholds (see Note 11 to the Consolidated Financial Statements in Item 18 of this report for a description of various regulatory and statutory restrictions on dividend payments applicable to our reinsurance subsidiaries). Because PartnerRe Ltd. is a holding company, our right, and hence the right of our creditors and shareholders, to participate in any distribution of assets by any of our subsidiaries, upon our liquidation or reorganization or otherwise, is subject to the prior claims of policyholders and creditors of these subsidiaries.

Our controlling shareholder owns a significant majority of our common shares, and its interest may differ from the interests of our preferred shareholders.

EXOR Nederland N.V. owns approximately 99.7% of the outstanding common shares of the Company. As a result, EXOR Nederland N.V. has power to elect our directors and to determine the outcome of any action requiring shareholder approval. EXOR's interests may differ from the interests of the holders of our preferred shares and, given EXOR Nederland N.V.'s majority controlling interest in the Company, circumstances may arise under which EXOR Nederland N.V. may exercise its control in a manner that is not favorable to the interests of the holders of the preferred shares.

Preferred shareholders may encounter difficulties in service of process and enforcement of judgments against us in the United States.

We are a Bermuda company and some of our directors and officers are residents of various jurisdictions outside the U.S. All, or a substantial portion, of the assets of our officers and directors and of our assets are or may be located in jurisdictions outside the U.S. Although we have appointed an agent and irrevocably agreed that the agent may be served with process in New York with respect to actions against us arising out of violations of the U.S. Federal securities laws in any Federal or state court in the U.S., it could be difficult for investors to effect service of process within the U.S. on our directors and officers who reside outside the U.S. It could also be difficult for investors to enforce against us or our directors and officers judgments of a U.S. court predicated upon civil liability provisions of U.S. Federal securities laws.

There is no treaty in force between the U.S. and Bermuda providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. As a result, whether a U.S. judgment would be enforceable in Bermuda against us or our directors and officers depends on whether the U.S. court that entered the judgment is recognized by the Bermuda court as having jurisdiction over us or our directors and officers, as determined by reference to Bermuda conflict of law rules. A judgment debt from a U.S. court that is final and for a sum certain based on U.S. Federal securities laws will not be enforceable in Bermuda unless the judgment debtor had submitted to the jurisdiction of the U.S. court, and the issue of submission and jurisdiction is a matter of Bermuda law and not U.S. law.

In addition to and irrespective of jurisdictional issues, Bermuda courts will not enforce a U.S. Federal securities law that is either penal or contrary to public policy. An action brought pursuant to a public or penal law, the purpose of which is the enforcement of a sanction, power or right at the instance of the state in its sovereign capacity will not be entered by a Bermuda court. Certain remedies available under the laws of U.S. jurisdictions, including certain remedies under U.S. Federal securities laws, would not be available under Bermuda law or enforceable in Bermuda court, as they would be contrary to Bermuda public policy. Further, no claim can be brought in Bermuda against us or our directors and officers in the first instance for violation of U.S. Federal securities laws because these laws have no extra jurisdictional effect under Bermuda law and do not have force of law in Bermuda. A Bermuda court may, however, impose civil liability on us or our directors and officers if the facts alleged in a complaint constitute or give rise to a cause of action under Bermuda law.

Taxation Risks

Changes in our effective income tax rate could affect our results of operations.

Our effective income tax rate could be adversely affected in the future by net income being lower than anticipated in jurisdictions where we have a relatively lower statutory tax rate and net income being higher than anticipated in jurisdictions where we have a relatively higher statutory tax rate, or by changes in corporate tax rates and tax regulations in any of the jurisdictions in which we operate. We are subject to regular audit by tax authorities in the various jurisdictions in which we operate. Any adverse outcome of such an audit could have an adverse effect on our net income, effective income tax rate and financial condition.

In addition, the determination of our provisions for income taxes requires significant judgment, and the ultimate tax determination related to some tax positions taken is uncertain. Although we believe our provisions are reasonable, the ultimate tax outcome may differ from the amounts recorded in our consolidated financial statements and may materially affect our net income and effective income tax rate in the period such determination is made.

If our non-U.S. operations become subject to U.S. income taxation, our net income will decrease.

We believe that we and our non-U.S. subsidiaries, other than certain business sourced by Partner Reinsurance Europe SE (PartnerRe Europe) and PartnerRe Ireland Insurance dac (PartnerRe Ireland) through the U.S., and a foreign reinsurance entity that has elected under I.R.C Section 953(d) to be treated as a domestic corporation (953(d) electing reinsurer), have operated, and will continue to operate, our respective businesses in a manner that will not cause us to be viewed as engaged in a trade or business in the U.S. and, on this basis, we do not expect that either we or our non-U.S. subsidiaries (other than PartnerRe Europe, PartnerRe Ireland, and the 953(d) electing reinsurer) will be required to pay U.S. corporate income taxes (other than potential withholding taxes on certain types of U.S. source passive income) or branch profits taxes. Because there is considerable uncertainty as to the activities that constitute being engaged in a trade or business within the U.S., the IRS may contend that either we or our non-U.S. subsidiaries are engaged in a trade or business in the U.S. In addition, legislation regarding the scope of non-U.S. entities and operations subject to U.S. income tax has been proposed in the past, and may be proposed again in the future. If either we or our non-U.S. subsidiaries are subject to U.S. income tax, our net income and shareholders' equity will be reduced by the amount of such taxes, which could be material.

The Organization for Economic Co-operation and Development's (OECD) initiative to limit harmful tax competition may result in higher taxation and increased complexity, burden and cost of compliance.

The OECD has published reports and launched a global initiative among member and non-member countries on measures to limit harmful tax competition, known as the Base Erosion and Profit Shifting (BEPS) project. On June 21, 2016, the EU's ministers of Finance and Economic Affairs unanimously approved the Anti-Tax Avoidance Directive to harmonize potential BEPS changes in the EU. These measures are largely directed at counteracting the effects of tax havens and preferential tax regimes in countries around the world. We expect that countries may change their tax laws in response to this project, and several countries have already changed or proposed changes to their tax laws. Changes to tax laws and additional reporting requirements could increase the complexity, burden and cost of doing business with our Bermuda companies and/or subject our Bermuda companies to increased tax and compliance burdens.

On May 31, 2019, the OECD published a "Programme of Work" designed to address the tax challenges created by an increasing digitalized economy. The Programme was divided into two pillars. Pillar One addresses the broader challenge of a

digitalized economy and focuses on the allocation of group profits among taxing jurisdictions based on a market based concept rather than historical “permanent establishment” concepts. Pillar Two addresses the remaining BEPS risk of profit shifting to entities in low tax jurisdictions by introducing a global minimum tax and a tax on potentially base eroding payments.

The OECD published detailed blueprints of its proposals on October 14, 2020 and public consultations have already been held virtually in January 2021. A meeting of the Inclusive Framework was held on January 27-28, 2021. The OECD’s stated aim is to bring the process to a successful conclusion by mid-2021. However, at this stage, it is not known what the outcome will be from the consultations or when any legislative changes resulting from the OECD’s recommendations would be implemented. To date, the proposal has been written broadly enough to potentially apply to our activities, and the impact to the Company cannot be determined at this time.

Our tax position could be adversely impacted by changes in tax laws, tax treaties or tax regulations or the interpretation or enforcement thereof.

We could be adversely impacted by changes in tax laws, tax treaties or tax regulations or the interpretation or enforcement thereof by taxation authorities. Changes could have a material and adverse change in our worldwide effective tax rate and we may have to take further action to seek to mitigate the effect of such changes. Any future amendments to existing income tax treaties between the jurisdictions in which we operate, could subject us to increased taxation and/or potentially significant expense.

ITEM 4. INFORMATION ON THE COMPANY

A. History and Development of the Company

PartnerRe Ltd., an exempt company incorporated under the laws of Bermuda in 1993 with limited liability, is the holding company for our international reinsurance group (PartnerRe group). The principal office is located at 90 Pitts Bay Road, Pembroke, Bermuda (telephone number: +1 441-292-0888). The Company predominantly provides reinsurance on a worldwide basis through its principal wholly-owned subsidiaries, including Partner Reinsurance Company Ltd. (PartnerRe Bermuda), Partner Reinsurance Europe SE (PartnerRe Europe), Partner Reinsurance Company of the U.S. (PartnerRe U.S.) and Partner Reinsurance Asia Pte. Ltd. (PartnerRe Asia). The Company's principal office in the U.S. is located at 200 First Stamford Place, Stamford, Connecticut (telephone number: +1 203-485-4200).

The Company maintains an internet site at www.partnerre.com that contains the Company's Annual Reports on Form 20-F filed with the U.S. Securities and Exchange Commission (SEC) and Current Reports on Form 6-K furnished with the SEC. These Reports are also available on the internet site maintained by the SEC at www.sec.gov.

The Company completed the acquisition of Societe Anonyme Francaise de Reassurances (SAFR, subsequently renamed PartnerRe SA) in 1997, the acquisition of Winterthur Re in 1998, the acquisition of PARIS RE Holdings Limited (Paris Re) in 2009, the acquisition of Presidio Reinsurance Group, Inc. (Presidio) in 2012, and the acquisition of Aurigen Capital Limited (Aurigen) in 2017.

On March 18, 2016, the Company's publicly held common shares were acquired by Exor N.V. (subsequently renamed to EXOR Nederland N.V), whose ultimate parent is EXOR N.V., one of Europe's leading investment companies controlled by the Agnelli family, which is listed on the Milan Stock Exchange. As a result of the acquisition, PartnerRe's publicly issued common shares were cancelled and are no longer traded on the New York Stock Exchange (NYSE). The Company's preferred shares continue to be traded on the NYSE.

At December 31, 2020 and 2019, the Company's shares owned by EXOR Nederland N.V. (Class A shares) are included in Shareholders' Equity in the Consolidated Balance Sheets. The Company has also issued Class B shares to certain executives and directors of the Company which are included in Accounts payable, accrued expenses and other in the Consolidated Balance Sheets (see Share Ownership section in Item 6.E and Notes 10 and 13 to the Consolidated Financial Statements in Item 18 of this report for further details).

On March 3, 2020, our ultimate parent company, EXOR N.V., announced that it had entered into a Memorandum of Understanding (MoU) under which Covéa Cooperations S.A. (Covéa) would, following the successful completion of a required consultation with workers councils, enter into a definitive agreement to acquire PartnerRe's common shares for a total cash consideration of \$9.0 billion plus a cash dividend of \$50 million to be paid before closing. On May 12, 2020, EXOR acknowledged Covéa's notice that Covéa would not honor its commitment to acquire PartnerRe in accordance with the terms of the MoU.

B. Business Overview

The Company provides reinsurance for its clients globally. The Company's principal offices are located in Pembroke (Bermuda), Dublin, Stamford (Connecticut, U.S.), Toronto, Paris, Singapore and Zurich.

The Company provides reinsurance of risks to ceding companies (cedants or reinsureds). Risks reinsured include, but are not limited to, agriculture, aviation/space, casualty, catastrophe, energy, engineering, financial risks, marine, motor, multiline, U.S. health and property as well as mortality, morbidity, longevity, accident and health and alternative risk products. The Company's alternative risk products include weather and credit protection to financial, industrial and service companies on a worldwide basis.

Reinsurance is offered on either a proportional or non-proportional basis through treaties or facultative reinsurance:

- In a proportional (or quota share) treaty reinsurance agreement, the reinsurer assumes a proportional share of the original premiums and losses incurred by the cedant. The reinsurer pays the ceding company a commission, which is generally based on the ceding company's cost of acquiring the business being reinsured (including commissions, premium taxes, assessments and miscellaneous administrative expenses) and may also include a profit.
- In a non-proportional (or excess of loss) treaty reinsurance agreement, the reinsurer indemnifies the reinsured against all or a specified portion of losses on underlying insurance policies in excess of a specified amount, which is called a retention or attachment point. Non-proportional business is written in layers and a reinsurer or group of reinsurers accepts a band of coverage up to a specified amount. The total coverage purchased by the cedant is referred to as a program and is typically placed with predetermined reinsurers in pre-negotiated layers. Any liability exceeding the upper limit of the program reverts to the ceding company.

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- In a facultative (proportional or non-proportional) reinsurance agreement the reinsurer assumes individual risks. The reinsurer separately rates and underwrites each risk rather than assuming all or a portion of a class of risks, as in the case of treaty reinsurance.

The majority of the Company's gross premiums written were written on a proportional basis for each of the years ended December 31, 2020, 2019 and 2018.

The Company monitors the performance of its operations in three worldwide business units comprised of Property & Casualty (P&C), Specialty, and Life and Health, which represent its segments. The P&C segment is comprised of property and casualty business underwritten, including property catastrophe, facultative risks and U.S. health. The Specialty segment is comprised of specialty business, including treaty and facultative contracts. The combined business included in the P&C and Specialty segments is collectively referred to in this report as Non-life business. The Company's Life and Health segment includes mortality, morbidity, and longevity business.

See Results by Segment in Item 5 of this report and Note 18 to the Consolidated Financial Statements in Item 18 of this report for further details on Segments.

Premium Distribution

The Company's businesses are geographically diversified with premiums written on a worldwide basis. The Company's gross premiums written by segment for the years ended December 31, 2020, 2019 and 2018 were as follows (in millions of U.S. dollars):

	2020		2019		2018	
	\$	%	\$	%	\$	%
Non-life business:						
P&C segment	\$ 3,442	50 %	\$ 3,579	49 %	\$ 3,015	48 %
Specialty segment	1,935	28	2,213	31	2,050	32
Total Non-life business	\$ 5,377	78 %	\$ 5,792	80 %	\$ 5,065	80 %
Life and Health segment	1,499	22	1,493	20	1,235	20
	\$ 6,876	100 %	\$ 7,285	100 %	\$ 6,300	100 %

See Operating Results—Results by Segment in Item 5 and Note 18 to the Consolidated Financial Statements in Item 18 of this report for results by segment.

Distribution Channels

The Company generates business through brokers and through direct relationships with insurance companies. For the years ended December 31, 2020, 2019 and 2018, the Company had two brokers that individually accounted for 10% or more of the Company's total gross premiums written. These two brokers individually accounted for 30% and 21%, respectively, of the Company's total gross premiums written for 2020, 28% and 22%, respectively, for 2019, and 22% and 22%, respectively, for 2018 (see Note 18 to the Consolidated Financial Statements in Item 18 of this report for further details). No one cedant accounted for more than 5% of the Company's total gross premiums written for each of the years ended December 31, 2020, 2019 and 2018.

The gross premiums written in each of the Company's segments for the years ended December 31, 2020, 2019 and 2018, and the year-over-year comparisons, are described in Operating Results—Results by Segment in Item 5 of this report.

See Note 18 to the Consolidated Financial Statements in Item 18 of this report for the geographic distribution of the Company's total gross premiums written for the years ended December 31, 2020, 2019 and 2018.

Competition

The Company competes with other reinsurers, some of which have greater financial, marketing and management resources than the Company, and also competes with new market entrants, and, specifically in the catastrophe line of business, with alternative capital sources and insurance-linked securities. Competition in the types of reinsurance that the Company underwrites is based on many factors, including the perceived and relative financial strength, pricing and other terms and conditions, services provided, ratings assigned by independent rating agencies, speed of claims payment, and reputation and experience in the lines of business to be written.

The Company ranks among the world's largest professional reinsurers, and management believes the Company is well positioned in terms of client services and highly technical underwriting expertise. Management also believes that the Company's global franchise and diversified platform allows the Company to provide broad risk solutions across many lines of business and geographies, and is increasingly attractive to cedants who are choosing to utilize fewer reinsurers by consolidating their reinsurance panels and focusing on those reinsurers who can cover more than one line of business. Furthermore, the Company's capitalization and strong financial ratios allow the Company to demonstrate a solid balance sheet to its clients.

Management believes that the Company's major competitors for the Company's Non-life business are the larger European, U.S. and Bermuda-based international reinsurance companies, as well as specialty reinsurers and regional companies in certain local markets. These competitors include Munich Re, Swiss Re, Hannover Re, SCOR SE, Transatlantic, GenRe, Everest Re and RenRe.

For the Company's Life business, the competition differs by location but generally includes multi-national reinsurers and local reinsurers or state-owned insurers in the U.K., Ireland and Continental Europe for its mortality and longevity lines of business. The competition specifically related to the Health business generally includes departments of worldwide reinsurance companies. These competitors include Munich Re, RGA, Swiss Re, Hannover Re, SCOR SE and GenRe.

Risk Management

In the reinsurance industry, the core of the business model is the assumption and management of risk. A key challenge is to create shareholder value through the efficient management of reinsurance and investment risks while limiting and mitigating those risks that can destroy the value or threaten the ability of the Company to achieve its objectives. The Company defines a capital-based risk appetite and identifies risks that meet its return targets within that framework. Management believes that this construct allows the Company to fulfill its obligation to pay policyholders' claims, while ensuring appropriate margins to deliver an adequate risk adjusted return to shareholders.

Successful risk management is the foundation of the Company's value proposition. The Company's ability to succeed in risk assumption and business management is dependent on its ability to accurately identify, analyze and quantify risks as well as to understand how risks aggregate and to establish the appropriate capital requirements and limits for the risks assumed. All risks are managed by the Company within an integrated framework of policies and processes to ensure the consistent evaluation of risk holistically.

The Company's ability to meet its risk adjusted return objectives over the long term are primarily determined by how well the Company understands, prices and manages assumed risk. Management also believes that every organization faces numerous risks that could threaten the successful achievement of its goals and objectives. These include strategic, reinsurance, financial market and credit, emerging, reputational and operational risks that are common to all industries, such as choice of strategy and markets, economic and business cycles, competition, changes in regulation, data quality and security, fraud, business disruption and management continuity. See also Risk Factors above.

The Enterprise Risk Management (ERM) Framework sets forth a cycle that fosters continuous review of the Company's risk profile with tools and processes to effectively manage the Company's risks. The ERM cycle consists of the following components:

Risk Governance and Risk Culture is achieved through establishing clear responsibilities of risk ownership and values for managing risks across the organization.

Risk Identification and Performance: Risk Universe is the ability to identify, assess and prioritize risks that could have a significant impact on the Company.

Risk Strategy: Risk Appetite and Risk Tolerance Framework defines an appropriate risk appetite and risk tolerance to achieve the Company's business objectives.

Risk Reporting provides management with key risk information such as top risk exposures, changes in risk profile and sensitivities to risk exposures in order to monitor compliance with its risk appetite.

Risk Governance

The Company has a governance structure for risk management that promotes a risk culture of risk ownership throughout levels of the organization. The objective of the approach is to increase transparency over the roles and responsibilities that supports clear risk ownership.

The Company utilizes a multi-level risk management structure where the Executive Leadership Team (ELT) and Board are responsible for the establishment of the critical exposure limits, capital-at-risk and key policies through the Enterprise Risk Committee (ERC), a sub-committee of the ELT, and Underwriting Risk Committee (URC), a committee of the Board.

The ERC is responsible for setting the Company's risk appetite and return expectations. The ERC is comprised of ELT members such as the Chief Executive Officer, Chief Financial Officer, Chief Risk and Actuarial Officer, Chief Underwriting Officer, Chief Operations Officer, Chief Corporate and People Operations Officer, Chief Investment Officer and senior management members such as the Head of Capital & Risk and the Chief Legal Counsel. The Chief Audit Officer and Chief Financial and Operations Officer Life & Health attend the committee as observers. The ERC provides oversight through the quarterly monitoring of the Company's Risk Tolerance, periodic review of internal capital modelling techniques including stress and scenario testing, capital allocation as well as internal audit plans and results.

The URC is comprised of members of the Board. The role of the URC in the governance of Risk Management includes reviewing the ERM framework effectiveness and to discuss appropriate practices for the Company, including the Company's policies, guidelines and processes relating to the underwriting of reinsurance risks and assumptions of investment risks undertaken by the Company. Each of the Company's risk policies relates to a specific risk and describes the Company's approach to risk management, defines roles and responsibilities relating to the assumption, mitigation, and control processes for that risk, and an escalation process for exceptions. Risk management policies and processes are coordinated by the Capital & Risk department and compliance is verified by Internal Audit on a periodic basis. The audit results are monitored by the Audit Committee of the Board. Additionally, the URC also reviews the capital requirements and advises the Board on capital modelling matters.

The Business Units (BUs) and support functions are responsible for the execution of business activities and related risk mitigation strategies. These activities are represented in risk control practices embedded in the BUs which support the risk policies. Reporting on the Company's capital and top risk exposures is integrated within the Company's quarterly monitoring of risk tolerance limits, annual planning and risk assessment process as well as regulatory solvency assessments which are reported to the ELT and Board. The BUs are responsible for these activities and Internal Audit periodically evaluates the effectiveness of the risk control procedures.

Risk Culture

The Company's risk culture drives the Company's attitude toward managing risks through a set of values and behaviors. The Company's risk culture is shaped through the risk governance structure, risk management practices and risk models. The risk oversight committees such as the ERC and URC, in addition to the dedicated local Chief Risk Officers as part of the Legal Entity Management Teams at the Tier 1 legal entities, sets the Company's tone in terms of the importance and relevance of appropriately monitoring and managing risks. Risk Management practices such as limit frameworks and risk guidelines provide tools to ensure the Company's risk-taking values are aligned with the Company's risk appetite. Finally, risk models support the measurement of risks under stressed scenarios which promotes responsible behaviors and informed risk-taking.

Risk Identification and Performance: Risk Universe

The Company performs a risk identification and assessment process that is used to identify and assess the Company's key risks. The assessment of the material risks is achieved through the performance of risk stresses and scenarios in line with the Company's Stress Testing Framework.

The Company structures its risks within a Risk Universe which is comprised of the following risk categories: Strategic, Underwriting, Market and Credit, Financial, Capital Management and Operational.

Strategic Risk

Strategic risk is the risk of inadequate decision-making, poor execution of the Company's strategic objectives and the risk of a misalignment between the Company's existing strategy and the external environment that could threaten the competitive position and the ability to ensure ongoing profitability and viability.

Strategic risks are discussed and agreed to between the CEO and the Board, and managed by the CEO including the direction and governance of the Company. Managing strategic risk includes the Company's response to risks to the business strategy and Company's reputation as well as key external factors faced by the reinsurance industry including emerging risks.

Management considers that strong governance procedures, including a robust system of processes and internal controls, are appropriate to manage risks related to its reputation and risks related to new initiatives, including acquisitions, new products or markets. The Company seeks to preserve its reputation through high professional and ethical standards and manages the impact of identified risks through the adoption and implementation of a sound and comprehensive assumed risk framework.

Emerging risks are new risks or previously known risks that are evolving in unexpected ways with unanticipated consequences. They are monitored and managed by the ERC, which is tasked to evaluate and prioritize these risks based on the likelihood of occurrence and the potential impact on the Company.

Underwriting Risk

The Company's underwriting is conducted at the BU level through specialized underwriting teams with the support of technical staff in disciplines such as actuarial, claims, legal, risk management and finance.

The Company's underwriters develop close working relationships with their ceding company counterparts and brokers through regular visits, gathering detailed information about the cedant's business and local market conditions and practices. As part of the underwriting process, the underwriters also focus on the reputation and quality of the proposed cedant, the likelihood of establishing a long-term relationship with the cedant, the geographic area in which the cedant does business and the cedant's market share, historical loss data for the cedant and, where available, historical loss data for the industry as a whole in the relevant regions, in order to compare the cedant's historical loss experience to industry averages, and to gauge the perceived insurance and reinsurance expertise and financial strength of the cedant. The Company trains its underwriters and strives to maintain continuity of underwriters within specific geographic markets and areas of specialty.

The Company generally underwrites risks with specified limits per treaty program or facultative contract. Like other reinsurance companies, the Company is exposed to multiple insured losses arising out of a single occurrence, whether a natural event such as hurricane, windstorm, tornado, typhoon, flood or earthquake, or man-made events. Any such catastrophic event could generate insured losses in one or many of the Company's reinsurance treaties and facultative contracts and in one or more lines of business. The Company considers such event scenarios as part of its evaluation and monitoring of its aggregate exposures to catastrophic events.

Market and Credit Risk

Financial market risk is defined as the risk of a significant financial loss resulting from changes in financial markets such as changes in equity prices, interest rates, credit spreads, delinquency and default rates, foreign exchange rates or real estate prices. Financial market risk typically originates from investment activities, underwriting activities for certain product segments, and from the sensitivity of the economic value of liabilities to interest rate movements. Credit risk is defined as the risk of a significant financial loss due to default or downgrade of a counterparty. The Company is exposed to financial market and credit risk primarily through investment activities, structured transactions, business clients and brokers, retrocession as well as financial risks including GMDB, mortgage and credit and surety reinsurance lines of business.

Financial market and credit risk management follows both top-down and bottom-up approaches. The top-down approach begins with the Group Risk Tolerance Framework. The framework dictates an overarching Group Board risk limit with sub-limits for important quantifiable risk pillars including investment risks and other financial risks. Additionally, it limits downside economic risk resulting from deterministic cross-risk pillar severe stress scenarios (e.g., financial crisis or inflation spike scenarios) before being further delineated and extended to policies and guidelines, limits and investment risk standards at all levels of the Company. At the same time, guidelines and limits are constructed for each investments portfolio then for each legal entity up to the Group level in a consistent manner. These contain comprehensive specifications and limits that span credit quality, net interest rate risk, liquidity, liability coverage, capital funds quality and concentration (geographic, asset sub-class, single exposure, sector, etc.) among other considerations.

The Company utilizes external and internal tools to quantify financial market and credit risks. In addition to regularly assessing portfolio sensitivities to predetermined changes in market factors (e.g., interest rates and credit spreads), the Company has developed internally several single-year and multi-year scenarios with the goal of quantifying the impact of severe macroeconomic events (e.g., real estate crisis, financial crisis and inflation/interest rate spike) on invested assets, economically sensitive reinsurance business (e.g., mortgage, credit & surety etc.) and inflation sensitive reserves. These scenarios are often augmented by reinsurance shocks (e.g., Natural Catastrophe event) to assess the impact on the Company's liquidity and/or solvency at the Group and legal entity levels.

Furthermore, Risk Management employs an external real-world Economic Scenario Generator tool to regularly quantify and monitor the evolution of total return distributions by asset classes, subclass and by risk type (e.g., interest rate risk, equity risk, private equity, spread risk including default and migration risks, currency risk and real estate risk).

Net interest rate risk is monitored and managed holistically through asset liability management, asset reallocation and/or derivatives to ensure that large movements in interest rates do not result in significant loss of economic capital, in excess of Group and legal entity risk tolerances.

Counterparty credit risk is monitored and managed by major source of risk (e.g., corporate credit, derivatives, retrocession, funds withheld, etc.) and in aggregate across sources of risk. Limits are put in place at the Group level to ensure that losses due to the default of any single counterparty do not place an excessive strain on PartnerRe's capital and/or solvency positions.

Lastly, currency risk is monitored and hedged through foreign exchange forward contracts whenever deemed necessary and appropriate.

See Quantitative and Qualitative Disclosures about Market Risk in Item 11 of this report for further details.

Financial Risk

The Company's key financial risks include, but are not limited to, failures or weaknesses in financial reporting (including internal controls over financial reporting), regulatory non-compliance, risks related to the valuation of assets and liabilities, liquidity risk, foreign exchange (FX) risk and risks related to taxation.

Capital Management Risk

Capital Management Risk is the risk of holding insufficient levels of regulatory or economic capital to support regulatory and internal requirements and the business strategy.

Operational Risk

Operational risks are inherent to conducting business and represent a potential for a financial loss or reputational impact as a result of operational failures caused by people, processes, systems and external events. The more significant operational risk topics, include but are not limited to, information technology (including cyber security and data integrity), business disruption, execution and process management, outsourcing, legal and regulatory compliance, fraud and human resources management. The Company seeks to minimize these risks through robust processes and controls, and monitoring throughout the organization.

Risk Strategy: Risk Appetite and Risk Tolerance Framework

Risk Appetite

Risk appetite is an integral part of an effective risk management system that defines the overall level of risk the Company is prepared to accept in pursuit of its strategic objectives, and which is managed through a robust Risk Tolerance Framework of risk limits. The ERC regularly reviews the Company's deployment and may decide to adjust the amount of capacity deployed for each risk driver (within the established risk tolerance) based on strategic considerations and changes in market conditions.

Risk Tolerance Framework

The Company's risk tolerance is expressed as the maximum economic loss that the Company is willing to incur based on various modeled probability return periods. To mitigate the chance of economic losses exceeding the risk tolerance, the Company relies upon diversification of risk sources and risk limits to manage exposures. Diversification enables losses from one risk source to be offset by profits from other risk sources so that the chance of overall losses exceeding the Company's risk tolerance is reduced.

The Company's risk tolerance is approved by the Board and is expected to remain stable. Any changes to the risk tolerance are to be approved by the Board. Definitions for the maximum economic loss and available economic capital are as follows:

Economic Loss. The Company defines an economic loss as a decrease in the Company's economic value, which is defined as common shareholder's equity plus the "time value of money" discount of the non-life reserves that is not recognized in the consolidated financial statements in accordance with U.S. GAAP, net of tax, plus the embedded value of the life portfolio that is not recognized in the consolidated financial statements in accordance with U.S. GAAP, net of tax, less goodwill and intangible assets, net of tax.

Available Economic Capital. The Company defines economic capital as the economic value, as defined above, plus preferred shareholders' equity and the carrying value of debt recognized in the consolidated financial statements in accordance with U.S. GAAP.

The Maximum Economic Loss. The maximum economic loss is a loss expressed as a percentage of economic capital under various modeled probability return periods.

The Company establishes key risk limits net of any reinsurance/retrocession for any risk source deemed by management to have the potential to cause economic losses greater than the Company's risk tolerance. The Risk Tolerance Framework is approved by the Board in order to drive consistency in the application of the following Company limits: Overall Group Risk Tolerance, Reinsurance Operations, Financial Assets and Reinsurance Risk Tiers, each of which are described as follows:

Overall Group Risk Tolerance. The overall group risk tolerance limit is 35% of the loss of available economic capital based on the internal model 99% Value at Risk (VaR). Additionally, this limit is also monitored through a number of stress scenarios which impact both asset and liabilities on the balance sheet.

Reinsurance Operations. This category includes reinsurance risks and the standard fixed income portfolio. The risk tolerance limit for Reinsurance Operations is 30% of the loss of available economic capital based on the internal model 99% VaR. Within Reinsurance Operations we have defined three risk tiers which consist of a classification of risk drivers considering the following criteria:

- Materiality
- Risk driver expertise, and
- Potential for superior risk-adjusted return over the cycle.

Tier 1 Risks

Tier 1 risks consist of risk drivers that meet all three criteria of the Risk Tolerance Framework: materiality, risk driver expertise and potential for superior risk-adjusted return over the cycle. Additionally, the risk tolerance limit for this risk tier is 20% of available capital (annually defined). For the short term risks (Natural Catastrophe, Pandemic, Standard Fixed Income), the underlying metric is the 99% VaR of the one year economic impact measured either through the internal model or a corresponding scenario. For the long term risks (Mortality Trend and Casualty) the metric is the 95% VaR of the full runoff distribution. The following are Tier 1 Risks:

Natural Catastrophe Risk. The risk that the aggregate losses from natural perils materially exceed the net premiums that are received to cover such risks. The Company considers both catastrophe losses due to a single large event and catastrophe losses that would occur from multiple (but potentially smaller) events in any year.

Mortality Trend Risk. The risk that over time, mortality rates deviate from the rates estimated at pricing which affects the Long Term Mortality book (through deteriorating mortality) and the Longevity book (through improving mortality). The natural hedge between the Long Term Mortality portfolio and the Longevity portfolio depends on the differences in age groups, socio-economic classes, geographies, and lapse behavior.

Pandemic Risk. The risk of increase in mortality over an annual period associated with a rapidly spreading virus (either within a highly populated geographic area or on a global basis) with a high mortality rate.

Casualty Risk. The risk that the estimates of ultimate losses for casualty will prove to be too low, leading to the need for substantial reserve strengthening.

Standard Fixed Income Risk. The risk of a decline in the market value of the Company’s holdings of cash and publicly traded investment grade fixed income securities due to credit defaults and downgrades, credit spread and interest rate movements as well as FX rate fluctuations. The risk measure also encompasses the impact of interest rate and FX movements on liabilities.

Financial Asset Risk. The risk of a decline in the market value of the Company’s holdings of public equity, private equity, real estate and alternative fixed income (private credit, loans, and Emerging Market and non-investment grade fixed income securities) assets.

The ERC monitors Tier 1 risks on a periodic basis. The approved limits and the actual limits deployed at December 31, 2020 and 2019 were as follows (in billions of U.S. dollars):

Tier 1 Risks	December 31, 2020		December 31, 2019	
	Approved limit ⁽¹⁾	Actual deployed ⁽¹⁾	Approved limit ⁽¹⁾	Actual deployed ⁽¹⁾
Natural Catastrophe Risk	\$ 1.7	\$ 1.2	\$ 1.7	\$ 1.1
Mortality Trend Risk	\$ 1.7	\$ 1.0	\$ 1.7	\$ 0.8
Pandemic Risk	\$ 1.7	\$ 0.4	\$ 1.7	\$ 0.4
Casualty Risk	\$ 1.7	\$ 1.2	\$ 1.7	\$ 1.1
Standard Fixed Income Risk	\$ 1.7	\$ 0.4	\$ 1.7	\$ 0.3
Financial Asset Risk ⁽²⁾	\$ 1.7	\$ 1.2	\$ 1.7	\$ 1.1

(1) The limits approved and the actual limits deployed in the table above are shown net of retrocession.

(2) Financial Asset risk is subject to the same limit of 20% of the available capital based on the internal model 99% VaR.

Tier 2 Risks

Tier 2 risks consist of risk drivers which meet two of the three Risk Tolerance Framework criteria. Tier 2 risks are monitored by the ERC. The risk tolerance limit for Tier 2 is 10% of the available capital based on either the internal model 1-in-100 Value at Risk or a 99% scenario. The following are Tier 2 Risks:

Mortgage Risk. The risk that losses from mortgage reinsurance materially exceed the net premiums that are received to cover such risks, which may result in operating and economic losses to the Company.

Credit and Surety Risk. The risk that aggregated trade credit losses materially exceed the net premiums that are received to cover such risks, which may result in operating and economic losses to the Company.

Tier 3 Risks

All other underwriting risks are considered as Tier 3 Risks with a risk tolerance limit of \$250 million. These risks are monitored by the Chief Underwriting Officer and corresponding BU.

Risk Reporting

The Company monitors risks that could adversely impact operating and economic results. The risk reporting dashboard provides the ERC with key risk exposure analysis in order to monitor the Company's risk tolerance limits and risk profile.

Natural Catastrophe PML

The following discussion of the Company's natural catastrophe PML information contains forward-looking statements based upon assumptions and expectations concerning the potential effect of future events that are subject to uncertainties. See Item 3.D for a list of the Company's risk factors. Any of these risk factors could result in actual losses that are materially different from the Company's PML estimates below.

Natural catastrophe risk is a source of significant aggregate exposure for the Company and is managed by setting risk tolerance and limits, as discussed above. Natural catastrophe perils can impact geographic regions of varying size and can have economic repercussions beyond the geographic region directly impacted.

The Company considers a peril zone to be an area within a geographic region, continent or country in which losses from insurance exposures are likely to be highly correlated to a single catastrophic event. The Company defines peril zones to capture the vast majority of exposures likely to be incorporated by typical modeled events. There is, however, no industry standard and the Company's definitions of peril zones may differ from those of other parties.

The Company has exposures in other peril zones that can potentially generate losses greater than the PML estimates below. The Company's PMLs represent an estimate of loss for a single event for a given return period. The table below discloses the Company's 1-in-250 and 1-in-500 year return period estimated loss for a single occurrence of a natural catastrophe event in a one-year period. In other words, the 1-in-250 and 1-in-500 year return period PMLs mean that there is a 0.4% and 0.2% chance, respectively, in any given year that an occurrence of a natural catastrophe in a specific peril zone will lead to losses exceeding the stated estimate.

The PML estimates below include all significant exposure from our Non-life and Life and Health business operations. This includes coverage for property, marine, energy, engineering, workers' compensation, mortality, and exposure to catastrophe losses from insurance-linked securities. The PML estimates do not include casualty coverage that could be exposed as a result of a catastrophic event. In addition, they do not include estimates for contingent losses to insureds that are not directly impacted by the event (e.g. loss of earnings due to disruption in supply lines).

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The Company's single occurrence estimated net PML exposures (net of retrocession and reinstatement premiums) of the main peril zones as at December 31, 2020 and 2019 were as follows (in millions of U.S. dollars):

Zone	Peril	December 31, 2020		December 31, 2019	
		1-in-250 year PML	1-in-500 year PML (Earthquake perils only)	1-in-250 year PML	1-in-500 year PML (Earthquake perils only)
U.S. Southeast	Hurricane	\$ 828		\$ 790	
U.S. Northeast	Hurricane	811		847	
U.S. Gulf Coast	Hurricane	744		802	
Caribbean	Hurricane	245		254	
Europe	Windstorm	469		410	
Japan	Typhoon	394		301	
California	Earthquake	756	\$ 1,105	755	\$ 1,107
Japan	Earthquake	499	566	447	523
Australia	Earthquake	298	413	289	366
New Zealand	Earthquake	287	427	256	362
British Columbia	Earthquake	170	344	164	328

Risk Mitigation

Retrocessional Reinsurance

The Company uses retrocessional reinsurance agreements to reduce its exposure on certain reinsurance risks assumed and to mitigate the effect of any single major event or the frequency of medium-sized events. These agreements provide for the recovery of a portion of losses and loss expenses from retrocessionaires. The majority of the Company's retrocessional reinsurance agreements cover property and specialty lines exposures, predominantly those that are catastrophe exposed. The Company also utilizes retrocessions in the Life and Health segment to manage the amount of per-event and per-life risks to which it is exposed. Retrocessionaires must be pre-approved based on their financial condition and business practices, with stability, solvency and credit ratings considered to be important criteria. Strict limits per retrocessionaire are also put into place and monitored to mitigate counterparty credit risk.

The Company remains liable to its cedants to the extent that the retrocessionaires do not meet their obligations under retrocessional agreements, and therefore retrocessions are subject to credit risk in all cases and to aggregate loss limits in certain cases. The Company holds collateral, including escrow funds, trusts, securities and letters of credit under certain retrocessional agreements. Provisions are made for amounts considered potentially uncollectible and reinsurance losses recoverable from retrocessionaires are reported after allowances for uncollectible amounts.

Regulation

The business of reinsurance is regulated in all countries in which we operate, although the degree and type of regulation varies significantly from one jurisdiction to another. The laws and regulations of the jurisdictions in which our reinsurance subsidiaries are domiciled impose complex regulatory requirements such as maintenance of minimum levels of statutory capital, surplus, and liquidity; various solvency standards; and periodic examinations of subsidiaries' financial condition. See Risk Factors—Legal and Regulatory Risks in Item 3.D of this report.

Bermuda has been deemed Solvency II equivalent under the EU's Solvency II Directive, effective January 1, 2016. Bermuda has been granted equivalence for an unlimited period for all three relevant equivalence areas: Articles 172, 227 and 260, with the exception of rules on captives or limited purpose insurers (Class 1, Class 2, Class 3, Class A and Class B), special purpose insurers and collateralized insurers, which are subject to a different regulatory regime in Bermuda. This determination has resulted in Bermuda-based reinsurers being exempt from the requirement to post collateral in the EU and allows reinsurance contracts concluded with undertakings having their head office in Bermuda to be treated in the same manner as reinsurance contracts concluded with undertakings authorized in accordance with the Directive (Article 172); EU insurance groups can conduct their EU prudential reporting for a subsidiary in Bermuda under local rules instead of Solvency II if deduction and aggregation is allowed as the method of consolidation of group accounts (Article 227); and Bermuda insurance groups which are active in the EU are exempt

from some aspects of group supervision in the EU as Member States will rely on the equivalent supervision exercised by the Bermuda Monetary Authority (BMA) (Article 260).

Group Supervision. One of the key concepts of Solvency II is the principal of one “home” regulator over all the operating entities in a particular insurance or reinsurance group (referred to as Group Supervision). The Insurance Act 1978 of Bermuda and related regulations, as amended (the Insurance Act) sets out provisions regarding Group Supervision, including the power of the BMA to include or exclude specified entities from Group Supervision, the power of the BMA to withdraw as group supervisor, the functions of the BMA as Group Supervisor and the power of the BMA to make rules regarding Group Supervision for, among other things (1) assessing the financial situation and the solvency position of the insurance group and/or its members and (2) regulating intra-group transactions, risk concentration, governance procedures, risk management and regulatory reporting and disclosure. In addition to being tasked with assessing the financial condition of the Company and its subsidiaries, the BMA has the power to impose restrictions on the ability of the Company's subsidiaries to declare dividends to the Company, and the ability of the Company to pay dividends to shareholders. This Group Supervision regime is in addition to the regulation of the Company's various operating subsidiaries in their local jurisdictions. The BMA's Group Supervision rules set out the rules in respect of the assessment of the financial situation and solvency of an insurance group, the system of governance and risk management, and supervisory reporting and disclosures of an insurance group. The group solvency rules (and together with the Group Supervision rules, the Group Rules) set out the rules in respect of the capital and solvency return and enhanced capital requirements for an insurance group. PartnerRe Bermuda is the designated insurer for the purposes of Group Supervision, and the BMA currently acts as Group Supervisor of the Company and its subsidiaries. As Group Supervisor, the BMA will perform a number of supervisory functions including (1) coordinating the gathering and dissemination of information which is of importance for the supervisory task of other competent authorities; (2) carrying out a supervisory review and assessment of the PartnerRe Group; (3) carrying out an assessment of the PartnerRe group's compliance with the rules on solvency, risk concentration, intra-group transactions and good governance procedures; (4) planning and coordinating, with other competent authorities, supervisory activities in respect of the PartnerRe group, both as a going concern and in emergency situations; (5) taking into account the nature, scale and complexity of the risks inherent in the business of all companies that are part of the PartnerRe group; (6) coordinating any enforcement action that may need to be taken against the PartnerRe group or any of its members and (7) planning and coordinating meetings of colleges of supervisors (consisting of insurance regulators) in order to facilitate the carrying out of the functions described above.

PartnerRe Ltd. is not a registered insurer; however, pursuant to its functions as Group Supervisor, the BMA includes the Company and may include any member of the group within its Group Supervision.

Significant aspects of the Group Rules imposed on Insurance and Reinsurance Groups include the solvency assessment. The Company in respect of the PartnerRe group must annually perform an assessment of its own risk and solvency requirements, referred to as a Group's Solvency Self Assessment (GSSA). The GSSA allows the BMA to obtain an insurance group's view of the capital resources required to achieve its business objectives and to assess a group's governance, risk management and controls surrounding this process.

The BMA imposes the group Enhanced Capital Requirement (ECR) on the PartnerRe group pursuant to its function as the Company's Group Supervisor. Insurance groups are required to maintain available statutory economic capital and surplus to an amount that is equal to or exceeds the value of its ECR. The PartnerRe group's ECR may be calculated by either (a) the standard model developed by the BMA known as the Bermuda Solvency Capital Requirement model (BSCR), or (b) an internal capital model which the BMA has approved for use for this purpose. The PartnerRe group currently uses the BSCR model in calculating its group ECR requirements. In addition, the PartnerRe group is required to prepare and submit annual audited group U.S. GAAP financial statements, annual group statutory financial statements, annual group statutory financial return, annual group capital and solvency return (including an economic balance sheet) and quarterly group unaudited financial returns. An insurance group must further ensure that the value of the insurance group's assets exceeds the amount of the insurance group's liabilities by the aggregate of: (i) the individual minimum solvency margin (MSM) of each qualifying member of the group controlled by the parent company; and (ii) the parent company's percentage shareholding in the member multiplied by the member's MSM, where the parent company exercises significant influence over a member of the group but does not control the member. A member is a qualified member of the insurance group if it is subject to solvency requirements in the jurisdiction in which it is registered. The PartnerRe group is also required to submit annual group actuarial opinions in respect of its general business and long-term insurance business when filing its group capital and solvency return. The PartnerRe group is required to appoint individuals approved by the BMA to be group actuaries for both general business and long-term business. The group actuary must provide an opinion on the PartnerRe group's technical provisions as recorded in the PartnerRe group statutory economic balance sheet.

The BSCR model is a risk-based capital model which provides a method for determining an insurer's capital requirements (statutory capital and surplus) by taking into account the risk characteristics of different aspects of the insurer's business. The BSCR formula establishes, on a consolidated basis, capital requirements for eleven categories of risk: fixed income investment risk, equity investment risk, interest rate/liquidity risk, currency risk, concentration risk, credit risk, premium risk, reserve risk, catastrophe risk, long-term insurance risk and operational risk.

We are currently completing our 2020 Group BSCR, which must be filed with the BMA on or before May 31, 2021, and at this time, we believe we will exceed the target level of required economic statutory capital. Our 2019 Group BSCR exceeded the target level of required statutory capital.

Public Disclosure. Pursuant to the Insurance (Public Disclosure) Rules 2015, the BMA requires commercial insurers and insurance groups to prepare and publish a Financial Condition Report (FCR). The FCR provides an overview of the PartnerRe group's financial condition including business performance, governance structure, risk profile, solvency valuation and capital management process. The FCR includes, among other disclosures, the respective company's required and available statutory capital. The FCR is required to be filed with the BMA annually and published on the PartnerRe website within 14 days of filing with the BMA. The FCR must be signed off by the CEO and any senior executive responsible for the actuarial, or risk management, or internal audit, or compliance function who will declare that to the best of their knowledge and belief the FCR fairly represents the financial condition of the PartnerRe group in all material respects.

Bermuda

All Bermuda companies must comply with the provisions of the Bermuda Companies Act 1981 (the Companies Act). In addition, the Insurance Act regulates the businesses of our Bermuda reinsurance subsidiaries, comprised of (i) PartnerRe Bermuda, a Class 4 insurer and Class E insurer and (ii) PRE Life Bermuda Re Ltd. and Partner Reinsurance Life Company of Bermuda Ltd., each a Class C insurer. The Insurance Act does not distinguish between insurers and reinsurers: companies are registered (licensed) under the Insurance Act as "insurers".

The continued registration of an insurer is subject to the insurer complying with the terms of its registration and such other conditions as the BMA may impose from time to time. The Insurance Act also grants to the BMA powers to supervise, investigate and intervene in the affairs of insurance companies.

The Insurance Act imposes solvency and liquidity standards and auditing and reporting requirements on Bermuda insurance companies.

PartnerRe Bermuda, for example, is licensed as a Class 4 and Class E insurer in Bermuda and is therefore authorized to carry on general business and long-term insurance business. Significant aspects of the Bermuda insurance regulatory framework and requirements imposed on Class 4 and Class E insurers such as PartnerRe Bermuda include the following:

Minimum Solvency Margin and Enhanced Capital Requirements. The Insurance Act provides that the value of the statutory assets of an insurer must exceed the value of its statutory liabilities by an amount greater than its prescribed MSM. The MSM that must be maintained by PartnerRe Bermuda with respect to its general business is the greater of (i) \$100 million, (ii) 50% of net premiums written (with a credit for reinsurance ceded not exceeding 25% of gross premiums), (iii) 15% of net aggregate loss and loss expense provisions and other insurance reserves, or (iv) 25% of its ECR as reported at the end of the relevant year. The MSM that must be maintained by PartnerRe Bermuda with respect to its long-term business is the greater of (i) \$8 million, (ii) 2% of the first \$500 million of assets plus 1.5% of assets above \$500 million, or (iii) 25% of its ECR. For our two Class C reinsurers, PRE Life Bermuda Re Ltd. and Partner Reinsurance Life Company of Bermuda Ltd., the MSM is equal to the greater of \$500,000, 1.5% of the total statutory assets or 25% of its ECR. Statutory assets are defined as the total assets reported on an insurer's balance sheet in the relevant year less non-admitted assets, including goodwill and other intangible assets, not considered admissible for solvency purposes.

Minimum Liquidity Ratio. An insurer engaged in general business, such as PartnerRe Bermuda, is required to maintain the value of its relevant assets at not less than 75% of the amount of its relevant liabilities.

Minimum Capital Requirements. While not specifically referred to in the Insurance Act, the BMA has also established a Target Capital Level (TCL) equal to 120% of its ECR. While an insurer is not currently required to maintain its statutory capital and surplus at this level, the TCL serves as an early warning tool for the BMA and failure to maintain statutory capital at least equal to the TCL will likely result in increased regulatory oversight.

Any applicable insurer which at any time fails to meet the MSM requirements must, upon becoming aware of such failure, immediately notify the BMA and, within 14 days thereafter, file a written report with the BMA describing the circumstances that gave rise to the failure and setting out its plan detailing specific actions to be taken and the expected time frame in which the company intends to rectify the failure.

Any applicable insurer which at any time fails to meet the ECR applicable to it will upon becoming aware of that failure, or of having reason to believe that such a failure has occurred, immediately notify the BMA in writing and, within 14 days of such notification, file with the BMA a written report containing particulars of the circumstances leading to the failure; and a plan detailing the manner, specific actions to be taken and time within which the insurer intends to rectify the failure and within 45 days of becoming aware of that failure, or of having reason to believe that such a failure has occurred, furnish the BMA with: (1)

unaudited statutory economic balance sheets and unaudited interim financial statements prepared in accordance with GAAP covering such period as the BMA may require, (2) the opinion of a loss reserve specialist, where applicable, (3) a general business solvency certificate in respect of those financial statements, where applicable, (4) a capital and solvency return reflecting an ECR prepared using post-failure data, where applicable, (5) a long-term business solvency certificate in respect of those statements, where applicable and (6) the opinion of an approved actuary, where applicable. An insurer to whom this applies shall not declare or pay any dividends until the failure is rectified.

To enable the BMA to better assess the quality of the insurer's capital resources, applicable insurers are required to disclose the makeup of its capital in accordance with the "3-tiered capital system". Under this system, all of the insurer's capital instruments will be classified as either basic or ancillary capital which in turn will be classified into one of three tiers based on their "loss absorbency" characteristics. Highest quality capital will be classified as Tier 1 Capital and lesser quality capital will be classified as either Tier 2 Capital or Tier 3 Capital. Under this regime, up to certain specified percentages of Tier 1, Tier 2, and Tier 3 Capital may be used to support the insurer's MSM and ECR.

The characteristics of the capital instruments that must be satisfied to qualify as Tier 1 Capital, Tier 2 Capital, and Tier 3 Capital are set out in the Insurance (Eligible Capital) Rules 2012, as amended. Under these rules, Tier 1 Capital, Tier 2 Capital, and Tier 3 Capital may include capital instruments that do not satisfy the requirement that the instrument be non-redeemable or settled only with the issuance of an instrument of equal or higher quality upon a breach, or if it would cause a breach, in the ECR until January 1, 2026.

While the BMA has previously approved the use of certain instruments for capital purposes, the BMA's consent will need to be obtained if such instruments are to remain eligible for use in satisfying the MSM and the ECR.

The BMA implemented an economic balance sheet (EBS) framework which is used as the basis to determine the ECR for all commercial insurers, including PartnerRe Bermuda. The EBS framework applies prudential filters and other EBS valuation adjustments to an insurer's GAAP balance sheet to produce an economic valuation of the assets and liabilities of the insurer. The Insurance (Prudential Standards) Amendment Rules 2018 provide updates to certain aspects of the EBS framework and increase the ECR over a 3-year transition period for general business and a 10-year transition period for long-term business.

Reporting Requirements. PartnerRe Bermuda must prepare and submit, on an annual basis, both audited GAAP and statutory financial statements. The Insurance Act prescribes rules for the preparation and substance of statutory financial statements (which include, in statutory form, a balance sheet, income statement, a statement of capital and surplus, and notes thereto). The statutory financial statements include detailed information and analysis regarding premiums, claims, reinsurance and investments of the insurer. The statutory financial statements contain statements both on a consolidated and unconsolidated basis. The unconsolidated information forms the basis for assessing PartnerRe Bermuda's liquidity ratio and MSM.

Every insurer is also required to deliver to the BMA a declaration of compliance declaring whether or not that insurer has, with respect to the preceding financial year, (i) complied with the minimum criteria applicable to it, (ii) complied with its MSM and ECR as at its financial year-end, (iii) complied with the minimum liquidity ratio for general business as at its financial year-end, and (iv) where an insurer's license has been issued subject to limitations, restrictions or conditions, that the insurer has observed such limitations, restrictions or conditions. The declaration of compliance must be signed by two directors and filed at the same time the insurer submits its statutory financial statements.

Insurance Code of Conduct. Every Bermuda registered insurer must comply with the Insurance Code of Conduct (Code of Conduct) which prescribes the duties and standards that must be complied with to ensure sound corporate governance, risk management and internal controls are implemented. The BMA will assess an insurer's compliance with the Code of Conduct in a proportionate manner relative to the nature, scale and complexity of its business. Failure to comply with the requirements of the Code of Conduct will be taken into account by the BMA in determining whether an insurer is conducting its business in a sound and prudent manner as prescribed by the Insurance Act and may result in the BMA exercising its powers of intervention and investigation.

Insurance Sector Operational Cyber Risk Management Code of Conduct. All Bermuda insurers are required to comply with the Insurance Sector Operational Cyber Risk Management Code of Conduct (Cyber Code), which establishes duties, requirements, standards, procedures and principles to be complied with in relation to operational cyber risk management. Failure to comply with the Cyber Code will be a factor taken into account by the BMA in determining whether an insurer is meeting its obligation to conduct business in a sound and prudent manner.

Dividends and Distributions. As a Bermuda-domiciled holding company, the Company has limited operations of its own and its assets consist primarily of investments in its subsidiaries. Accordingly, the Company's future cash flows largely depend on the availability of dividends or other statutorily permissible payments from subsidiaries. The ability to pay such dividends is limited by the applicable laws and regulations of the various countries and states in which these subsidiaries operate, including, among others,

Bermuda, various states of the U.S., Singapore and Ireland. The Company's ability to pay dividends and interest and to make dividends to shareholders is limited by the Companies Act 1981.

The Insurance Act prohibits PartnerRe Bermuda, as an insurer registered as a Class E and as a Class 4 insurer from declaring or paying any dividends during any financial year if it is in breach of its MSM or if the declaration or payment of such dividends would cause such a breach. PartnerRe Bermuda is also prohibited from declaring or paying a dividend where it has failed to comply with the ECR, until such noncompliance is rectified. The Insurance Act also provides that our Bermuda reinsurance subsidiaries 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 PartnerRe Bermuda'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, each of our Bermuda reinsurance subsidiaries 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.

Generally, an insurer carrying on long-term business, such as PartnerRe Bermuda, is also restricted from declaring or paying a dividend unless the value of its assets in its long-term business fund exceeds the extent of the liabilities of the insurer's long-term business. The Insurance Act also prohibits an insurer carrying on long-term business from declaring or paying a dividend to any person other than a policyholder unless the value of the assets of such insurer, as certified by its approved actuary, exceeds its liabilities (as so certified) by the greater of its margin of solvency, or if applicable, its enhanced capital requirement and the amount of any such dividend shall not exceed that excess.

Further, under the Companies Act, as amended, the Company and PartnerRe Bermuda may only declare or pay a dividend, or make a distribution out of contributed surplus, if it has no reasonable grounds for believing that: (1) it is, or would after the payment be, unable to pay its liabilities as they become due or (2) the realizable value of its assets would be less than its liabilities.

Fit and Proper Controllers. The BMA maintains supervision over controllers (as defined herein) of all Bermuda registered insurers. For these purposes, a controller includes (1) the managing director of the registered insurer or its parent company, (2) the chief executive officer of the registered insurer or of its parent company, (3) a shareholder controller and (4) any person in accordance with those directions or instructions the directors of the registered insurers or its parent company are accustomed to act.

The definition of shareholder controller is set out in the Insurance Act but generally refers to (1) a person who holds 10% or more of the shares carrying rights to vote at a shareholders' meeting of the registered insurer or its parent company, (2) a person who is entitled to exercise 10% or more of the voting power at any shareholders' meeting of such registered insurer or its parent company or (3) a person who is able to exercise significant influence over the management of the registered insurer or its parent company by virtue of its shareholding or its entitlement to exercise, or control the exercise of, the voting power at any shareholders' meeting.

Where the shares of a registered insurer, or the shares of its parent company, are not traded on any recognized stock exchange, no person shall become a 10%, 20%, 33% or 50% shareholder controller of the insurer unless (a) he/she has served on the BMA a notice in writing that he/she intends to become a controller of the insurer and (b) either the BMA has, before the end of a period of 45 days beginning with the date of service of that notice, notified such person in writing that there is no objection to such person becoming such a controlling shareholder. Likewise, no person who is a shareholder controller shall reduce or dispose of his/her holding in the insurer where the proportion of voting rights held by the shareholder controller in the insurer will reach or fall below 10%, 20%, 33% or 50% as the case may be unless that shareholder controller has served on the BMA a notice in writing not later than 45 days of such disposal.

Material Change. All registered insurers are required to give the BMA 30 days' notice of their intention to effect a material change within the meaning of the Insurance Act, and shall not take any steps to give effect to a material change unless, before the end of the notice period the registered insurer has been notified by the BMA in writing that it has no objection to such change or the period has lapsed without the BMA issuing a notice of objection.

Policyholder Priority. As of January 1, 2019, the Insurance Amendment (No. 2) Act 2018 amended the Insurance Act to provide for the prior payment of policyholders' liabilities ahead of general unsecured creditors in the event of the liquidation or winding up of an insurer. The amendments provide, among other things, that subject to the prior payment of preferential debt under the Employment Act 2000 and the Companies Act, the insurance debts of an insurer must be paid in priority to all other unsecured debts of the insurer.

Economic Substance Act 2018 (ESA) and Economic Substance Regulations 2018 (Substance Regulations). Under the ESA, if a Bermuda company is engaged in one or more "relevant activities" (which is defined to include insurance) it is required to maintain a substantial economic presence in Bermuda and to comply with the economic substance requirements (ES Requirements) set forth in the ESA and the Substance Regulations. A company will comply with those economic substance requirements if it: (a) is managed and directed in Bermuda; (b) undertakes "core income generating activities" (as may be prescribed under the ESA) in Bermuda in respect of the relevant activity; (c) maintains adequate physical presence in Bermuda; (d) has adequate full time employees in

Bermuda with suitable qualifications; and (e) incurs adequate operating expenditure in Bermuda in relation to the relevant activity undertaken by it.

The economic substance guidance notes issued in December 2019 provide that a company licensed under the Insurance Act is generally considered to operate in Bermuda with adequate substance. However, such companies are still required to complete and file an economic substance declaration with the Registrar of Companies (Registrar). In assessing compliance with the ES Requirements, the Registrar will have regard to: (i) the company's compliance with applicable corporate governance obligations under the Companies Act; (ii) the company's compliance with its obligations under the Insurance Act (including regulations, rules and code of conduct made thereunder); and (iii) the information provided in that Declaration.

In addition to the above, PartnerRe Bermuda maintains an operating branch in Canada and a representative office in Mexico. The Canada branch is subject to regulation in Canada by the Office of the Superintendent of Financial Institutions (OSFI). For a further discussion of the regulations pertaining to the Canada branch see below.

Ireland

The Central Bank of Ireland (the Central Bank) regulates insurance and reinsurance companies authorized in Ireland, including PartnerRe Europe and PartnerRe Ireland. PartnerRe Holdings Europe Limited, a holding company for PartnerRe Europe and PartnerRe Ireland, and PartnerRe Ireland Finance DAC are not subject to regulation by the Central Bank. PartnerRe Europe is a reinsurance company incorporated under the laws of Ireland and is duly authorized as a reinsurance undertaking to carry on non-life and life reinsurance business in accordance with the European Union (Insurance and Reinsurance) Regulations 2015. PartnerRe Ireland is an insurance company incorporated under the laws of Ireland and is duly authorized as an insurance undertaking to carry on non-life insurance business in accordance with the European Union (Insurance and Reinsurance) Regulations 2015.

Significant aspects of the Irish re/insurance regulatory framework and requirements imposed on PartnerRe Europe and PartnerRe Ireland include the following:

Solvency Requirements. The Directive related to the solvency standards applicable to insurers and reinsurers prescribes, at the level of PartnerRe Europe and PartnerRe Ireland, the minimum amounts of financial resources that both companies are required to have in order to cover the risks to which they are exposed and the principles that should guide their overall risk management and reporting. This Directive became effective January 1, 2016. Under the Solvency II requirements, PartnerRe Europe and PartnerRe Ireland have similar governance requirements to those of PartnerRe Bermuda such as Balance Sheet, Own Risk and Solvency Assessment (ORSA), Solvency and Financial Condition Report and a Regular Supervisory Report.

Reporting Requirements. PartnerRe Europe and PartnerRe Ireland must file and submit annual audited financial statements in accordance with International Financial Reporting Standards and related reports to the Irish Companies Registration Office (CRO) together with an annual return of certain core corporate information. Changes to core corporate information during the year must also be notified to the CRO. PartnerRe Europe and PartnerRe Ireland must also file and submit annual certifications for the following to the Central Bank:

1. Corporate Governance Requirements for Insurance Undertakings 2015
2. Fitness & Probity Standards (Code issued under Section 50 of the Central Bank Reform Act 2010)
3. ORSA
4. Solvency II Compliance Statement
5. Quantitative Reporting Templates (QRTs)
6. Regular Supervisory Reports

These requirements are in addition to the regulatory returns required to be filed annually with the Central Bank and additionally, in the case of PartnerRe Ireland, with the National Association of Insurance Commissioners (NAIC) in the U.S.

Dividends and Distributions. Pursuant to Irish company law, PartnerRe Europe and PartnerRe Ireland are restricted to declaring dividends only out of "profits available for distribution". Profits available for distribution are, broadly, a company's accumulated realized profits less its accumulated realized losses. Such profits may not include profits previously utilized.

In addition to the above, PartnerRe Europe has also established operating branches in the U.K., France, Switzerland and Hong Kong and a representative office in Brazil, which are subject to Irish reinsurance supervision regulations. In addition, the Hong Kong branch, a composite branch, is subject to regulation by the Insurance Authority of Hong Kong. Following Brexit, the existing U.K. branch is also subject to local regulation under the U.K. Temporary Permission Regime. PartnerRe Ireland, pursuant to the

Non-admitted and Reinsurance Reform Act of 2010 (part of the Dodd-Frank Act), is a non-admitted alien insurer in the U.S. and is eligible to write business as an excess and surplus lines insurer in all U.S. states.

PartnerRe Ireland has an operating branch in the U.K. that is subject to regulation under the U.K Temporary Permission Regime.

United States

PartnerRe U.S. Corporation is a Delaware domiciled holding company for its wholly-owned (re)insurance subsidiaries, PartnerRe U.S. and PartnerRe America Insurance Company (PRAIC) (PartnerRe U.S. and PRAIC together being the PartnerRe U.S. Insurance Companies). The PartnerRe U.S. Insurance Companies are subject to regulation under the insurance statutes and regulations of their domiciliary states (New York in the case of PartnerRe U.S. and Delaware in the case of PRAIC, and all states where they are licensed, accredited approved to underwrite insurance and reinsurance or commercially domiciled). In 2020, PRAIC was commercially domiciled in California and may similarly be commercially domiciled in 2021.

Currently, the PartnerRe U.S. Insurance Companies are licensed, accredited or approved reinsurers and/or insurers in all fifty states and the District of Columbia, and are subject to the requirements described below.

PartnerRe U.S. Corporation is also the owner of Presidio and its 100% owned subsidiary Presidio Excess Insurance Services, Inc. (PXS). PXS is a managing general underwriter licensed in a number of states. PXS is not subject to any significant regulatory requirements or restrictions that would have a material impact on the Company.

The Company also, through its 100% owned subsidiary, PartnerRe U.S. Corporation, owns 100% of PartnerRe Life Reinsurance Company of America (PLRA) a life reinsurance company which is subject to regulation under the insurance statutes and regulations of Arkansas, its state of domicile, and all states where PLRA is licensed, accredited or approved to underwrite reinsurance.

Risk-Based Capital Requirements. The Risk-Based Capital (RBC) for Insurers Model Act (the Model RBC Act) or similar legislation has been adopted by all states in the U.S. The main purpose of the Model RBC Act is to provide a tool for insurance regulators to evaluate the capital of insurers with respect to the risks assumed by them and to determine whether there is a need for possible corrective action. U.S. insurers and reinsurers are required to report the results of their RBC calculations as part of the statutory annual statements that such insurers and reinsurers file with state insurance regulatory authorities. The Model RBC Act provides for four different levels of regulatory actions, each of which may be triggered if an insurer's Total Adjusted Capital (as defined in the Model RBC Act) is less than a corresponding level of risk-based capital. Decreases in an insurer's Total Adjusted Capital as a percentage of its Authorized Control Level (as defined in the Model RBC Act) triggers increasing regulatory actions. Such regulatory actions include but are not limited to issuance of orders for corrective action by the insurer, rehabilitation or liquidation of the insurer. No such actions have been taken with respect to the PartnerRe U.S. Insurance Companies or PLRA.

Insurance Regulatory Information System (IRIS) Ratios. A committee of state insurance regulators developed the NAIC's IRIS primarily to assist state insurance departments in executing their statutory mandates to oversee the financial condition of insurance or reinsurance companies operating in their respective states. IRIS identifies thirteen industry ratios for property/casualty insurers and twelve industry ratios for life insurers, and specifies usual values for each ratio. Generally, a company will become subject to regulatory scrutiny if it falls outside the usual ranges with respect to four or more of the ratios, and regulators may then act, if the company has insufficient capital, to constrain the company's underwriting capacity. No such action has been taken with respect to the PartnerRe U.S. Insurance Companies or PLRA.

Reporting Requirements. Regulations vary from state to state, but generally require insurance holding companies and insurers and reinsurers that are subsidiaries of insurance holding companies to register and file with their state domiciliary regulatory authorities certain reports, including information concerning their capital structure, ownership, financial condition and general business operations. State regulatory authorities monitor compliance with, and periodically conduct examinations with respect to, state mandated standards of solvency, licensing requirements, investment limitations, and restrictions on the size of risks which may be reinsured, deposits of securities for the benefit of policyholders and creditors, such as reinsureds, methods of accounting for assets, reserves for unearned premiums and losses, and other purposes. In general, such regulations are for the protection of reinsureds and, ultimately, their policyholders and creditors, rather than security holders. In the U.S., the New York State Department of Financial Service (NYDFS) is the domiciliary regulator of PartnerRe U.S., the Delaware Department of Insurance is the domiciliary regulator of PRAIC and the Arkansas Insurance Department is the domiciliary regulator of PLRA. PRAIC was also subject to the commercial domicile regulations of the California Department of Insurance during 2020.

Dividends and Distributions. Under New York law, the NYDFS must approve any dividend declared or paid by PartnerRe U.S. that, together with all dividends declared or distributed by it during the preceding twelve months, exceeds the lesser of 10% of its statutory surplus as shown on the latest statutory financial statements on file with the NYDFS, or 100% of its adjusted net investment income. Under Delaware law the Delaware Commissioner of Insurance must approve any dividend declared or paid by

PRAIC that, together with all dividends or distributions made within the preceding 12 months exceeds the greater of (i) ten percent of PRAIC's surplus as regards policyholders as of the preceding December 31 or (ii) the net income, not including realized capital gains, for the 12-month period ending the preceding December 31. Under the commercial domicile laws of California, the California Insurance Commissioner must approve any dividend declared or paid by PRAIC, that together with all dividends or distributions made within the preceding 12 months exceeds the greater of (i) ten percent of PRAIC's surplus as regards policyholders as of the preceding December 31 or (ii) the net income, not including realized capital gains, for the 12-month period ending the preceding December 31. Under Arkansas law the Arkansas Insurance Commissioner must approve any dividend declared or paid by PLRA that, together with all dividends and distributions made within the preceding 12 months exceeds the greater of (i) ten percent of PLRA's surplus as regards policyholders as of the preceding December 31 or (ii) the net gain from operations not including capital gains for the twelve-month period ending on the preceding December 31. Arkansas, California, Delaware and New York do not permit a dividend to be declared or distributed, except out of earned surplus.

Cybersecurity Requirements. In February 2017, the NYDFS issued final Cybersecurity Requirements for Financial Service Companies that require regulated entities, including PartnerRe U.S. Insurance Companies, to establish and maintain a cybersecurity program designed to protect consumers and ensure the safety and soundness of New York's financial services industry. Among the requirements are the maintenance of a cybersecurity program with governance controls, risk-based minimum data security standards for technology systems, cyber breach preparedness and response requirements, including reporting obligations, vendor oversight, training, and program record keeping and certification obligations. The regulation became effective on March 1, 2017, subject to certain phase-in periods, and we will be required to incur expenses in order to meet its requirements.

Canada

Canadian branches of PartnerRe Bermuda and PartnerRe U.S. hold licenses to write reinsurance business in Canada. Each Canadian branch is authorized to insure, in Canada, risks falling within the classes of insurance and reinsurance as specified in their respective licenses and is limited to the business of reinsurance. The Canadian branch of PartnerRe Bermuda is licensed to write life and accident and sickness business in Ontario, limited to reinsurance. The Canadian branch of PartnerRe U.S. is licensed to write property and casualty and accident and sickness business in Ontario, limited to reinsurance. Each Canadian branch is subject to local regulation for its Canadian branch business, specified principally pursuant to Part XIII of the Insurance Companies Act (the Canadian Insurance Act) applicable to foreign property and casualty companies and to foreign life companies as well as relevant provincial insurance acts. OSFI supervises the application of the Canadian Insurance Act.

PartnerRe Bermuda and PartnerRe U.S. maintain sufficient assets, vested in trust at a Canadian financial institution, approved by OSFI, to allow their branches to meet minimum statutory solvency requirements as required by the Act, the regulations made under the Act and applicable guidelines issued by OSFI. Certain statutory information is filed with federal and provincial insurance regulators in respect of both property and casualty and life business written by branches. This information includes, among other things, a yearly business plan and an annual Financial Condition Testing (FCT) report from the Appointed Actuary of the branch that tests the adequacy of the assets that are vested under various adverse scenarios or "stress tests". It is also necessary for an ORSA to be prepared each year. Each branch is required to have a Chief Agent in Canada to act as its local representative.

PartnerRe Life Reinsurance Company of Canada (PartnerRe Canada) is a Canadian incorporated life reinsurer that is a subsidiary of the Company and is domiciled in Canada. PartnerRe Canada is authorized to insure, in Canada, risks falling within the classes of Life and Accident and Sickness, limited to the business of reinsurance.

PartnerRe Canada is required to maintain capital in Canada in a custodial account to meet minimum statutory solvency requirements as required by the Canadian Insurance Act, its regulations and applicable guidelines issued by OSFI. Certain statutory information is filed with OSFI in respect of the life business written by PartnerRe Canada. This information includes, among other things, an annual business plan and FCT report from the Appointed Actuary of PartnerRe Canada that tests the adequacy of assets under various scenarios or "stress tests". It is also necessary for an ORSA to be prepared each year.

Singapore

The Monetary Authority of Singapore (MAS) regulates insurance and reinsurance companies authorized in Singapore, including PartnerRe Asia.

PartnerRe Asia is the principal reinsurance carrier for the Company's business underwritten in the Asia Pacific region, conducting general insurance business as a reinsurer and life insurance business as a reinsurer. PartnerRe Asia has an established operating branch in Labuan which is subject to regulation by the Labuan Financial Services Authority.

Significant aspects of the Singapore reinsurance regulatory framework and requirements include the following:

Solvency Requirements. As a licensed reinsurer, PartnerRe Asia is required to maintain minimum capital of SGD25 million. In addition, PartnerRe Asia is required to establish and maintain separate insurance funds for Singapore and offshore policies. The

solvency requirement in respect of each insurance fund shall at all times be not less than the total risk requirement of the fund (determined by reference to three components being insurance risks, asset risks and operational risks). The MAS is entitled to require that a licensed reinsurer holds assets of a certain type and prescribed value in Singapore.

Reporting Requirements. PartnerRe Asia must file and submit annual audited financial statements in accordance with Singapore Financial Reporting Standards and related reports to the Accounting and Corporate Regulatory Authority (ACRA) together with an annual return of certain core corporate information. Changes to core corporate information during the year must also be notified to ACRA. These requirements are in addition to the quarterly and annual regulatory returns required to be filed with the MAS.

Dividends and Distribution. Dividends are generally declared from unappropriated profits. The declaration of a dividend by PartnerRe Asia may be subject to relevant conditions and requirements being met as specified under the Insurance Act (Singapore) and its associated regulations. Any proposed reduction of capital or redemption of preference shares requires the prior approval of the MAS. In addition to the above, the laws and initiatives issued by the MAS regarding Corporate Governance, Outsourcing, Cyber Security, Technology Risk Management and Environmental Risk Management currently impact, or may impact, Partner Re Asia in the future.

Taxation of the Company and its Subsidiaries

The following summary of the taxation of PartnerRe and its subsidiaries, PartnerRe Bermuda, PartnerRe Europe, PartnerRe Asia, and PartnerRe U.S. Corporation and its subsidiaries (collectively PartnerRe U.S. Companies) is based upon current law. Legislative, judicial or administrative changes may be forthcoming that could affect this summary.

Certain subsidiaries, branch offices and representative offices of the Company are subject to taxation related to operations in Brazil, Canada, Chile, China, France, Hong Kong, Ireland, Labuan, Mexico, Singapore, Switzerland and the U.S. The discussion below covers the significant locations for which the Company or its subsidiaries are subject to taxation.

Bermuda

PartnerRe Ltd. and PartnerRe Bermuda have each received from the Bermuda Minister of Finance an assurance under The Exempted Undertakings Tax Protection Act, 1966 of Bermuda, that in the event that any legislation is enacted in Bermuda imposing tax computed on profits or income, or computed on any capital asset, gain or appreciation, or any tax in the nature of estate duty or inheritance tax, then the imposition of any such tax shall not be applicable to PartnerRe Ltd. or PartnerRe Bermuda or to any of their operations or the shares, debentures or other obligations of PartnerRe Ltd. or PartnerRe Bermuda until March 2035. These assurances are subject to the provision that they are not construed to prevent the application of any tax or duty to such persons as are ordinarily resident in Bermuda (PartnerRe Ltd. and PartnerRe Bermuda are not currently so designated) or to prevent the application of any tax payable in accordance with the provisions of The Land Tax Act, 1967 of Bermuda or otherwise payable in relation to the property leased to PartnerRe Bermuda.

Canada

The Canadian life branch of PartnerRe Bermuda, the Canadian non-life branch of PartnerRe U.S. and PartnerRe Canada are subject to Canadian taxation on their profits. Their profits are taxed at the federal level, as well as the Ontario provincial level at a combined rate of 26.5% in 2020. See also the discussion of taxation in the United States below.

France

The French branch of PartnerRe Europe is conducting business in and is subject to taxation in France. The tax on corporate profits in France has been 32.02%.

The French Bill for 2018, enacted on December 30, 2017, includes a graduated decrease of the statutory corporate income tax rate from 34.43% in 2017 to 25.83% in 2022, including all applicable surtaxes. See also the discussion of taxation in Ireland below.

Ireland

The Company's Irish subsidiaries, PartnerRe Holdings Europe Limited, PartnerRe Europe, PartnerRe Ireland and PartnerRe Ireland Finance dac conduct business in and are subject to taxation in Ireland. Profits of an Irish trade or business are subject to Irish corporation tax at the rate of 12.5%, whereas profits arising from other than a trade or business are taxable at the rate of 25%. The Swiss, U.S. and French branches and subsidiaries of PartnerRe Europe are subject to taxation in Ireland at the Irish corporation tax rate of 12.5%. However, under Irish domestic tax law, the amount of tax paid in Switzerland, U.S. and France can be credited or deducted against the Irish corporation tax. As a result, the Company does not expect to incur significant taxation in Ireland with respect to the Swiss, U.S. and French branches.

Singapore

The Company's Singapore subsidiary, PartnerRe Asia, is subject to corporate taxation in Singapore at the rate of 10% on profits arising from onshore and offshore business. However, tax exemptions may apply to qualifying profits derived from certain lines of business.

Switzerland

The Swiss branch of PartnerRe Europe is subject to Swiss taxation, mainly on profits and capital. To the extent that net profits are generated, profits are taxed at a rate of 21.15%. The tax reform that has been passed and enacted in 2019 in the canton of Zurich following the federal tax reform includes a decrease of the statutory corporate income tax rate from 21.15% to 19.7% in 2021. The branch pays capital taxes at a rate of approximately 0.17% on its imputed branch capital calculated according to a procured taxation ruling. See also the discussion of taxation in Ireland above.

United States

PartnerRe U.S. Companies transact business in and are subject to taxation in the U.S. The Canadian non-life branch of PartnerRe U.S. conducts business in Canada and is subject to taxation in Canada as discussed above. Under U.S. tax law, the amount of tax paid in Canada by the Canadian non-life branch of PartnerRe U.S. can be credited or deducted against U.S. corporation tax.

In addition, PartnerRe Europe and PartnerRe Ireland write certain U.S. and Latin American business through their U.S. reinsurance intermediaries. As a result, PartnerRe Europe and PartnerRe Ireland are deemed to be engaged in a U.S. trade or business and thus are subject to taxation in the U.S. Finally, PartnerRe Capital Investments LLC (PCIC) and PLRA are also U.S. corporations subject to taxation in the U.S. The current statutory rate of tax on corporate profits in the U.S. is 21%. See the discussion of U.S. branch taxation below and the discussion of taxation in Ireland above.

On this basis, the Company does not expect that it and its subsidiaries, other than the PartnerRe U.S. Companies, PartnerRe Europe and PartnerRe Ireland for business conducted through their U.S. intermediaries, PCIC, PLRA, and the 953(d) electing reinsurer, will be required to pay U.S. corporate income taxes (other than withholding taxes as described below). However, because there is considerable uncertainty as to the activities that constitute a trade or business in the U.S., there can be no assurance that the IRS will not contend successfully that the Company or its non-U.S. subsidiaries (other than PartnerRe Europe, PartnerRe Ireland, and the 953(d) electing reinsurer) are engaged in a trade or business in the U.S. The maximum federal tax rate is currently 21% for a corporation's income that is effectively connected with a trade or business in the U.S. In addition, U.S. branches of foreign corporations may be subject to the branch profits tax, which imposes a tax on U.S. branch after-tax earnings that are deemed repatriated out of the U.S., for a potential maximum effective federal tax rate of approximately 45% on the net income connected with a U.S. trade or business.

Foreign corporations not engaged in a trade or business in the U.S. are subject to U.S. income tax, effected through withholding by the payer, on certain fixed or determinable annual or periodic gains, profits and income derived from sources within the U.S. as enumerated in Section 881(a) of the Internal Revenue Code, such as dividends and interest on certain investments.

The U.S. imposes a base erosion and anti-abuse tax (BEAT) on certain payments from entities subject to U.S. tax to related foreign persons, also referred to as base erosion payments. Base erosion payments generally include any amounts that are deductible, including reinsurance premiums ceded to a related foreign person. Entities that meet certain thresholds are required to pay the minimum BEAT. The minimum BEAT is based on the excess of a percentage of the entities' modified taxable income over its regular tax liability for the year. Modified taxable income is the taxpayer's regular taxable income increased by any base erosion tax benefit with respect to any "base erosion payment" and an adjustment for the taxpayer's net operating loss deduction, if any. The modified taxable income is taxed at 5% in 2018, 10% in 2019 through 2025, and 12.5% thereafter. This provision generally applies to entities that are subject to US net income tax with average annual gross receipts of at least \$500 million and that have made foreign related-party deductible payments totaling 3% or more of the entities' total deductions for the year.

The U.S. also imposes an excise tax on insurance and reinsurance premiums paid to foreign insurers or reinsurers with respect to risks located in the U.S. The rate of tax applicable to reinsurance premiums paid to PartnerRe Bermuda is 1% of gross premiums.

Legal Proceedings

The Company's reinsurance subsidiaries, 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 and disputes, the Company and its subsidiaries 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 contracts. 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 that management believes are without merit.

For information regarding legal proceedings, see Note 15(d) to the Consolidated Financial Statements in Item 18 of this report.

C. Organizational Structure

The Company's Class A common shares are owned by EXOR Nederland N.V., whose ultimate parent is EXOR N.V., an investment holding company listed on the Milan Stock Exchange. The Company has also issued Class B shares to certain executives and directors of the Company.

In addition to the Company, significant investments of EXOR N.V. include Stellantis N.V. (formerly Fiat Chrysler Automobiles), CNH Industrial, Ferrari and Juventus Football Club.

The Company's principal operating subsidiaries at December 31, 2020 are as follows:

	Jurisdiction	Percentage Interest Held
Partner Reinsurance Company Ltd.	Bermuda	100%
Partner Reinsurance Europe SE	Ireland	100%
Partner Reinsurance Company of the U.S.	New York, United States	100%
Partner Reinsurance Asia Pacific Pte. Ltd.	Singapore	100%

See History and Development of the Company section above and also Share Ownership section in Item 6.E and Notes 1, 10 and 13 to the Consolidated Financial Statements in Item 18 of this report for further details.

See Exhibit 8.1 to this annual report on Form 20-F for a listing of the Company's subsidiaries.

D. Property, Plants and Equipment

The Company leases office space in Pembroke (Bermuda) where its principal executive offices are located. Additionally, the Company leases office space in various other locations, principally in Dublin, Stamford (Connecticut, U.S.), Toronto, Paris, Singapore and Zurich.

The Company directly holds certain real estate investments located in London, U.K. Refer to Note 2(g) to the Consolidated Financial Statements in Item 18 of this report for further details.

ITEM 4.A UNRESOLVED STAFF COMMENTS

None.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

The financial information for the years ended December 31, 2020, 2019 and 2018 presented below is based on, or has been derived from, and should be read in conjunction with, the U.S. GAAP Consolidated Financial Statements presented in Item 18 of this report. The financial results below are presented in U.S. dollars as the reporting currency.

The discussion below includes forward-looking statements, which, although based on assumptions that we consider reasonable, are subject to risks and uncertainties which could cause actual events or conditions to differ materially from those expressed or implied by the forward-looking statements. See G. Safe Harbor section below and Risk Factors in Item 3 of this report for a discussion of risks and uncertainties.

Executive Overview

The Company is a leading global reinsurer, with a broadly diversified and balanced portfolio of traditional reinsurance risks and capital markets risks. The Company has three segments: P&C, Specialty, and Life and Health (see Results by Segment below).

The Company is in the business of assessing and assuming risk for an appropriate return. The Company creates value through its ability to understand, evaluate, diversify and distribute risk. The Company's strategy is formulated on a capital-based risk appetite and the selected risks that management believes will allow the Company to meet its goals for appropriate profitability and risk management within that appetite. Management believes that this construct allows the Company to balance the cedant's need for confidence of claims payment with shareholder needs for an appropriate return on capital.

The Company's long-term objective is to provide reinsurance capacity to clients and manage a portfolio of diversified risks that will create shareholder value. The Company's profitability in any particular period can be significantly affected by large catastrophic or other large losses and the impact of changes in interest rates, credit spreads and equity markets on the fair value of investments (see Key Factors Affecting Year-over-Year Comparability below). Accordingly, the Company's performance during any particular period is not necessarily indicative of its performance over the longer-term reinsurance cycle.

Non-life Reinsurance Operations

The Company generates its non-life reinsurance revenue from premiums. Premium rates and overall terms and conditions vary depending on market conditions. The Company writes a large majority of its non-life business on a treaty basis with a majority renewing on January 1. The remainder of this business renews at other times during the year. In addition to treaty business, the Company writes direct and facultative business which renews throughout the year.

Pricing cycles are driven by supply of capital in the industry and demand for reinsurance and insurance and other risk transfer products. The reinsurance business is also influenced by several other factors, including variations in interest rates and financial markets, changes in legal, regulatory and judicial environments, loss trends, inflation, foreign exchange rate changes and general economic conditions.

In an increasingly competitive market environment, and considering increased regulatory and rating agency expectations, the Company continues to focus on its risk management strategy, financial strength, underwriting selection process and global presence. The Company removes the volatility associated with those risks from the client and then manages those risks and the risk-related volatility. The Company's global presence and broad product offerings allows it to achieve portfolio diversification of risks.

A key challenge facing the Company is successfully managing risk through all phases of the reinsurance cycle. The Company believes that its long-term strategy of closely monitoring and being selective in the business that it writes, and maintaining the diversification and balance of its portfolio, will optimize returns over the reinsurance cycle. Individual businesses and markets have their own unique characteristics and are at different stages of the reinsurance pricing cycle at any given point in time. Management believes the Company has an appropriate portfolio diversification by product, geography, type of business, length of tail and distribution channel. Further, management believes that this diversification, in addition to the financial strength of the Company and its strong global franchise, will help to mitigate cyclical declines in underwriting profitability.

The non-life reinsurance market has historically been highly cyclical in nature as evidenced by hard and soft markets. For many years, with the exception of lines and markets impacted by specific catastrophic or large loss events, the Company has experienced soft market conditions with either general decreases, no changes, or marginal improvements, in pricing and profitability. Price increases were experienced in loss exposed lines of business following losses incurred in 2019. During 2020, the COVID-19 pandemic led to price increases for many of the Company's lines of business. Across the industry, expected future price increases resulting from the pandemic could lead to an influx of new capital, and this availability of capital could create uncertainty around continued upward pricing momentum.

Life and Health Reinsurance Operations

The Company's Life and Health segment derives revenues primarily from premiums. Within the Life and Health segment, the Company writes mortality, morbidity and longevity products. The Life and Health business provides the Company with diversification benefits and balance to its portfolio as they are generally not correlated to the Company's Non-life business.

The profitability of the Life and Health business mainly depends on the volume and amount of death and disability claims incurred, medical claims and expenses, and the ability to adequately price the risk the Company assumes. The majority of the life premium arises from long-term in-force contracts. The life reinsurance policies are often in force for the remaining lifetime of the underlying individuals insured, with premiums earned typically over a period of 10 to 30 years. The volume of the business may be reduced each year by lapses, voluntary surrenders, death of insureds and recaptures by ceding companies. While death claims are reasonably estimated over a period of many years, claims become less predictable over shorter periods and can fluctuate significantly from period to period. Similarly, while the volume of medical claims can be predicted to a certain extent, the amount of claims and expenses depends on various factors, primarily healthcare inflation rates, driven by a shift towards the older population, reliance on expensive medical equipment and technology and changes in demand for healthcare services over time. Compared to the Non-life markets, the Life and Health reinsurance markets are more concentrated, with fewer market participants.

During 2020, the Company continued to execute its Growth Strategy in the Life and Health segment by continuing to increase new business volume in life business and hiring additional employees to support further growth in this segment.

Industry Environment

The reinsurance environment has become more and more complex, as traditional forms of risk are increasingly exposed to globalization and urbanization and as new forms of risks have developed (such as cyber, geopolitical and supply chain). The need for reinsurance is further supported by factors such as primary insurers' needs to reduce volatility in earnings and a high protection gap in the non-life and life and health reinsurance and emerging markets.

Strategic Initiatives

The Company's strategy is to focus on reinsurance of business written by our cedants, and not compete with our clients through directly writing or assuming insurance risks. The Company is focused on striking the right balance between top down and bottom up risk selection by broadening scope and client penetration for well-understood, efficient risk classes and keeping a selective approach for less predictable risk patterns. Among the Company's strategic priorities are growing the non-life footprint with selected clients and brokers, using retrocession to enhance balance sheet strength, including retrocession to third party capital vehicles, and growing the Life and Health book in targeted product segments and geographies. The Company will continue to execute its Growth Strategy in the Life and Health segment by continuing to increase new business volume and leveraging new talent hired to support further growth in this segment.

Reinsurance Market Outlook

The Company believes that overall, reinsurance will broadly remain a cyclical market, albeit of less amplitude, primarily as a result of capital inflows and outflows, and that the cycles will become more specific and local, with less global amplitude.

The outlooks for 2021 for each of the Company's segments are summarized as follows:

2021 P&C Segment Outlook

During the January 1, 2021 renewals, the Company observed improving pricing trends in most lines of business. The market improvements were driven by primary rate increases in U.S. Casualty, Property Catastrophe rates (particularly in North America) and the assumed retrocession market. Due to capital capacity entering and leaving the industry, it is not possible to forecast how long the current pricing conditions will stay.

2021 Specialty Segment Outlook

During the January 1, 2021 renewals, the Company generally observed improved pricing in most lines of business within the Specialty segment (particularly in the engineering, aviation, energy, marine and property lines of business). Due to capital capacity entering and leaving the industry, it is not possible to forecast how long the current pricing conditions will stay.

2021 Life and Health Outlook

The January 1, 2021 renewal for life business is not significant, as only a limited portion of the premiums written associated with the life portfolio is short-term business. While COVID-19 did result in slowing of reinsurance bidding activity in 2020 in

certain regions such as North America, we expect a return to normal levels in 2021. Management expects moderate growth in the Company's life portfolio in 2021 assuming constant foreign exchange rates, mainly due to growth in Asia, Canada, Europe and the United States. Pricing conditions are not expected to materially differ from 2020.

Investment Operations

The Company generates revenue from its investment portfolio through net investment income, including interest on fixed maturities and dividends on equity securities, interest in earnings of equity method investments, and realized and unrealized gains on investments.

For the Company's investment risks, which include public and private markets and real estate investments, diversification of risk is critical to achieving the risk and return objectives of the Company.

From a risk management perspective, the Company allocates its invested assets into two categories: liability funds and capital funds. The Company's investment policy distinguishes between liquid, high quality (investment grade) assets that support the Company's liabilities, and the more diversified, higher risk asset classes that are allowed within the Company's capital funds.

Liability funds represent invested assets supporting the net reinsurance liabilities, and are invested primarily in investment-grade fixed maturity securities and cash and cash equivalents. The preservation of liquidity and protection of capital are the primary investment objectives for these assets. The portfolio managers are required to adhere to investment guidelines as to minimum ratings and issuer and sector concentration limitations. Liability funds are invested in a way that generally matches them to the corresponding liabilities (referred to as asset-liability matching) in terms of both duration and major currency composition to provide the Company with a natural hedge against changes in interest and foreign exchange rates. In addition, the Company utilizes certain derivatives to further protect against changes in interest and foreign exchange rates. Liability funds represented approximately 55% and 53% of the total invested assets at December 31, 2020 and 2019, respectively.

Capital funds represent total capital of the Company, which includes shareholders' equity and debt liabilities, and are invested in a diversified portfolio with the objective of maximizing investment return, subject to prudent risk constraints. Capital funds contain most of the asset classes typically viewed as offering a higher risk and higher return profile, subject to risk assumption and portfolio diversification guidelines which include issuer and sector concentration limitations. Capital funds may be invested in investment grade and below investment grade fixed maturity securities, publicly listed and private equities, bond and loan investments, real estate investments, structured credit and certain other specialty asset classes. Capital funds represented approximately 45% and 47% of the total invested assets at December 31, 2020 and 2019, respectively.

While there will be periods where such investments may earn less than the risk-free rate of return, or potentially produce negative results, the Company believes the rewards for assuming these risks in a disciplined and measured way will produce a positive excess return to the Company over time. Additionally, since a portion of our investment risks are not fully correlated with the Company's reinsurance risks, this increases the overall diversification of the Company's total risk portfolio.

The Company employs a prudent investment philosophy. It maintains a high quality, well-balanced and liquid portfolio with total investment return achieved through a combination of optimizing current investment income and pursuing capital appreciation.

The Company's investment strategy allows for the use of certain derivative instruments, subject to strict limitations. The Company may utilize various derivative instruments, such as treasury note and equity futures contracts, credit default swaps, foreign currency option contracts, equity option contracts, foreign exchange forward contracts, total return and interest rate swaps, insurance-linked securities, and to-be-announced mortgage-backed securities (TBAs) for the purpose of managing and hedging currency risk, market exposure and portfolio duration, hedging certain investments, mitigating the risk associated with underwriting operations, or enhancing investment performance that would be allowed under the Company's investment policy if implemented in other ways. The use of financial leverage, whether achieved through derivatives or margin borrowing, requires approval from the Board. At December 31, 2020, the Company had no significant financial leverage achieved through derivatives and no margin borrowing has been approved by the Board.

The Company follows prudent investment guidelines through a strategy that seeks to maximize returns while managing investment risk in line with the Company's overall objectives of earnings stability and long-term book value growth. A key challenge for the Company is achieving the right balance in changing market conditions. The Company regularly reviews the allocation of investments to asset classes within its investment portfolio and allocates investments to those asset classes the Company anticipates will outperform in the future, subject to limits and guidelines. Similarly, the Company reduces its exposure to asset classes where returns are deemed unattractive. The Company may also lengthen or shorten the duration of its fixed maturity portfolio in anticipation of changes in interest rates, or increase or decrease the amount of credit risk it assumes, depending on credit spreads and anticipated economic conditions.

In 2020, the Company's investment portfolio was impacted by decreases in worldwide risk-free rates and changes in portfolio mix resulting in lower net investment income. If the current lower yield environment should persist, assuming constant foreign exchange rates, Management expects similar but challenging levels of net investment income in 2021.

A. Operating Results

At December 31, 2020 and 2019, EXOR Nederland N.V. held 100% of the 100 million Class A shares of \$0.00000001 par value each for a total share capital of \$1.00. The common shares are not listed. Accordingly, per share data is not considered meaningful to present.

Key Factors Affecting Year-over-Year Comparability

The key factors affecting the year-over-year comparability of the Company's net income or loss for the years ended December 31, 2020, 2019 and 2018 include the following:

- The effects of the COVID-19 pandemic and related economic impacts
- Other large catastrophic and large loss events impacting Non-life segment underwriting results
- Volatility in capital markets impacting investment results, and
- Foreign exchange rate fluctuations.

These factors, as well as other factors described below, may continue to affect our results of operations and financial condition in the future. Each of these key factors is discussed further in the Review of Net Income or Loss section below for each of the years ended December 31, 2020, 2019 and 2018.

Review of Net Income or Loss

The components of net income or loss for the years ended December 31, 2020, 2019 and 2018 are presented in the Company's Consolidated Statements of Operations, and in the breakdown by segment in Note 18 to the Consolidated Financial Statements, in Item 18 of this report.

Management analyzes the Company's net income or loss in three parts: underwriting result, investment result, and corporate and other, which comprises the other components of net income or loss not allocated to the Company's P&C, Specialty and Life and Health segments.

The net income or loss for the years ended December 31, 2020, 2019 and 2018 was comprised as follows (in millions of U.S. dollars):

	2020	2019	2018
Underwriting result			
P&C	\$ (72)	\$ 40	\$ (189)
Specialty	(232)	(60)	142
Total Non-life	\$ (304)	\$ (20)	\$ (47)
Life and Health ⁽¹⁾	2	1	20
	\$ (302)	\$ (19)	\$ (27)
Investment result	839	1,352	37
Corporate and other	(283)	(396)	(96)
Net income (loss)	\$ 254	\$ 937	\$ (86)

(1) Underwriting result excludes net investment income allocated to Life and Health as part of the allocated underwriting result of \$68 million, \$72 million and \$66 million for the years ended December 31, 2020, 2019 and 2018, respectively. Allocated underwriting result is the metric management uses to measure results for the segment, as described below.

The components of net income (loss), and changes for the years presented above, are described below.

Underwriting Result

Underwriting result consists of technical result (which is net premiums earned less losses and loss expenses and acquisition costs) and other income (loss), less other expenses that are attributable to the respective segment. Underwriting result is a primary measure of underlying profitability for the Company's core reinsurance operations, separate from the investment results, and is used to manage and evaluate the Company's Non-life segments (P&C and Specialty). The Company believes that in order to enhance the understanding of its profitability, it is useful for our shareholders and other users of this report to evaluate the components of net income or loss separately and in the aggregate. Underwriting result should not be considered a substitute for net income or loss and does not reflect the overall profitability of the business, which is also impacted by investment results and other items included in Corporate and other above and discussed in more detail below in the Corporate and Other section.

Underwriting result, a key factor affecting net income or loss, is discussed further below in the Results by Segment section for each of the two Non-life segments (P&C and Specialty). Management measures results for the Life and Health segment on the basis of the allocated underwriting result, which includes underwriting result and net investment income allocated to Life and Health business, and is discussed further below in the Results by Segment section.

Results by Segment

The Company monitors the performance of its operations in three segments: P&C, Specialty and Life and Health. See Note 18 to the Consolidated Financial Statements included in Item 18 of this report for a description of the Company's segments, a discussion on how the Company measures its segment results (including definitions of loss ratio, acquisition ratio, technical ratio, other expense ratio and combined ratio) and a breakdown of net income or loss, including underwriting results by segment, for each of the years ended December 31, 2020, 2019 and 2018.

See results for each of the segments below for discussions on factors impacting net income or loss as it relates to the Company's underwriting results for each of the years ended December 31, 2020, 2019 and 2018. Details of Other income and Other expenses are discussed in the Corporate and Other section below.

In addition to the information presented below, see also Note 18 to the Consolidated Financial Statements in Item 18 of this report for a breakdown of Company's net income, including results by segment, and for details of combined ratios for the Non-life segments for the years ended December 31, 2020, 2019 and 2018.

The effects of the COVID-19 pandemic and related economic impacts

The COVID-19 pandemic and the related economic impact is ongoing, and there continues to be significant uncertainty surrounding the full extent of the impact. The Company incurred \$397 million of underwriting losses, net of retrocession and reinstatement premiums, as a direct result of COVID-19 and the related effects of the economic impact for the year ended December 31, 2020, with the majority of the losses classified as incurred but not reported reserves. These losses are attributable to business interruption and event cancellation related coverages, credit exposures in financial risks lines, and life and health business.

As discussed more fully in Item 3.D – Risk Factors, there remains significant uncertainty related to the full extent of COVID-19 losses. For example, a longer or more severe recession could increase the probability of losses. There are also potential legislative, regulatory and judicial actions that create significant uncertainty with respect to policy coverage and other issues. We continue to actively monitor information received from or reported by clients, brokers, industry actuaries, regulators, courts and others, and to assess that information in the context of our own portfolio.

The impact of COVID-19 on the Company's underwriting results by segment for the year ended December 31, 2020 was as follows (in millions of U.S. dollars, except ratios):

	P&C segment	Specialty segment	Total Non-life	Life & Health segment	Total
COVID-19 related losses	\$ 160	\$ 211	\$ 371	\$ 26	\$ 397
Impact on combined ratio	5.1 %	11.2 %	7.3 %	n/a	n/a

n/a: Not applicable

Non-life Results

The Non-life underwriting results for 2020, 2019 and 2018 were largely driven by premiums earned reduced for losses and loss expenses (including the impacts of COVID-19 described above, other large catastrophic and large loss events and net prior years' reserve development) and also reduced for acquisition costs, as more fully described below.

Other large catastrophic and large loss events, excluding COVID-19

As the Company's reinsurance operations are exposed to low-frequency and high-severity risk events, some of which are seasonal, results for certain periods may include unusually low loss experience, while results for other periods may include modest or significant loss experience driven by catastrophic losses. The Company generally considers losses greater than \$35 million, net of retrocession and reinstatement premiums, to be large catastrophic or large loss events.

The impact of large catastrophic and large losses, excluding the effects of COVID-19 described above, on the Company's underwriting results for the years ended December 31, 2020, 2019 and 2018 was as follows (in millions of U.S. dollars, except ratios):

	2020			2019			2018 ⁽¹⁾		
	P&C segment	Specialty segment	Total Non-life	P&C segment	Specialty segment	Total Non-life	P&C segment	Specialty segment	Total Non-life
Large catastrophic and large losses	\$ 47	\$ 8	\$ 55	\$ 258	\$ 42	\$ 300	\$ 382	\$ 4	\$ 386
Impact on combined ratio	1.5 %	0.4 %	1.1 %	8.4 %	2.1 %	5.9 %	15.1 %	0.2 %	9.0 %

(1) In 2018, losses related to Hurricane Florence and Typhoon Trami were individually less than \$35 million each, but have been included in the large catastrophic and large losses total above as the losses combined were greater than \$35 million based on best estimates as of December 31, 2018.

The large catastrophic and large losses, net of retrocession and reinstatement premiums, were comprised as follows:

- 2020: \$55 million related to Hurricane Laura
- 2019: \$258 million related to Typhoons Hagibis and Faxai and Hurricane Dorian and \$42 million related to a large aviation loss
- 2018: \$176 million related to Typhoons Jebi and Trami and Hurricanes Florence and Michael and \$210 million related to California Wildfires

Losses and loss expenses for 2020, 2019 and 2018 were also impacted by non-life prior years' reserve development. Non-life prior years' reserve was \$71 million adverse (1.4 points on the combined ratio) for 2020, \$57 million favorable (1.1 points on the combined ratio) for 2019 and \$249 million favorable (5.8 points on the combined ratio) for 2018. See Note 7(a) to the Consolidated Financial Statements in Item 18 of this report for a further discussion of the reserve development related to prior accident years.

See results for each of the P&C and Specialty segments below for further details of Non-life underwriting results for each of the years ended December 31, 2020, 2019 and 2018.

P&C Segment

The components of underwriting result, including technical result, which is calculated as net premiums earned less losses and loss expenses and acquisition costs, and the corresponding ratios (which are calculated as a percentage of net premiums earned) for the P&C segment for the years ended December 31, 2020, 2019 and 2018 were as follows (in millions of U.S. dollars, except ratios):

	2020	2019	2018
Gross premiums written	\$ 3,442	\$ 3,579	\$ 3,015
Premiums ceded	(398)	(277)	(293)
Net premiums written	\$ 3,044	\$ 3,302	\$ 2,722
Net premiums earned	\$ 3,163	\$ 3,071	\$ 2,535
Losses and loss expenses	(2,389)	(2,167)	(2,073)
Acquisition costs	(784)	(783)	(606)
Technical result	\$ (10)	\$ 121	\$ (144)
Other (loss) income	(1)	(1)	30
Other expenses ⁽¹⁾	(61)	(80)	(75)
Underwriting result	\$ (72)	\$ 40	\$ (189)
Loss ratio	75.5 %	70.6 %	81.8 %
Acquisition ratio	24.8	25.5	23.9
Technical ratio	100.3 %	96.1 %	105.7 %
Other expense ratio	1.9	2.6	3.0
Combined ratio	102.2 %	98.7 %	108.7 %

(1) The Company allocates certain other expenses that vary with business written by its operating segments. See Other expenses in Corporate and Other section below.

Technical and underwriting results and related ratios

The P&C underwriting and technical results for 2020, 2019 and 2018 were largely driven by premiums earned reduced for losses and loss expenses, and, to a lesser extent, acquisition costs.

2020 compared to 2019

The decreased technical result (and the corresponding increase in the technical ratio) in 2020 compared to 2019 was largely driven by a higher loss ratio. The decreased underwriting result (and a corresponding increase in the combined ratio) was driven by deterioration in the technical result and ratio, partially offset by lower other expenses and expense ratio.

2019 compared to 2018

The increased technical result (and the corresponding decrease in the technical ratio) in 2019 compared to 2018 was largely driven by an increase in net premiums earned and a lower loss ratio, partially offset by higher acquisition costs. The increased underwriting result (and a corresponding decrease in the combined ratio) was driven by the improvement in the technical result and ratio, and, to a lesser extent, a decrease in the other expense ratio. The underwriting result was also impacted by a reduction in Other income in 2019 compared to 2018, as the Company recognized a \$29 million gain on commutation of the Paris Re Reserve Agreement in 2018 (see also Note 7(a) to the Consolidated Financial Statements in Item 18 for further details).

See Corporate and Other section below for further details on Other expenses. The changes in premiums written and earned, losses and loss expenses and acquisition costs are described further below.

Premiums

The P&C segment represented 48%, 48% and 47% of total net premiums written in 2020, 2019 and 2018, respectively. Business reported in this segment is, to a significant extent, originally denominated in foreign currencies and is reported in U.S. dollars. The U.S. dollar can fluctuate significantly against other currencies and this should be considered when making year-over-year comparisons. See Corporate and Other—Foreign exchange movements section below for further details of movements in foreign exchange.

2020 compared to 2019

The decrease in gross and net premiums written was driven primarily by premium exposure adjustments resulting from the economic impact of COVID-19 and the Company's focus on portfolio optimization throughout 2020, which particularly impacted the motor line of business. Net premiums written included a reduction for premiums ceded, which increased over the prior year. The increase in net premiums earned was driven by premiums earned on prior underwriting years, which more than offset the impact of lower net premiums written in the current year.

2019 compared to 2018

The increase in gross and net premiums written and net premiums earned was driven primarily by new business written and renewal increases in the casualty, catastrophe and motor lines of business. Net premiums written and earned included a reduction for premiums ceded, which were lower than the prior year.

Losses and loss expenses

Losses and loss expenses include the impacts of COVID-19 and other large catastrophic and large losses described above, as well as net prior years' reserve development referred to above. See Note 7 to the Consolidated Financial Statements in Item 18 of this report for further details of losses and loss expenses and prior years' reserve development.

2020 compared to 2019

The increase in losses and loss expenses and loss ratio was primarily driven by COVID-19 related losses. Large catastrophic losses related to Hurricane Laura in 2020 were lower than large catastrophic losses related to Typhoons Hagibis and Faxai and Hurricane Dorian in 2019, however this was offset by the impact of an aggregation of mid-sized catastrophic and man-made losses during 2020. The increase in 2020 was also, to a lesser extent, driven by a lower level of favorable prior years' reserve development of \$65 million in 2020 as compared to \$136 million in 2019.

2019 compared to 2018

The increase in losses and loss expenses was primarily driven by growth in business. This was partially offset by a decrease in attritional losses in the current accident year, a lower level of large catastrophic and large losses, and, to a lesser extent, a higher level of favorable prior years' reserve development as compared to 2018. This resulted in a lower loss ratio compared to 2018.

Acquisition costs

2020 compared to 2019

Acquisition costs were flat compared to 2019, and the related acquisition cost ratio decreased, driven by a lower level of experience refund accruals related to U.S. health business.

2019 compared to 2018

The increase in acquisition costs was in line with an increase in net premiums earned. The related acquisition cost ratio increased compared to 2018, driven by an increased level of experience refund accruals related to U.S. health business.

Specialty Segment

The components of underwriting result, including technical result, which is calculated as net premiums earned less losses and loss expenses and acquisition costs, and the corresponding ratios, which are calculated as a percentage of net premiums earned, for the Specialty segment for the years ended December 31, 2020, 2019 and 2018 were as follows (in millions of U.S. dollars, except ratios):

	2020	2019	2018
Gross premiums written	\$ 1,935	\$ 2,213	\$ 2,050
Premiums ceded	(153)	(76)	(180)
Net premiums written	\$ 1,782	\$ 2,137	\$ 1,870
Net premiums earned	\$ 1,892	\$ 1,987	\$ 1,767
Losses and loss expenses	(1,628)	(1,496)	(1,096)
Acquisition costs	(470)	(523)	(502)
Technical result	\$ (206)	\$ (32)	\$ 169
Other expenses ⁽¹⁾	(26)	(28)	(27)
Underwriting result	\$ (232)	\$ (60)	\$ 142
Loss ratio	86.0 %	75.3 %	62.0 %
Acquisition ratio	24.8	26.3	28.4
Technical ratio	110.8 %	101.6 %	90.4 %
Other expense ratio	1.4	1.4	1.5
Combined ratio	112.2 %	103.0 %	91.9 %

(1) The Company allocates certain other expenses that vary with business written by its operating segments. See Other expenses in Corporate and Other section below.

Technical and underwriting results and related ratios

The Specialty underwriting and technical results for 2020, 2019 and 2018 were largely driven by premiums earned reduced for losses and loss expenses, and, to a lesser extent, acquisition costs.

2020 compared to 2019

The decrease in the technical result (and the corresponding increase in the technical ratio) in 2020 compared to 2019 was largely driven by an increase in the loss ratio, partially offset by a decrease in acquisition ratio. The decrease in the underwriting result (and a corresponding increase in the combined ratio) was driven by the decrease in the technical result.

2019 compared to 2018

The decrease in the technical result (and the corresponding increase in the technical ratio) in 2019 compared to 2018 was largely driven by an increase in the loss ratio, partially offset by an increase in net premiums earned. The decrease in the underwriting result (and a corresponding increase in the combined ratio) was driven by the decrease in the technical result.

The changes in premiums written and earned, losses and loss expenses and acquisition costs are described further below.

Premiums

The Specialty segment represented 28%, 31% and 32% of total net premiums written in 2020, 2019 and 2018, respectively. Business reported in this segment is, to a significant extent, originally denominated in foreign currencies and is reported in U.S. dollars. The U.S. dollar can fluctuate significantly against other currencies and this should be considered when making year-over-year comparisons. See Corporate and Other—Foreign exchange movements section below for further details of movements in foreign exchange.

2020 compared to 2019

The decrease in gross and net premiums written and earned was driven primarily by premium exposure adjustments resulting from the economic impact of COVID-19, which particularly impacted the aviation line of business, and the Company's focus on portfolio optimization throughout 2020, including run-off of the Lloyd's net quota share portfolio. Net premiums written and earned included a reduction for premiums ceded, which increased over the prior year.

2019 compared to 2018

The increase in gross and net premiums written and earned was driven primarily by new business written and renewal increases in the financial risks, aviation and space, energy and property lines of business, partially offset by cancellations and renewal changes in other lines. Net premiums written and earned included a reduction for premiums ceded, which were lower than the prior year.

Losses and loss expenses

Losses and loss expenses include the impacts of COVID-19 and other large catastrophic and large losses described above, as well as net prior years' reserve development referred to above. See Note 7 to the Consolidated Financial Statements in Item 18 of this report for further details of losses and loss expenses and prior years' reserve development.

2020 compared to 2019

The increase in losses and loss expenses was primarily driven by COVID-19 related losses and higher adverse prior years' reserve development of \$136 million compared to \$79 million in 2019. This was partially offset by an improvement in the current accident year attritional loss ratio.

2019 compared to 2018

The increase in losses and loss expenses compared to 2018 was primarily attributable to adverse prior years' reserve development in 2019, as well as growth in the business.

See Note 7 to the Consolidated Financial Statements in Item 18 of this report for further details of losses and loss expenses and prior years' reserve development.

Acquisition costs

2020 compared to 2019

The decrease in acquisition costs was in line with a decrease in net premiums earned. The decrease in acquisition cost ratio was primarily driven by a decrease in loss sensitive commissions and changes in the mix of business.

2019 compared to 2018

The increase in acquisition costs was in line with an increase in net premiums earned. The decrease in acquisition cost ratio during 2019 as compared to 2018 was primarily driven by a decrease in loss sensitive commissions primarily in financial risks, multiline and energy lines of business.

Life and Health Segment

The Company provides reinsurance of life and health related risks including mortality, morbidity and longevity. Reinsurance coverage is provided to primary life insurers and pension funds to protect against individual and group mortality and disability risks. The Company also provides reinsurance coverage to employer sponsored pension schemes and primary life insurers who provide pensions or issue annuity contracts offering long-term retirement benefits to consumers, who, in turn, seek protection against outliving their financial resources.

Mortality and morbidity business is written primarily on a proportional basis through treaty agreements and is subdivided into death and disability covers (with various riders), term assurance and critical illness (TCI) and GMDB. The Company also writes certain treaties on a non-proportional basis.

Longevity business is written on a long-term, proportional basis. The Company's longevity portfolio is subdivided into standard and non-standard annuities. The non-standard annuities are sold by insurance companies to consumers with aggravated health conditions and are usually medically underwritten on an individual basis.

The components of the allocated underwriting result for the Life and Health segment for the years ended December 31, 2020, 2019 and 2018 were as follows (in millions of U.S. dollars):

	2020	2019	2018
Gross premiums written	\$ 1,499	\$ 1,493	\$ 1,235
Premiums ceded	(24)	(23)	(24)
Net premiums written	\$ 1,475	\$ 1,470	\$ 1,211
Net premiums earned	\$ 1,482	\$ 1,467	\$ 1,212
Losses and loss expenses	(1,318)	(1,263)	(1,025)
Acquisition costs	(102)	(149)	(129)
Technical result	\$ 62	\$ 55	\$ 58
Other income ⁽¹⁾	13	15	13
Other expenses ⁽²⁾	(73)	(69)	(51)
Underwriting result	\$ 2	\$ 1	\$ 20
Net investment income	68	72	66
Allocated underwriting result	\$ 70	\$ 73	\$ 86

(1) Other income represents fee income on deposit accounted contracts and longevity swaps.

(2) The Company allocates certain other expenses that vary with business written by its operating segments. See Other expenses in Corporate and Other section below.

Allocated underwriting result

The underwriting result for Life and Health is increased by net investment income allocated to this segment to determine allocated underwriting result. See Investments Results section below for further details on net investment income. The Life and Health underwriting and allocated underwriting results for 2020, 2019 and 2018 were largely driven by premiums earned reduced for losses and loss expenses, and, to a much lesser extent, acquisition costs.

2020 compared to 2019

The underwriting result was flat, as the favorable impact of certain portfolio recaptures and positive experience in the Company's longevity business was offset by the impact of COVID-19 related losses and higher expenses during 2020 to support growth in the business. The decrease in allocated underwriting result was driven by a decrease in net investment income, driven by lower reinvestment rates.

2019 compared to 2018

The decrease in allocated underwriting result was primarily driven by an increase in other expenses during 2019 as compared to 2018, driven by higher expenses to support growth in the business and a higher annual incentive bonus payment to employees. Growth in the business contributing to the allocated underwriting result was partially offset by adverse experience in the Company's short-term life business.

The changes in premiums written and earned, losses and loss expenses, and acquisition costs are described further below.

Premiums

The Life and Health segment represented 24%, 21% and 21% of total net premiums written in 2020, 2019 and 2018, respectively. Business reported in this segment is, to a significant extent, originally denominated in foreign currencies and is reported in U.S. dollars. The U.S. dollar can fluctuate significantly against other currencies and this should be considered when making year-over-year comparisons. See Corporate and Other—Foreign exchange movements section below for further details of movements in foreign exchange.

2020 compared to 2019

Gross and net premiums written and net premiums earned were flat during the year, primarily driven by growth in the Company's longevity business, offset by decreases in short-term protection business.

2019 compared to 2018

The increases in gross and net premiums written and net premiums earned were primarily driven by growth in the longevity business.

Losses and loss expenses

2020 compared to 2019

The increase in losses and loss expenses was primarily attributable to COVID-19 impacts and growth in longevity and long term mortality business. In addition, while the Company reduced its short term life business, adverse development in this business contributed to higher relative losses in 2020. This was partially offset by the favorable impact of recaptures of certain treaties in the European region, which resulted in a net gain of \$28 million recorded as a reduction to losses and loss expenses in 2020.

2019 compared to 2018

The increase in losses and loss expenses was primarily attributable to growth in the longevity business and increased losses related to the Company's short-term life business.

Acquisition costs

2020 compared to 2019

Acquisition costs decreased during the year mainly due to changes in the mix of business.

2019 compared to 2018

Acquisition costs increased in line with increases in net premiums earned.

Investment Result

Investment result consists of net investment income, net realized and unrealized investment gains or losses and interest in earnings or losses of equity method investments. Net investment income primarily includes interest and amortization of premium and discount on fixed maturities, short-term investments, cash and cash equivalents and certain other invested assets (including corporate loans), dividend income and income distributions from equities and certain other invested assets, as well as investment income on funds held, offset by investment expenses and withholding taxes. Net realized and unrealized investment gains or losses primarily include amounts realized from sales and redemptions of the Company's fixed maturities, short-term investments, equities and other invested assets; changes in net unrealized investment gains or losses on these investments; and impairment losses on real estate. Interest in earnings or losses of equity method investments represents the Company's aggregate share of earnings or losses related to several private placement investments and limited partnership interests.

The components of the investment result for the years ended December 31, 2020, 2019 and 2018 were as follows (in millions of U.S. dollars):

	2020	2019	2018
Net investment income ⁽¹⁾	\$ 361	\$ 449	\$ 416
Net realized and unrealized investment gains (losses)	454	887	(390)
Interest in earnings of equity method investments	24	16	11
Total investment result	\$ 839	\$ 1,352	\$ 37

(1) Includes amounts allocated to the Life and Health segment as presented in Results by Segment above.

Net Investment Income

Net investment income by asset type for the years ended December 31, 2020, 2019 and 2018 is included in Note 4(b) to the Consolidated Financial Statements in Item 18 of this report and is summarized below (in millions of U.S. dollars):

	2020	2019	2018
Fixed maturities, short-term investments and cash and cash equivalents	\$ 302	\$ 407	\$ 392
Other invested assets	89	69	26
Equities, funds held and other	21	12	27
Investment expenses	(51)	(39)	(29)
Net investment income	\$ 361	\$ 449	\$ 416

2020 compared to 2019

Net investment income decreased in 2020 compared to 2019 driven by the impact of lower reinvestment rates due to significant decreases in worldwide risk-free rates in the first quarter of 2020.

2019 compared to 2018

Net investment income increased in 2019 compared to 2018 driven by decisions to re-balance certain assets into higher yield per duration unit strategies, partially offset by higher investment expenses.

Net Realized and Unrealized Investment Gains (Losses)

The Company's portfolio managers have a total return investment objective, achieved through a combination of optimizing current investment income and pursuing capital appreciation. To meet this objective, it is often desirable to buy and sell securities to take advantage of changing market conditions and to reposition the investment portfolios. Accordingly, recognition of realized gains and losses is considered by the Company to be a normal consequence of its ongoing investment management activities. In addition, the Company recognizes changes in fair value for substantially all of its investments as changes in unrealized investment gains or losses in its Consolidated Statements of Operations. Realized and unrealized investment gains and losses are generally a function of multiple factors, with the most significant being prevailing interest rates, credit spreads and equity market conditions.

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See Note 4(a) to the Consolidated Financial Statements in Item 18 of this report for details of realized investment gains and losses and changes in unrealized investment gains and losses by investment type. Investment results for the years ended December 31, 2020, 2019 and 2018 were significantly impacted by the volatility in the capital markets with the Company reporting Net realized and unrealized investment gains or losses, included in net income or loss, as follows (in millions of U.S. dollars):

	2020	2019	2018
Net realized investment gains (losses)	\$ 16	\$ 251	\$ (202)
Change in net unrealized investment gains (losses)	444	639	(182)
Impairment loss on investments in real estate	(6)	(3)	(6)
Net realized and unrealized investment gains (losses)	\$ 454	\$ 887	\$ (390)

The net realized and unrealized investment gains of \$454 million in 2020 were driven by net realized and unrealized investment gains of \$245 million on fixed maturities and short-term investments and \$189 million of net realized and unrealized investment gains on equities. Gains on fixed maturities and short-term investments were primarily unrealized and driven by decreases in worldwide risk free rates. Gains on equities were also primarily unrealized and were due to increases in worldwide equity markets. Net realized and unrealized investment gains also included \$26 million of gains on other invested assets, driven by private equities. The \$6 million impairment loss on investments in real estate was driven by a write-down in value of London-based real estate investments directly owned by the Company.

The net realized and unrealized investment gains of \$887 million in 2019 were driven by \$456 million of net realized and unrealized investment gains on equities and other invested assets, primarily due to unrealized gains in public equity funds, and \$434 million of net realized and unrealized investment gains on fixed maturities and short-term investments, due to decreases in worldwide risk free rates and credit spreads. Net realized investment gains were driven by realized gains on fixed maturities and short-term investments, due to the Company's decision to rebalance certain portfolios, particularly lower rated investment grade credit, and to reallocate the proceeds to other investment classes, particularly highly rated governments and mortgage-backed securities, and to alternative credit. The \$3 million impairment loss on investments in real estate was driven by a write-down in value of London-based real estate investments directly owned by the Company.

The net realized and unrealized investment losses of \$390 million in 2018 were largely driven by increases in U.S. risk-free rates, widening of U.S. and European investment grade corporate spreads and net realized investment losses on fixed maturities and short-term investments due to changes in investment portfolio mix aimed at increasing yield and decreasing duration. The net realized investment losses on fixed maturities and short-term investments were partially offset by net realized gains in equities and other invested assets. The impairment loss on investments in real estate was driven by a write-down in value of London-based real estate investments referred to above.

See also Notes 3 and 4(a) to the Consolidated Financial Statements in Item 18 for further details.

Interest in Earnings of Equity Method Investments

The interest in earnings of equity method investments for 2020, 2019 and 2018 of \$24 million, \$16 million and \$11 million, respectively, reflect gains on private equities, partially offset by a decrease in value of real estate assets held by an equity method investee, Almacantar, a privately held real estate investment and development group.

Corporate and Other

The following are components of net income or loss (in millions of U.S. dollars), excluding amounts that the Company includes in investment results or allocates to segments, in line with the way the Company manages its business, as described above.

	2020	2019	2018
Other expense, net of other income, not allocated to the segments ⁽¹⁾	\$ (195)	\$ (192)	\$ (146)
Losses and loss expenses ⁽²⁾	—	3	—
Interest expense	(39)	(40)	(43)
Loss on redemption of debt	—	(15)	—
Amortization of intangible assets	(10)	(12)	(35)
Net foreign exchange (losses) gains	(52)	(87)	119
Income tax benefit (expense)	13	(53)	9
Corporate and Other	\$ (283)	\$ (396)	\$ (96)

(1) The Company allocates certain other expenses that vary with business written by its operating segments. Refer to Underwriting Results section above for tables that include Other expense and Other income amounts allocated to each of the three segments.

(2) Net incurred losses include favorable loss development of \$3 million during the year ended December 31, 2019. Non-life reserves allocated to Corporate and Other totaled \$6 million at December 31, 2019. There were no incurred losses or non-life reserves allocated to Corporate and Other during 2020.

Other Expenses

The Company's Other expenses are included in the underwriting result and in Corporate and Other, as described above. The Company's total Other expenses in the Consolidated Statements of Operations for the years ended December 31, 2020, 2019 and 2018 were as follows (in millions of U.S. dollars, except ratios):

	2020	2019	2018
Other expenses	\$ 356	\$ 370	\$ 306
Other expenses, as a % of total net premiums earned	5.4 %	5.7 %	5.5 %

2020 compared to 2019

Other expenses of \$356 million for 2020 decreased by \$14 million compared to 2019 primarily due to lower annual incentive and long term incentive payout for employees compared to the prior year, partially offset by an increase in consulting and professional fees for accounting standard implementation projects.

2019 compared to 2018

Other expenses of \$370 million for 2019 increased by \$64 million compared to 2018 primarily due to an increase in full-time equivalent employees, higher annual incentive and long term incentive payout for employees due to the strong growth in book value reported by the Company in 2019 and higher expenses in the Life and Health segment to support the organic growth of the business.

Interest Expense and Loss on Redemption of Debt

Interest expense of \$39 million in 2020 was comparable to \$40 million for 2019. During the third quarter of 2020, the Company issued \$500 million 4.50% Fixed-Rate Reset Junior Subordinated Notes due 2050. The additional interest expense related to this issuance was more than offset by the benefits of reduced interest expense from refinancing that took place in 2019, described below.

Interest expense of \$40 million in 2019 decreased compared to \$43 million for 2018, due to the refinancing of senior notes during 2019, whereby the Company issued \$500 million 3.70% Senior Notes due 2029 and used the proceeds to early redeem the \$500 million 5.50% Senior Notes due 2020.

The loss on redemption of debt of \$15 million in 2019 related to the redemption of the \$500 million Senior Notes due 2020, which included a make whole provision to compensate for future interest foregone as a result of the early retirement.

See Note 9 to the Consolidated Financial Statements in Item 18 of this report for further details.

Amortization of Intangible Assets

Amortization of intangible assets relates to intangible assets acquired upon acquisition of Paris Re in 2009, Presidio in 2012, Aurigen in 2017 and Claim Analytics Inc. in 2018. The amortization expense for 2020 was comparable to 2019. The decrease in amortization expense to \$12 million in 2019 from \$35 million in 2018 was primarily related to the intangible asset for guaranteed reserves which was written off in 2018, following the commutation of the Paris Re reserve agreement. See Note 6 to the Consolidated Financial Statements in Item 18 for further details.

Foreign Exchange Movements

The Company's reporting currency is the U.S. dollar. The Company's significant subsidiaries and branches have one of the following functional currencies: U.S. dollar, Euro or Canadian dollar. As a significant portion of the Company's operations is transacted in foreign currencies, fluctuations in foreign exchange rates may affect year-over-year comparisons. To the extent that fluctuations in foreign exchange rates affect comparisons, their impact has been quantified, when possible, and discussed throughout this annual report. See Note 2(m) to the Consolidated Financial Statements in Item 18 of this report for a discussion of remeasurement and translation of foreign currencies.

Net foreign exchange losses were \$52 million for 2020 compared to losses of \$87 million for 2019 and gains of \$119 million for 2018. The losses in 2020 were driven by the weakening of the U.S. dollar against all major currencies (primarily the Canadian dollar, British Pound and Swiss Franc) and the cost of hedging. The losses in 2019 were mainly driven by the weakening of the U.S. dollar against certain major currencies and foreign currency hedging costs, while gains in 2018 were driven by the strengthening of the U.S. dollar against certain major currencies and foreign currency hedge results.

The foreign exchange fluctuations for the principal currencies in which the Company transacts business were as follows:

- the U.S. dollar ending exchange rate weakened against all major currencies, at December 31, 2020 compared to December 31, 2019
- the U.S. dollar average exchange rate for the year weakened against most major currencies, with the exception of the Canadian dollar, in 2020 compared to 2019
- the U.S. dollar ending exchange rate weakened against most major currencies, with the exception of the Euro, at December 31, 2019 compared to December 31, 2018
- the U.S. dollar average exchange rate for the year strengthened against most major currencies, with the exception of the Japanese yen, in 2019 compared to 2018

The above fluctuations impacted individual line items of the Company's Consolidated Statement of Operations as well as the Change in currency translation adjustment included in Accumulated other comprehensive loss in the Consolidated Balance Sheets. The Company hedges a significant portion of its currency risk exposure as discussed in Quantitative and Qualitative Disclosures about Market Risk in Item 11 of this report and in Notes 2(n) and 5 to the Consolidated Financial Statements in Item 18 of this report. See also section B. Liquidity and Capital Resources—Currency for a discussion of the impact of foreign exchange movements on the Consolidated Balance Sheets.

Income Taxes

The effective income tax rate, which the Company calculates as income tax expense or benefit divided by net income or loss before taxes, may fluctuate significantly from period to period depending on the geographic distribution of pre-tax net income or loss in any given period between different jurisdictions. The geographic distribution of pre-tax net income or loss can vary significantly between periods due to, but not limited to, the following factors: the business mix of net premiums earned, the geographic location, quantum and nature of net losses and loss expenses incurred, the quantum and geographic location of other expenses, net investment income, net realized and changes in unrealized investment gains and losses and the quantum of specific adjustments to determine the income tax basis in each of the Company's operating jurisdictions. In addition, a significant portion of the Company's gross and net premiums are written and earned in Bermuda, a non-taxable jurisdiction, including the majority of the Company's catastrophe business, which can result in significant volatility in the Company's pre-tax net income or loss from period to period.

The Company's income tax expense (benefit) and effective income tax rate for the years ended December 31, 2020, 2019 and 2018 were as follows (in millions of U.S. dollars, except ratios):

	2020	2019	2018
Income tax (benefit) expense	\$ (13)	\$ 53	\$ (9)
Effective income tax rate	(5.4)%	5.3 %	9.4 %

Income tax (benefit) expense and the effective income tax rate during 2020, 2019 and 2018 were primarily driven by the geographic distribution of the Company's pre-tax income and losses between its various jurisdictions. On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was enacted in response to the COVID-19 pandemic. The Company did not make use of any direct support measures. It was only the Company's U.S. subsidiaries that benefited from the CARES Act through the passage of modified tax loss carry-back rules that allow losses to be carried back to years with a higher tax rate. As a result, the Company's U.S. subsidiaries realized a tax benefit of \$35 million (or a reduction of 14.4 points on the effective tax rate) for the year ended December 31, 2020. See Note 12 to the Consolidated Financial Statements in Item 18 of this report for further details.

B. Liquidity and Capital Resources

The following discussion on liquidity and capital resources principally focuses on the Company's Consolidated Balance Sheets and Consolidated Statements of Cash Flows. See Risk Factors in Item 3.D for additional information concerning risks related to our business, strategy and operations.

Capital Adequacy

A key priority for management is to hold sufficient capital to meet all of the Company's obligations to cedants, meet regulatory and rating agency requirements of the Group and the Company's regulated subsidiaries and support its position as one of the stronger reinsurers in the industry. Management closely monitors its capital needs and capital level throughout the reinsurance cycle and, in times of volatility and turmoil in global capital markets, actively takes steps to increase or decrease the Company's capital in order to achieve an appropriate balance of financial strength and shareholder returns. Capital management is achieved by either deploying or curtailing capital to fund business opportunities and, during times when the Company has excess capital and business opportunities are not so attractive, returning capital to its shareholders by way of dividends.

Shareholders' Equity and Capital Resources Management

As part of its long-term strategy, the Company will seek to grow capital resources to support its operations throughout the reinsurance cycle, maintain strong ratings from the major rating agencies (see ratings summarized below) and maintain the ability to pay claims as they arise. The Company may also seek to restructure its capital through the repayment or purchase of debt obligations or preferred shares, or increase or restructure its capital through the issuance of debt or preferred shares, when opportunities arise.

The Company's total capital (defined as total of debt liabilities and preferred and common shareholders' equity) at December 31, 2020 and 2019 was as follows (in millions of U.S. dollars, except percentages):

	December 31, 2020		December 31, 2019	
Senior notes due 2026	\$ 915	10 %	\$ 833	9 %
Senior notes due 2029	496	5	496	6
Junior subordinated notes due 2050	494	5	—	—
Capital efficient notes due 2066	62	1	62	1
Total debt ⁽¹⁾	\$ 1,967	21 %	\$ 1,391	16 %
Preferred shareholders' equity, aggregate liquidation value	\$ 637	7 %	\$ 704	8 %
Common shareholder's equity	6,690	72	6,566	76
Total shareholders' equity	\$ 7,327	79 %	\$ 7,270	84 %
Total capital	\$ 9,294	100 %	\$ 8,661	100 %

(1) The difference of \$8 million between Total debt and Debt on the Consolidated Balance Sheets at December 31, 2020 and December 31, 2019 is due to the Capital efficient notes (CENts). Non-consolidated debt issued externally related to CENts of \$62 million does not appear in the Debt line of the Consolidated Balance Sheets, as the finance entity that issued the debt (PartnerRe Finance II Inc.) does not meet the U.S. GAAP criteria for consolidation. The Consolidated Balance Sheets include the related intercompany notes of \$70 million issued by PartnerRe U.S. Corporation to PartnerRe Finance II Inc. See Note 9 to the Consolidated Financial Statements included in Item 18 of this report for further information.

Total capital of \$9.3 billion at December 31, 2020 was up 7.3% compared to December 31, 2019 primarily due to the issuance of junior subordinated notes during 2020, an increase in common shareholder's equity and foreign exchange movements on Euro denominated debt, partially offset by the redemption of Series F preferred shares, described as follows:

- During the third quarter of 2020, the Company issued \$500 million aggregate principal amount of 4.500% fixed-rate reset junior subordinated notes at par. The net proceeds of the issuance, after consideration of the underwriting expenses, commissions and other expenses, totaled \$494 million. A portion of the proceeds were used to redeem preferred shares described below.
- Shareholders' equity, comprised of preferred and common shareholders' equity in the table above, was \$7.3 billion at December 31, 2020, a 0.8% increase compared to December 31, 2019. The increase was primarily driven by comprehensive income of \$234 million, offset by common and preferred dividend payments totaling \$96 million in 2020, and the redemption of the 5.875% Series F preferred shares with a liquidation value of \$67 million.
- The increase in senior notes is primarily due to the foreign exchange impact of translating the Euro denominated debt into U.S. dollars, the Company's reporting currency.

The Company expects to utilize the remaining proceeds from the most recent junior subordinated debt issuance to redeem additional preferred shares and for other general corporate purposes in 2021. The Company also plans to raise additional financing in 2021 to redeem additional preferred shares and for other general corporate purposes, market conditions permitting. Our shelf registration statement on Form F-3 under the Securities Act provides for future offerings of securities, including preferred shares and debt securities, up to a certain aggregate offering price limit, allowing for efficient access to capital markets. The remaining unused limit under our shelf registration is \$400 million.

See section F. Tabular Disclosures of Contractual Obligations below for further details of obligations of the Company. See Notes 9, 10 and 11 to the Consolidated Financial Statements in Item 18 of this report for a further discussion related to the Company's indebtedness and shareholders' equity, and Operating Results above for a discussion of the Company's net income for the year ended December 31, 2020. See also Consolidated Statements of Shareholders' Equity within the Consolidated Financial Statements in Item 18 of this report.

Liquidity and Cash Flows

Liquidity is a measure of the Company's ability to access sufficient cash flows to meet the short-term and long-term cash requirements of its business operations.

The Company aims to be a reliable and financially secure partner to its cedants. This means that the Company must maintain sufficient liquidity at all times so that it can support its cedants by settling claims quickly. The Company generates cash flows primarily from its underwriting and investment operations. Management believes that a profitable, well-run reinsurance organization will generate sufficient cash from premium receipts to pay claims, acquisition costs and other expenses in most years. To the extent that underwriting cash flows are not sufficient to cover operating cash outflows in any year, the Company may utilize cash flows generated from investments and may ultimately liquidate assets from its investment portfolio. Management ensures that its liquidity requirements are supported by maintaining a high quality, well balanced and liquid investment grade investment portfolio, and by matching within certain risk tolerance limits the duration and currency of its investments with that of its net reinsurance liabilities.

Management believes that its significant cash flows from operations and high quality liquid investment portfolio will provide sufficient liquidity for the foreseeable future to meet its present requirements. At December 31, 2020 and 2019, the Company held cash and cash equivalents of \$2,351 million and \$1,484 million, respectively.

The Company's Consolidated Statements of Cash Flows are included in the Consolidated Financial Statements in Item 18 of this report. Explanations of the cash flows presented in the Consolidated Statements of Cash Flows are as follows:

Net cash provided by operating activities, which includes cash flows related to underwriting operations and net investment income, was \$1,125 million in 2020 compared to \$999 million in 2019 and \$447 million in 2018. The increase in 2020 compared to 2019 was primarily driven by increased cash flow from underwriting operations, due to increased premium collections in line with business growth in certain lines of business, partially offset by loss payments related to large catastrophic and large loss events, and

to a lesser extent, higher payments for attritional losses. The increase in 2019 compared to 2018 was driven by increases in cash flow from underwriting operations.

Net cash used in investing activities was \$633 million in 2020 compared to \$118 million in 2019 and \$1,261 million in 2018. The net cash used in investing activities in 2020 was primarily driven by net purchases of fixed maturities, offset by net sales of short term investments and other invested assets. The net cash used in investing activities in 2019 was primarily driven by purchases of other invested assets and short-term investments, offset by net sales of fixed maturities. The net cash used in investing activities in 2018 was primarily driven by purchases of fixed maturities and short-term investments and efforts made during 2018 to optimize yield on excess cash.

Net cash provided by financing activities was \$328 million in 2020 compared to net cash used in financing activities of \$268 million in 2019 and \$94 million in 2018. The net cash from financing activities in 2020 was driven primarily by the issuance of junior subordinated notes, partially offset by the redemption of preferred shares and dividends paid to common and preferred shareholders. The net cash used in financing activities for both 2019 and 2018 was driven primarily by dividends paid to common and preferred shareholders.

In 2021, the Company expects to continue to generate positive operating cash flows, absent unknown events or catastrophic events or unanticipated factors that could result in negative operating cash flows in the future. Specifically, the Company expects cash flows from operating activities to continue to be sufficient to cover claims payments.

The Company's ability to pay common and preferred shareholder dividends, interest payments on debt, and certain corporate expenses is dependent mainly on cash dividends from PartnerRe Bermuda, PartnerRe Europe, PartnerRe U.S. and PartnerRe Asia (collectively, the reinsurance subsidiaries), which are the Company's most significant subsidiaries. The payment of such dividends by the reinsurance subsidiaries to the Company is limited under Bermuda, Irish and Singapore laws and certain statutes of various U.S. states in which PartnerRe U.S. is licensed to transact business. The restrictions are generally based on net income and/or certain levels of surplus as determined in accordance with the relevant statutory accounting practices.

The reinsurance subsidiaries' dividend restrictions at December 31, 2020 are described in Note 11 to the Consolidated Financial Statements in Item 18 of this report. As a result of the acquisition of the Company by EXOR N.V. (subsequently renamed EXOR Nederland N.V.) and the preferred share exchange offer in 2016, the Company's payment of dividends on common shares declared with respect to any fiscal quarter was restricted to an amount not exceeding 67% of net income per fiscal quarter until December 31, 2020. If the Company did not make aggregate distributions of all of the distributable amounts during any fiscal quarter, such remaining amounts would carryover to be available for dividends in subsequent fiscal quarters, regardless of the Company's Net income or loss during such subsequent fiscal quarters. This restriction expired on December 31, 2020.

The reinsurance subsidiaries of the Company depend upon cash inflows from the collection of premiums as well as investment income and proceeds from the sales and maturities of investments to meet their obligations. Cash outflows are in the form of claims payments, purchases of investments, other expenses, income tax payments, intercompany payments as well as dividend payments to the respective parent company. See section F. Tabular Disclosures of Contractual Obligations below for further details of obligations of the Company.

Historically, the Company, through its operating subsidiaries, has generated sufficient cash flows to meet its obligations. Because of the inherent volatility of the business written by the Company, the seasonality in the timing of payments by cedants, the irregular timing of loss payments, the impact of a change in interest rates and credit spreads on the investment income as well as variability in coupon payment dates for fixed income securities, cash flows from operating activities may vary significantly between periods. In the event that paid losses accelerate beyond the ability to fund such payments from operating cash flows, the Company would use its cash and cash equivalents balances available or liquidate a portion of its high quality and liquid investment portfolio. As discussed in the Investments section below, the Company's investments and cash and cash equivalents totaled \$20.1 billion at December 31, 2020, of which \$14.9 billion were cash and cash equivalents and government issued or investment grade fixed income securities.

Financial strength ratings and senior unsecured debt ratings represent the opinions of rating agencies on the Company's capacity to meet its obligations. In the event of a significant downgrade in ratings, the Company's ability to write business and to access the capital markets could be impacted. Some of the Company's reinsurance treaties contain special funding and termination clauses that would be triggered in the event the Company or one of its subsidiaries is downgraded by one of the major rating agencies to levels specified in the treaties, or the Company's capital is significantly reduced. If such an event were to occur, the Company would be required, in certain instances, to post collateral in the form of letters of credit and/or trust accounts against existing outstanding losses, if any, related to the treaty. In a limited number of instances, the subject treaties could be canceled retroactively or commuted by the cedant.

The Company's current financial strength ratings are as follows:

	Rating ⁽¹⁾
Standard & Poor's	A+
Moody's ⁽²⁾	A1
A.M. Best	A+

(1) The Company's outlook from Moody's and A.M. Best is stable and the outlook from Standard & Poor's is negative.

(2) Applies to Partner Reinsurance Company Ltd. and Partner Reinsurance Company of the U.S.

Credit Agreements

In the normal course of its operations, the Company enters into agreements with financial institutions to obtain unsecured and secured letter of credit facilities. These facilities are used for the issuance of letters of credit. Certain agreements require the letters of credit to be fully secured with cash, government bonds and/or investment grade bonds. The agreements include default covenants, which could require the Company to fully secure the outstanding letters of credit to the extent that the facility is not already fully secured and/or result in the Company not being allowed to issue any new letters of credit. See Note 16 to the Consolidated Financial Statements in Item 18 of this report for further details.

Investments

The Company's total invested assets of \$20,178 million and \$17,911 million at December 31, 2020 and 2019, respectively, are comprised of total investments, cash and cash equivalents, and accrued interest. The components and carrying values of the Company's total investments, and the percentages of total investments, at December 31, 2020 and 2019 were as follows (in millions of U.S. dollars, except percentages):

	December 31, 2020		December 31, 2019	
Fixed maturities	\$ 12,786	73 %	\$ 10,681	66 %
Short-term investments	416	2	1,003	6
Equities	1,496	8	1,295	8
Investments in real estate	68	—	72	—
Other invested assets	2,968	17	3,266	20
Total investments ⁽¹⁾	\$ 17,734	100 %	\$ 16,317	100 %

(1) In addition to the total investments shown in the above table, the Company held cash and cash equivalents of \$2,351 million and \$1,484 million at December 31, 2020 and 2019, respectively, and accrued interest of \$92 million and \$110 million at December 31, 2020 and 2019, respectively.

The majority of the Company's investments are carried at fair value with changes in fair value included in Net realized and unrealized investment gains or losses in the Consolidated Statements of Operations. Refer to Investment Result above in the Operating results section and Notes 3 and 4 to the Consolidated Financial Statements for further details of the composition of the investments and changes in unrealized gains or losses on investments.

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The cost, fair value and credit ratings of the Company's fixed maturities and short-term investments carried at fair value at December 31, 2020 were as follows (in millions of U.S. dollars, except percentages):

December 31, 2020	Cost ⁽¹⁾	Fair Value	Credit Rating ⁽²⁾						
			AAA	AA	A	BBB	Below investment grade	Unrated	
Fixed maturities									
U.S. government and sponsored enterprises	\$ 2,386	\$ 2,409	\$ —	\$ 2,409	\$ —	\$ —	\$ —	\$ —	\$ —
U.S. states, territories and municipalities	110	138	1	10	2	—	—	—	125
Non-U.S. sovereign government, supranational and government related	2,077	2,181	1,321	598	235	22	—	—	5
Corporate	3,186	3,341	6	274	1,312	1,274	421	—	54
Asset-backed securities	18	18	—	—	—	—	18	—	—
Residential mortgage-backed securities	4,565	4,699	382	4,317	—	—	—	—	—
Fixed maturities	\$12,342	\$12,786	\$ 1,710	\$ 7,608	\$ 1,549	\$ 1,296	\$ 439	\$ 184	\$ 184
Short-term investments	416	416	135	55	145	66	15	—	—
Total fixed maturities and short-term investments	\$12,758	\$13,202	\$ 1,845	\$ 7,663	\$ 1,694	\$ 1,362	\$ 454	\$ 184	\$ 184
% of Total fixed maturities and short-term investments			14 %	58 %	13 %	10 %	4 %	1 %	1 %

(1) Cost is amortized cost for fixed maturities and short-term investments.

(2) All references to credit rating reflect Standard & Poor's (or estimated equivalent) ratings. Investment grade reflects a rating of BBB- or above.

At December 31, 2020, the Company held \$37 million of government bonds issued by Spain and Ireland with a maturity less than five years. The Company did not have any other investments in securities issued by peripheral EU sovereign governments (Portugal, Italy, Ireland, Greece and Spain) at December 31, 2020.

At December 31, 2020, approximately 99% of the Company's fixed maturity and short-term investments were publicly traded and approximately 95% were rated investment grade (BBB- or higher) by Standard & Poor's (or estimated equivalent). The average credit quality, average yield to maturity and expected average duration of the Company's fixed maturities and short-term investments at December 31, 2020 and 2019 were as follows:

	December 31, 2020	December 31, 2019
Average credit quality	AA	AA
Average yield to maturity	1.6 %	2.8 %
Expected average duration	2.3 years	2.7 years

The average credit quality of fixed maturities and short-term investments at December 31, 2020 has remained unchanged compared to December 31, 2019. The total fixed maturities and short-term investments portfolio of \$13,202 million at December 31, 2020 has increased compared to December 31, 2019 of \$11,684 million, driven by favorable changes in net unrealized investment gains, a reallocation of funds from the corporate loan portfolio (included in Other invested assets) into fixed maturities (primarily U.S. residential mortgage-backed securities), and other positive operating cash flows.

The average yield to maturity on fixed maturities and short-term investments decreased by 1.2% primarily due to decreases in worldwide risk-free interest rates.

At December 31, 2020 and 2019, the expected average duration of fixed maturities and short-term investments was 2.3 years and 2.7 years, respectively, compared to the duration of reinsurance liabilities of approximately 4.3 years at December 31, 2020 and 2019. The decrease in expected average duration of fixed maturities and short-term investments reflects a lower duration target on excess fixed income as we remain cautious against rising rates in this phase of the low interest rate cycle.

Maturity Distribution

The distribution of fixed maturities and short-term investments at December 31, 2020 by contractual maturity date was as follows (in millions of U.S. dollars):

December 31, 2020	Cost	Fair Value
One year or less	\$ 1,553	\$ 1,563
More than one year through five years	3,226	3,345
More than five years through ten years	1,781	1,916
More than ten years	1,615	1,661
Subtotal	\$ 8,175	\$ 8,485
Mortgage/asset-backed securities	4,583	4,717
Total	\$ 12,758	\$ 13,202

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

Corporate bonds included in Fixed maturities

Corporate bonds are comprised of obligations of U.S. and foreign corporations. The fair values of corporate bonds issued by U.S. and foreign corporations by economic sector at December 31, 2020 were as follows (in millions of U.S. dollars, except percentages):

December 31, 2020	U.S.	Foreign	Total Fair Value	Percentage to Total Fair Value of Corporate Bonds
Sector				
Financial	\$ 558	\$ 911	\$ 1,469	44 %
Consumer cyclical	227	97	324	10
Energy	137	134	271	8
Industrial	153	104	257	8
Insurance	207	43	250	7
Consumer non-cyclical	126	86	212	6
Utilities	122	80	202	6
Real estate and real estate investment trusts	76	104	180	5
Communications	89	10	99	3
Technology	37	—	37	1
Basic materials	20	3	23	1
Longevity and mortality bonds	17	—	17	1
Total	\$ 1,769	\$ 1,572	\$ 3,341	100 %
% of Total	53 %	47 %	100 %	

At December 31, 2020, other than the U.S., no country accounted for more than 15% of the Company's corporate bonds. At December 31, 2020, the ten largest issuers accounted for 22% of the corporate bonds held by the Company (4% of total investments and cash and cash equivalents) and no single issuer accounted for more than 3% of total corporate bonds (1% of total investments and cash and cash equivalents).

Within the finance sector, 91% of corporate bonds were rated investment grade and 51% were rated A- or better at December 31, 2020.

Asset-backed and Residential Mortgage-backed Securities included in Fixed maturities

Asset-backed securities and residential mortgage-backed securities by U.S. and non-U.S. originations and the related fair value and credit ratings at December 31, 2020 were as follows (in millions of U.S. dollars, except percentages):

December 31, 2020	Credit Rating ⁽¹⁾					Below investment grade / Unrated	Fair Value
	GNMA ⁽²⁾	GSEs ⁽³⁾	AAA	AA	A		
Asset-backed securities, non-U.S.	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 18	\$ 18
Residential mortgage-backed securities							
U.S.	\$ 638	\$3,675	\$ 379	\$ —	\$ —	\$ —	\$ 4,692
Non-U.S.	—	—	3	4	—	—	7
Residential mortgage-backed securities	\$ 638	\$3,675	\$ 382	\$ 4	\$ —	\$ —	\$ 4,699
Total	\$ 638	\$3,675	\$ 382	\$ 4	\$ —	\$ 18	\$ 4,717
% of Total	14 %	78 %	8 %	— %	— %	— %	100 %

(1) All references to credit rating reflect Standard & Poor's (or estimated equivalent).

(2) GNMA represents the Government National Mortgage Association. The GNMA, or Ginnie Mae as it is commonly known, is a wholly-owned U.S. government corporation within the Department of Housing and Urban Development which guarantees mortgage loans of qualifying first-time home buyers and low-income borrowers.

(3) GSEs, or government sponsored enterprises, includes securities that carry the implicit backing of the U.S. government and securities issued by U.S. government agencies.

Residential mortgage-backed securities include U.S. residential mortgage-backed securities, which generally have a low risk of default. The main issuers of these securities are U.S. government agencies or GSEs, which set standards on the mortgages before accepting them into the program. Although these U.S. government backed securities do not carry a formal rating, they are generally considered to have a credit quality equivalent to or greater than AA+ corporate issues. They are considered prime mortgages and the major risk is uncertainty of the timing of prepayments.

Short-term Investments

Short-term investments include U.S. and non-U.S. government obligations and corporate bonds. Short-term investments were \$416 million at December 31, 2020, down from \$1,003 million at December 31, 2019, primarily due to reallocations to fixed maturities. At December 31, 2020, 96% of short-term investments were rated BBB or higher by Standard & Poor's (or estimated equivalent).

Equities

Investments in equities increased to \$1,496 million at December 31, 2020 from \$1,295 million at December 31, 2019. The increase in equities was driven by \$189 million of net realized and unrealized investment gains on equities, which were primarily unrealized. The gains included \$91 million of net unrealized gains on two Exor managed public equity funds, which represented \$1,039 million, or 69% at December 31, 2020, and \$948 million, or 73% at December 31, 2019, of the Company's total Equities. See also Notes 3, 4 and 17 to the Consolidated Financial Statements in Item 18 of this report for further details for Equities.

Investments in Real Estate

Investments in real estate relate to the Company's London-based real estate investments and are valued at cost, less any write down for impairment when the changes in circumstances indicate the carrying value may not be recoverable and exceeds its estimated fair value. The carrying value decreased to \$68 million at December 31, 2020 from \$72 million at December 31, 2019, driven by a \$6 million impairment loss, partially offset by favorable foreign exchange movements driven by the strengthening of the British pound. See also Note 2(g) to the Consolidated Financial Statements in Item 18 of this report for further details.

Other Invested Assets

Other invested assets are comprised of investments in corporate loans, notes and loans receivable and notes securitization, private equities, and derivative instruments accounted for at fair value in addition to certain investments that are accounted for using the equity method of accounting. At December 31, 2020 and 2019, Other invested assets totaled \$2,968 million and \$3,266 million, respectively.

The largest single investment in Other invested assets is an investment in Almacantar of \$494 million at December 31, 2020 and \$483 million at December 31, 2019, accounted for under the equity method (see Note 4(f) to the Consolidated Financial Statements in Item 18 of this report for further details).

Other invested assets also includes a portfolio of third-party, individually managed privately issued corporate loans carried at fair value of \$1,326 million at December 31, 2020, which decreased from \$1,879 million at December 31, 2019, driven by net sales during the year. The Company reallocated funds from the corporate loan portfolio to the fixed maturities portfolio during 2020. These corporate loans include \$851 million and \$1,439 million at December 31, 2020 and 2019, respectively, of U.S. bank loans under an externally managed mandate. 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. The weighted average credit rating as at December 31, 2020 was BB-/B+ with the single largest issuer being 2.2% of the Company's individually managed corporate loan portfolio. The corporate loan portfolio also included \$475 million and \$440 million, respectively, of other privately issued corporate loans at December 31, 2020 and 2019.

Other invested assets also includes private equities (mainly third party private equity funds) with a fair value of \$757 million at December 31, 2020, which increased from \$534 million at December 31, 2019, driven by net unrealized gains and investments in new funds.

See Notes 3, 4 and 5 to the Consolidated Financial Statements in Item 18 of this report for further details.

Funds Held by Reinsured Companies

The Company writes certain business on a funds held basis. Under funds held contractual arrangements, the cedant retains the net funds that would have otherwise been remitted to the Company and credits the net fund balance with investment income. The Company does not legally own or directly control the investments underlying its funds held assets and only has recourse to the cedant for the receivable balances and no claim to the underlying securities that support the balances. Decisions as to purchases and sales of assets underlying the funds held balances are made by the cedant; in some circumstances, investment guidelines regarding the minimum credit quality of the underlying assets may be agreed upon between the cedant and the Company as part of the reinsurance agreement, or the Company may participate in an investment oversight committee regarding the investment of the net funds, but investment decisions are not otherwise influenced by the Company.

At December 31, 2020 and 2019, the Company recorded \$705 million and \$815 million, respectively, of funds held assets. The majority of the funds held assets relate to contracts that earned investment income based upon a predetermined interest rate, either fixed contractually at the inception of the contract or based upon a recognized market index (e.g., LIBOR). Under these contractual arrangements, there are no specific assets linked to the funds held assets, and the Company is only exposed to the credit risk of the cedant.

See Note 15(a) to the Consolidated Financial Statements in Item 18 of this report for a discussion of credit risk related to funds held assets and the Company's process to evaluate the financial condition of its counterparties.

Non-life and Life and Health Reserves

See Notes 2(b) and 7 to the Consolidated Financial Statements in Item 18 of this report for details of the Company's loss reserves, including disclosures required by the SEC Industry Guide 4: Disclosures concerning unpaid claims and claim adjustment expenses of property-casualty insurance underwriters.

Non-life Reserves

Loss reserves represent estimates of amounts an insurer or reinsurer ultimately expects to pay in the future on claims incurred at a given time, based on facts and circumstances known at the time that the loss reserves are established. It is possible that the total future payments may exceed, or be less than, such estimates. The estimates are not precise in that, among other things, they are based on predictions of future developments and estimates of future trends in claim severity, frequency and other variable factors such as inflation. During the loss settlement period, it often becomes necessary to refine and adjust the estimates of liability on a claim either upward or downward. Despite such adjustments, the ultimate future liability may exceed or be less than the revised estimates.

As part of the reserving process, insurers and reinsurers review historical data and anticipate the impact of various factors such as legislative enactments and judicial decisions that may affect potential losses from casualty claims, changes in social and political attitudes that may increase exposure to losses, mortality and morbidity trends and trends in general economic conditions. This process assumes that past experience, adjusted for the effects of current developments, is an appropriate basis for anticipating future events.

The Company's gross reserves by segment and the total ceded and net non-life reserves at December 31, 2020 and 2019 were as follows (in millions of U.S. dollars):

	December 31, 2020	December 31, 2019
P&C segment and Corporate and Other ⁽¹⁾	\$ 7,938	\$ 7,254
Specialty segment	3,457	3,109
Gross non-life reserves	\$ 11,395	\$ 10,363
Ceded non-life reserves	(782)	(755)
Net non-life reserves	\$ 10,613	\$ 9,608

(1) There were no non-life reserves allocated to Corporate and Other during 2020. Non-life reserves allocated to Corporate and Other totaled \$6 million at December 31, 2019.

Net non-life reserves increased from December 31, 2019 to December 31, 2020 primarily due to the impact of large losses including COVID-19 and an aggregation of mid-sized catastrophic and man-made losses in 2020, as well as foreign exchange movements. The changes in these reserves and the reconciliation of the gross and net total non-life reserves for the years ended December 31, 2020, 2019 and 2018 are presented and discussed further in Note 7(a) to the Consolidated Financial Statements in Item 18 of this report.

The net adverse loss development on prior accident years was \$71 million for the year ended December 31, 2020, resulting from adverse loss emergence in the Specialty segment, which was partially offset by favorable loss emergence in the P&C segment. See Note 7(a) to the Consolidated Financial Statements in Item 18 for further details related to the 2020 net unfavorable loss development compared favorable development in 2019 and 2018.

See also Note 7(c) to the Consolidated Financial Statements in Item 18 of this report for details of the net incurred and paid losses and loss expenses development by accident year, the total of incurred but not reported liabilities plus expected development on reported claims, and the net liability as at December 31, 2020 for total non-life and each of the P&C and Specialty segments.

The gross reserves reported by cedants (case reserves), those estimated by the Company, including additional case reserves (ACRs) and amounts for losses incurred but not yet reported to the Company (IBNR), and the total gross, ceded and net loss reserves recorded for the Company's non-life operations were as follows at December 31, 2020 (in millions of U.S. dollars):

Reserving lines	Case reserves	ACRs	IBNR reserves	Total gross loss reserves recorded	Ceded loss reserves	Net non-life reserves recorded
P&C	\$ 3,150	\$ 118	\$ 4,670	\$ 7,938	\$ (494)	\$ 7,444
Specialty	1,497	53	1,907	3,457	(288)	3,169
Total Non-life reserves	\$ 4,647	\$ 171	\$ 6,577	\$ 11,395	\$ (782)	\$ 10,613

The net non-life loss reserves represent the Company's best estimate of future losses and loss expense amounts based on the information available at December 31, 2020. Loss reserves rely upon estimates involving actuarial and statistical projections at a given time that reflect the Company's expectations of the costs of the ultimate settlement and administration of claims. Estimates of ultimate liabilities are contingent on many future events and the eventual outcome of these events may be different from the assumptions underlying the reserve estimates. In the event that the business environment and social trends diverge from historical trends, the Company may have to adjust its loss reserves to amounts falling significantly outside its current estimate. These

estimates are regularly reviewed and the ultimate liability may be in excess of, or less than, the amounts provided, for which any adjustments will be reflected in the period in which the need for an adjustment is determined.

The Company's best estimates are point estimates within a reasonable range of actuarial liability estimates. These ranges are developed using stochastic simulations and other techniques and provide an indication as to the degree of variability of the loss reserves. The Company interprets the ranges produced by these techniques as confidence intervals around the point estimates for each Non-life sub-segment. However, due to the inherent volatility in the business written by the Company, there can be no assurance that the final settlement of the loss reserves will fall within these ranges.

The point estimates related to net Non-life reserves recorded by the Company and the range of actuarial estimates at December 31, 2020 were as follows (in millions of U.S. dollars):

	Recorded Point Estimate	High	Low
P&C	\$ 7,444	\$ 8,383	\$ 6,103
Specialty	\$ 3,169	\$ 3,458	\$ 2,765
Total net Non-life reserves	\$ 10,613		

It is not appropriate to add together the ranges of each segment in an effort to determine a high and low range around the Company's total carried loss reserves.

Of the Company's \$10,613 million of net non-life reserves at December 31, 2020, a portion of this is considered to have a long reporting tail, including the Company's exposure to asbestos and environmental claims. See Note 7 to the Consolidated Financial Statements in Item 18 of this report for further details.

Non-life Reserving Methodology

Because a significant amount of time can elapse between the assumption of risk, occurrence of a loss event, the reporting of the event to an insurance company (the primary company or the cedant), the subsequent reporting to the reinsurance company (the reinsurer) and the ultimate payment of the claim on the loss event by the reinsurer, the Company's non-life reserves (loss reserves) are based largely upon estimates.

The Company categorizes loss reserves into three types of reserves: reported outstanding loss reserves (case reserves), ACRs and IBNR. The Company updates its estimates for each of the aforementioned categories on a quarterly basis using information received from its cedants.

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. Unlike case reserves and ACRs, IBNR reserves are often calculated at an aggregated level and cannot usually be directly identified as reserves for a particular loss or treaty.

The Company also estimates the future unallocated loss adjustment expenses (ULAE) associated with the loss reserves and these form part of the Company's loss adjustment expense reserves.

The amount of time that elapses before a claim is reported to the cedant and then subsequently reported to the reinsurer is commonly referred to in the industry as the reporting tail. Lines of business for which claims are reported quickly are commonly referred to as short-tail lines and lines of business for which a longer period of time elapses before claims are reported to the reinsurer are commonly referred to as long-tail lines. In general, for reinsurance, the time lags are longer than for primary business due to the delay that occurs between the cedant becoming aware of a loss and reporting the information to its reinsurer(s). The delay varies by reinsurance market (country of cedant), type of treaty, whether losses are first paid by the cedant and the size of the loss. The delay could vary from a few weeks to a year or sometimes longer. For all lines, the Company's objective is to estimate ultimate losses and loss expenses. Total loss reserves are then calculated by subtracting losses paid. Similarly, IBNR reserves are calculated by subtraction of case reserves and ACRs from total loss reserves.

The Company analyzes its ultimate losses and loss expenses after consideration of the loss experience of various reserving cells. The Company assigns treaties to reserving cells and allocates losses from the treaty to the reserving cell. The reserving cells are selected in order to ensure that the underlying treaties have homogeneous loss development characteristics (e.g., reporting tail) but are large enough to make estimation of trends credible. The selection of reserving cells is reviewed annually and changes over time as the business of the Company evolves. For each reserving cell, the Company tabulates losses in reserving triangles that show

the total reported or paid claims at each financial year end by underwriting year cohort. An underwriting year is the year during which the reinsurance treaty was entered into as opposed to the year in which the loss occurred (accident year), or the calendar year for which financial results are reported. For each reserving cell, the Company's estimates of loss reserves are reached after a review of the results of several commonly accepted actuarial projection methodologies. In selecting its best estimate, the Company considers the appropriateness of each methodology to the individual circumstances of the reserving cell and underwriting year for which the projection is made. The methodologies that the Company employs include, but may not be limited to, paid and reported Chain Ladder methods, Expected Loss Ratio method and paid and reported Bornhuetter-Ferguson (B-F) methods. In addition, the Company uses other methodologies to estimate liabilities for specific types of claims. For example, reserves established for the catastrophe line are primarily a function of the presence or absence of catastrophic events during the year, and the complexity and uncertainty associated with estimating unpaid losses from these large disclosed events. Internal and vendor catastrophe models are typically used in the estimation of loss and loss expenses at the early stages of catastrophe losses before loss information is reported to the reinsurer. In addition, reserves are also established in consideration of mid-sized and attritional loss events that occur during a year. In the case of asbestos and environmental claims, the Company has established reserves for future losses and allocated loss expenses based on the results of periodic actuarial studies, which consider the underlying exposures of the Company's cedants.

The reserve methodologies employed by the Company are dependent on data that the Company collects. This data consists primarily of loss amounts and loss payments reported by the Company's cedants, and premiums written and earned reported by cedants or estimated by the Company. The actuarial methods used by the Company to project loss reserves that it will pay in the future do not generally include methodologies that are dependent on claim counts reported, claim counts settled or claim counts open as, due to the nature of the Company's business, this information is not routinely provided by cedants for every treaty.

For a description of the reserving methods commonly employed by the Company see Note 7 to the Consolidated Financial Statements in Item 18 of this report. Each of these methods have certain advantages and disadvantages which the Company takes into consideration when determining which methods to use and method weights.

The main strengths of the Chain Ladder (CL) Development method are that it is reactive to loss emergence (payments) and that it makes full use of historical experience on claim emergence (payments). For homogeneous low volatility lines, under stable economic conditions, the method can often produce good estimates of ultimate liabilities and reserves. However, the method has weaknesses when the underlying assumption of stable patterns is not true. This may be the consequence of changes in the mix of business, changes in claim inflation trends, changes in claim reporting practices or the presence of large claims, among other things. Furthermore, the method tends to produce volatile estimates of ultimate liabilities in situations where there is volatility in reported (paid) patterns. In particular, when the expected percentage reported (paid) is low, small deviations between actual and expected claims can lead to very volatile estimates of ultimate liabilities and reserves. Consequently, this method is often unsuitable for projections at early development stages of an underwriting year. Finally, the method fails to incorporate any information regarding market conditions, pricing, etc., which could improve the estimate of liabilities and reserves. It therefore tends not to perform very well in situations where there are rapidly changing market conditions.

The Expected Loss Ratio (ELR) method is insensitive to actual reported or paid losses therefore it is usually inappropriate at later stages of development, but 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.

The Bornhuetter-Ferguson (B-F) methods (Reported or Paid) tend to provide less volatile indications at early stages of development and reflect changes in the external environment, however, this method can be slow to react to emerging loss development (payment). In particular, to the extent that the a priori loss ratios prove to be inaccurate (and are not revised), the B-F methods will produce loss estimates that take longer to converge with the final settlement value of loss liabilities.

The reserving methods used by the Company are dependent on a number of key parameter assumptions. The principal parameter assumptions underlying the methods used by the Company are:

- the loss development factors used to form an expectation of the evolution of reported and paid claims for several years following the inception of the underwriting year. These are often derived by examining the Company's data after due consideration of the underlying factors listed below. In some cases, where the Company lacks sufficient volume to have statistical credibility, external benchmarks are used to supplement the Company's data;
- the tail factors used to reflect development of paid and reported losses after several years have elapsed since the inception of the underwriting year;
- the a priori loss ratios used as inputs in the B-F methods; and
- the selected loss ratios used as inputs in the Expected Loss Ratio method.

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As an example of the sensitivity of the Company's reserves to reserving parameter assumptions by reserving line, the effect on the Company's reserves of higher/lower *a priori* loss ratio selections, higher/lower loss development factors and higher/lower tail factors based on amounts recorded at December 31, 2020 was as follows (in millions of U.S. dollars):

	P&C	Specialty
A Priori Loss Ratio +5%	417	194
Loss Development Factors (up to 10 years) 6 months longer	528	547
Tail Loss Development Factors higher by 5% ⁽¹⁾	353	157
A Priori Loss Ratio -5%	(419)	(194)
Loss Development Factors (up to 10 years) 6 months faster	(299)	(212)
Tail Loss Development Factors lower by 5% ⁽¹⁾	(255)	(110)

(1) Tail factors are defined as aggregate development factors after 10 years from the inception of an underwriting year.

The Company believes that the illustrated sensitivities to the reserving parameter assumptions are indicative of the potential variability inherent in the estimation process of those parameters. Some reserving lines show little sensitivity to a priori loss ratio, loss development factor or tail factor as the Company may use reserving methods such as the Expected Loss Ratio method in several of its reserving cells within those lines. It is not appropriate to sum the total impact for a specific factor or the total impact for a specific reserving line as the lines of business are not perfectly correlated.

The validity of all parameter assumptions used in the reserving process is reaffirmed on a quarterly basis. Reaffirmation of the parameter assumptions means that the actuaries determine that the parameter assumptions continue to form a sound basis for projection of future liabilities. Parameter assumptions used in projecting future liabilities are themselves estimates based on historical information. As new information becomes available (e.g., additional losses reported), the Company's actuaries determine whether a revised estimate of the parameter assumptions that reflects all available information is consistent with the previous parameter assumptions employed. In general, to the extent that the revised estimate of the parameter assumptions are within a close range of the original assumptions, the Company determines that the parameter assumptions employed continue to form an appropriate basis for projections and continue to use the original assumptions in its models. In this case, any differences could be attributed to the imprecise nature of the parameter estimation process. However, to the extent that the deviations between the two sets of estimates are not within a close range of the original assumptions, the Company reacts by adopting the revised assumptions as a basis for its reserve models. Notwithstanding the above, even where the Company has experienced no material deviations from its original assumptions during any quarter, the Company will generally review and appropriately revise the reserving parameter assumptions at least once a year to reflect all accumulated available information.

In addition to examining the data, the selection of the parameter assumptions is dependent on several underlying factors. The Company's actuaries review these underlying factors and determine the extent to which these are likely to be stable over the time frame during which losses are projected, and the extent to which these factors are consistent with the Company's data. If these factors are determined to be stable and consistent with the data, the estimation of the reserving parameter assumptions are mainly carried out using actuarial and statistical techniques applied to the Company's data. To the extent that the actuaries determine that they cannot continue to rely on the stability of these factors, the statistical estimates of parameter assumptions are modified to reflect the direction of the change. The main underlying factors upon which the estimates of reserving parameters are predicated are:

- the cedant's business practices will proceed as in the past with no material changes either in submission of accounts or cash flows;
- any internal delays in processing accounts received by the cedant are not materially different from that experienced historically, and hence the implicit reserving allowance made in loss reserves through the methods continues to be appropriate;
- case reserve reporting practices, particularly the methodologies used to establish and report case reserves, are unchanged from historical practices;
- the Company's internal claim practices, particularly the level and extent of use of ACRs, are unchanged;
- historical levels of claim inflation can be projected into the future and will have no material effect on either the acceleration or deceleration of claim reporting and payment patterns;
- the selection of reserving cells results in homogeneous and credible future expectations for all business in the cell and any changes in underlying treaty terms are either reflected in cell selection or explicitly allowed in the selection of trends;

- in cases where benchmarks are used, they are derived from the experience of similar business; and
- the Company can form a credible initial expectation of the ultimate loss ratio of recent underwriting years through a review of pricing information, supplemented by qualitative information on market events.

The Company's best estimate of total loss reserves is typically in excess of the midpoint of the actuarial ultimate liability estimate. The Company believes that there is potentially significant risk in estimating loss reserves for long-tail lines of business and for immature underwriting years that may not be adequately captured through traditional actuarial projection methodologies as these methodologies usually rely heavily on projections of prior year trends into the future. In selecting its best estimate of future liabilities, the Company considers both the results of actuarial point estimates of loss reserves as well as the potential variability of these estimates as captured by a reasonable range of actuarial liability estimates. The selected best estimates of reserves are always within the reasonable range of estimates indicated by the Company's actuaries. In determining the appropriate best estimate, the Company reviews (i) the position of overall reserves within the actuarial reserve range, (ii) the result of bottom up analysis by underwriting year reflecting the impact of parameter uncertainty in actuarial calculations, and (iii) specific qualitative information that may have an effect on future claims but which may not have been adequately reflected in actuarial estimates, such as potential for outstanding litigation, claims practices of cedants, etc.

During 2020, 2019 and 2018, the Company reviewed its estimate for prior year losses for the P&C and Specialty segments and, in light of developing data, adjusted its ultimate loss ratios for prior accident years. The net prior years' reserve development for each segment for the years ended December 31, 2020, 2019 and 2018 is presented in Note 7 to the Consolidated Financial Statements in Item 18 of this report.

Actual losses paid and reported compared with the Company's expectations, and the changes of the Company's reserving parameter assumptions in response to the emerging development during the year ended December 31, 2020 were as follows:

- P&C: Aggregate losses reported in 2020 for the P&C segment 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. property business.
- Specialty: Aggregate losses reported in 2020 for the Specialty segment were worse than Company's expectations with losses for most underwriting years worse than expected. The worse than expected loss emergence within the Specialty segment was predominantly driven by engineering, multiline and aviation but partially offset by favorable emergence primarily in financial risks exposures. The Company reflected this experience by adjusting the selected loss ratios accordingly for these lines of business.

Life and Health Reserves

Life and health reserves relate to the Company's Life and Health segment, which predominantly includes:

- mortality business originating in Canada and the United States, mortality and morbidity business, covering death, critical illness and disability risks (with various riders) written in Continental Europe, the U.K., Ireland and in Asia Pacific, and GMDB business primarily written in France, and
- longevity business, subdivided into standard annuities written in the U.K, the U.S. and Canada and non-standard annuities written in the U.K.

The Company categorizes life reserves into three types of reserves: case reserves, IBNR and reserves for future policy benefits. Case reserves represent unpaid losses reported by the Company's cedants and recorded by the Company. 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. Reserves for future policy benefits relate to future events occurring on policies that are expected to be in force over an extended period of time. Reserves for future policy benefits represent an estimate of the amount which, together with estimated future premiums and investment income, will be sufficient to pay claims and future benefits, expenses and costs on in-force policies, as such claims and expenses are incurred.

Reserves for future policy benefits are calculated as the present value of future expected claims, benefits and costs to be paid, reduced by the present value of future expected premiums. Such liabilities are established based on methods and underlying assumptions in accordance with U.S. GAAP and applicable actuarial standards. Principal assumptions used in the establishment of reserves for future policy benefits have been determined based upon information reported by ceding companies, supplemented by the Company's actuarial estimates of mortality, critical illness, persistency and future investment income, with appropriate provision to reflect uncertainty. Case reserves, IBNR reserves and reserves for future policy benefits are generally calculated at the treaty level. The Company updates its estimates for each of the aforementioned categories on a periodic basis using information received from its cedants.

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The Company's gross and net reserves for the Life and Health segment at December 31, 2020 and 2019 were as follows (in millions of U.S. dollars):

	December 31, 2020	December 31, 2019
Case reserves	\$ 498	\$ 381
IBNR reserves	1,199	932
Reserves for future policy benefits	1,007	1,104
Total gross Life and health reserves	\$ 2,704	\$ 2,417
Ceded reserves	(36)	(16)
Net Life and health reserves	\$ 2,668	\$ 2,401

The increase in the Life and Health reserves in 2020 was primarily due to foreign exchange movements and growth in certain lines of business. The net incurred losses for the Company's life reserves will generally exceed net paid losses in any one given year due to the long-term nature of the liabilities and the growth in the book of business.

Life and Health Reserving Methodology

The Company's reserving methodologies are 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 line of business 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 value of life business acquired (VOBA), for a particular 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 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. Some of these contracts subject the Company to risks arising from policyholder mortality over a period that extends beyond the periods in which premiums are collected. The Reserves for future policy benefits follow the reserving methodology discussed above for long-term traditional mortality.

For standard annuities, the main risk is a higher than expected increase in future life span in the medium to long term. Non-standard annuities are annuities sold by insurance companies to people with aggravated health conditions and are usually medically underwritten on an individual basis and the main risk is the inadequate assessment of the future life span of the insured.

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An example of the sensitivity of the Company's best estimate gross reserves for Life and Health contracts to reserving assumptions by product line at December 31, 2020 was as follows (in millions of U.S. dollars, except percentages):

Reserving lines	Factors	Change	Increase to total net Life and Health reserves
Longevity			
Standard and non-standard annuities	Mortality improvements per annum	+1%	\$ 636
Mortality			
Long-term and TCI	Mortality	+10%	\$ 851
GMDB	Stock market performance	-10%	\$ 4

The mortality sensitivities demonstrate the impact to reserves based on current mortality assumptions. As assumptions for traditional and limited payment long-duration contracts are locked in at contract inception and subject to annual LRT, as described above, changes in assumptions impacting these contracts may result in an increase to U.S. GAAP reserves if a loss recognition event occurs.

It is not appropriate to sum the total impact for a specific reserving line or the total impact for a specific factor because the reinsurance portfolios are not perfectly correlated.

Refer to Note 7 to the Consolidated Financial Statements in Item 18 of this report for disclosures on Life and health reserves.

Reinsurance Recoverable on Paid and Unpaid Losses

The Company has exposure to credit risk related to reinsurance recoverable on paid and unpaid losses. See Note 8 to the Consolidated Financial Statements in Item 18 and Quantitative and Qualitative Disclosures about Market Risk—Counterparty Credit Risk in Item 11 of this report for a discussion of the Company's risk related to reinsurance recoverable on paid and unpaid losses and the Company's process to evaluate the financial condition of its reinsurers.

At December 31, 2020 and 2019, the Company recorded \$901 million and \$889 million, respectively, of reinsurance recoverable on paid and unpaid losses in its Consolidated Balance Sheets, of which \$818 million and \$771 million, respectively, represents reinsurance recoverable on unpaid losses related to the total Non-life and Life and health reserves. The increase in the reinsurance recoverable during 2020 was primarily due to large catastrophic and large losses incurred, including COVID-19 related impacts.

At December 31, 2020, the distribution of the Company's reinsurance recoverables on total Non-life and Life and health reserves categorized by the reinsurer's Standard & Poor's rating was as follows:

Rating Category	% of total reinsurance recoverable on unpaid losses
AA- or better	12 %
A- to A+	31 %
Less than A-	— %
Unrated	57 %
Total	100 %

At December 31, 2020, 43% of the Company's reinsurance recoverable on total Non-life and Life and health reserves were due from reinsurers with A- or better rating from Standard & Poor's, compared to 36% at December 31, 2019. The remaining amounts included in Unrated were all collateralized as at December 31, 2020 and 2019.

Currency

The Company's reporting currency is the U.S. dollar. The Company has exposure to foreign currency risk in part due to its ownership of its Irish, French and Canadian subsidiaries and branches, whose functional currencies are the Euro and the Canadian dollar, and certain equity method investments denominated in British pounds.

At December 31, 2020, the value of the U.S. dollar weakened against all major currencies compared to December 31, 2019, which resulted in an increase in the U.S. dollar value of the assets and liabilities denominated in non-U.S. dollar currencies.

The currency translation adjustment account is a component of Accumulated other comprehensive income or loss in Shareholders' equity. The reconciliation of the currency translation adjustment for the years ended December 31, 2020, 2019 and 2018 was as follows (in millions of U.S. dollars):

	2020	2019	2018
Currency translation adjustment at beginning of year	\$ (60)	\$ (132)	\$ (57)
Change in foreign currency translation adjustment included in accumulated other comprehensive loss	(6)	72	(75)
Currency translation adjustment at end of year	\$ (66)	\$ (60)	\$ (132)

The currency translation adjustment account decreased by \$6 million during the year ended December 31, 2020 compared to an increase of \$72 million and a decrease of \$75 million during the years ended December 31, 2019 and 2018, respectively, due to the translation of the financial statements of the Company's subsidiaries and branches into U.S. dollars.

In addition, the Company has underwriting reinsurance exposures, collecting premiums and paying claims and other expenses in currencies other than the U.S. dollar and holding certain net assets in such currencies. See Operating Results above for a discussion of the impact of foreign exchange and net foreign exchange gains and losses during the years ended December 31, 2020, 2019 and 2018.

See Quantitative and Qualitative Disclosures about Market Risk—Foreign Currency Risk in Item 11 for a discussion of the Company's risk related to changes in foreign currency movements as well as details of the Company's gross and net foreign currency exposures and the associated foreign currency derivatives the Company has entered into to manage these exposures. See also Note 2(m) to the Consolidated Financial Statements in Item 18 of this report for a discussion of currencies to which the Company is exposed.

Effects of Inflation

The effects of inflation are considered implicitly in pricing and estimating non-life reserves. The actual effects of inflation on the results of operations of the Company cannot be accurately known until claims are ultimately settled.

Critical Accounting Policies and Estimates

The Company's Consolidated Financial Statements have been prepared in accordance with U.S. GAAP. 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. The following are the Company's accounting estimates that management believes are the most critical to its operations and require the most difficult, subjective and complex judgment. If actual events differ significantly from the underlying assumptions and estimates used by management, there could be material adjustments to prior estimates that could potentially adversely affect the Company's results of operations, financial condition and liquidity. These critical accounting policies and estimates should be read in conjunction with Note 2 to the Consolidated Financial Statements in Item 18 of this report.

Non-life and Life and Health Reserves

The Company's Non-life and Life and health reserves are significant accounting estimates. These estimates are continually reviewed with any required adjustments reflected in the periods in which they are determined, which may affect the Company's results in future periods. See Liquidity and Capital Resources—Reserves above and Notes 2(b) and 7 to the Consolidated Financial Statements in Item 18 of this report for further details.

Premium Estimates and Recoverability of Deferred Acquisition Costs

The Company provides proportional and non-proportional reinsurance coverage to cedants (insurance companies). In most cases, cedants seek protection for business that they have not yet written at the time they enter into reinsurance agreements and thus have to estimate the volume of premiums they will cede to the Company. Reporting delays are inherent in the reinsurance industry and vary in length by reinsurance market (country of cedant) and type of treaty. As delays can vary from a few weeks to a year or sometimes longer, the Company produces accounting estimates to report premiums and acquisition costs until it receives the cedants' actual premium reported data.

Under proportional treaties, which represented 74% of the Company's total gross premiums written for the year ended December 31, 2020, the Company shares proportionally in both the premiums and losses of the cedant and pays the cedant a commission to cover the cedant's acquisition costs. Under this type of treaty, the Company's ultimate premiums written and earned and acquisition costs are not known at the inception of the treaty. As such, reported premiums written and earned and acquisition

costs on proportional treaties are generally based upon reports received from cedants and brokers, supplemented by the Company's own estimates of premiums written and acquisition costs for which ceding company reports have not been received. Premium and acquisition cost estimates are determined at the individual treaty level. 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 and acquisition cost estimates are updated as new information is received from the cedants and differences between such estimates and actual amounts are recorded in the period in which estimates are changed or the actual amounts are determined.

Under non-proportional treaties, which represented the remaining 26% of the Company's total gross premiums written for the year ended December 31, 2020, the Company is typically exposed to loss events in excess of a predetermined dollar amount or loss ratio and receives a fixed or minimum premium, which is subject to upward adjustment depending on the premium volume written by the cedant. In addition, many of the non-proportional treaties include reinstatement premium provisions. 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.

The magnitude and impact of changes in premium estimates differs for proportional and non-proportional treaties. Although proportional treaties may be subject to larger changes in premium estimates compared to non-proportional treaties, as the Company generally receives cedant statements in arrears and must estimate all premiums for periods ranging from one month to more than one year (depending on the frequency of cedant statements), the impact is mitigated by changes in the cedant's related reported acquisition costs and losses. The impact of the change in estimate on premiums earned and net income varies depending on when the change becomes known during the risk period and the underlying profitability of the treaty. Non-proportional treaties generally include a fixed minimum premium and an adjustment premium. While the fixed minimum premiums require no estimation, adjustment premiums are estimated and could be subject to changes in estimates. Changes in premium estimates can be material to net premiums earned in the period to which they are determined as the adjustments may be substantially or fully earned.

The recoverability of deferred acquisition costs is dependent upon the future profitability of the related business and the testing of recoverability to assess valuation is performed periodically together with a reserve adequacy test based on the latest best estimate assumptions by line of business.

See Notes 2(a), 2(c), 8(b) and 18 to the Consolidated Financial Statements in Item 18 of this report and Operating Results—Results by Segment in Item 5 of this report for accounting policies or further details regarding premiums and recoverability of deferred acquisition costs.

Recoverability of Deferred Tax Assets

Under U.S. GAAP, a deferred tax asset or liability is to be recognized for the estimated future tax effects attributable to temporary differences and carryforwards. U.S. GAAP also establishes procedures to assess whether a valuation allowance should be established for deferred tax assets. All available evidence, both positive and negative, is considered to determine whether, based on the weight of that evidence, a valuation allowance is needed for some portion or all of a deferred tax asset. Management must use its judgment in considering the relative impact of positive and negative evidence.

The Company has projected future taxable income in the tax jurisdictions in which the deferred tax assets arise based on management's projections of premium and investment income, capital gains and losses, and technical and expense ratios. Based on these projections and an analysis of the ability to utilize loss and foreign tax credits carryforwards at the taxable entity level, management evaluates the need for a valuation allowance.

The Company has estimated the future tax effects attributed to temporary differences and had a deferred tax asset at December 31, 2020 of \$154 million, after a valuation allowance of \$211 million. The most significant component of the deferred tax asset (after valuation allowance) related to tax loss carryforwards.

In accordance with U.S. GAAP, the Company has assumed that the future reversal of deferred tax liabilities will result in an increase in taxes payable in future years. Underlying this assumption is an expectation that the Company will continue to be subject to taxation in the various tax jurisdictions and that the Company will continue to generate taxable revenues in excess of deductions.

See Notes 2(l) and 12 to the Consolidated Financial Statements in Item 18 of this report for further details.

Valuation of Investments Measured Using Significant Unobservable Inputs

As more fully described in Note 2(g) and 3 to the Consolidated Financial Statements in Item 18 of this report, the Company measures the fair value of its financial instruments according to a fair value hierarchy that 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. 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. Level 3 financial instruments have the least use of observable market inputs used to determine fair value. As at December 31, 2020, the Company classified \$3,723 million of investments as Level 3 as a result of significant unobservable inputs used to determine fair value. See Note 3 to the Consolidated Financial Statements in Item 18 of this report for a breakdown of these investments by fair value level as well as more detail on the valuation techniques, methods and assumptions that were used by the Company to estimate the fair value of its fixed maturities, short-term investments, equities, and other invested assets (including derivatives). See Notes 2(n) and 5 to the Consolidated Financial Statements in Item 18 of this report for further details on the Company's use of derivative financial instruments.

See also Quantitative and Qualitative disclosures About Market Risk in Item 11 of this report for further details on interest rate and credit spread risk and a sensitivity analysis of interest rate and credit spread variances on the valuation of the Company's investments.

Valuation of Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price over the fair value of the net assets acquired in business combinations (PartnerRe SA, Winterthur Re, Paris Re and Presidio). The Company assesses the appropriateness of its valuation of goodwill on an annual basis 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. In making an assessment of the value of its goodwill, the Company uses both market based and non-market based valuations. The fair value of the reporting units is determined based on the price-to-earnings multiples, book value multiples, and present value of estimated cash flows methods. Significant changes in the data underlying these assumptions could result in an assessment of impairment of the Company's goodwill asset. In addition, if the current economic environment and/or the Company's financial performance were to deteriorate significantly, this could lead to an impairment of goodwill, the write-off of which would be recorded against net income in the period such deterioration occurred.

Based upon the Company's assessment, there was no impairment of the Company's goodwill asset of \$456 million at December 31, 2020 or 2019.

Intangible assets represent the fair value adjustments related to renewal rights, customer relationships and U.S. licenses arising from the acquisitions referred to above, and life VOBA and insurance licenses acquired related to the Aurigen acquisition. Definite-lived intangible assets are amortized over their useful lives while indefinite-lived intangible assets are not subject to amortization. The carrying values of intangible assets are reviewed for indicators of impairment on an annual basis, or more frequently if events or changes in circumstances indicate that impairment may exist. Impairment is recognized if the carrying values of the intangible assets are not recoverable from their undiscounted cash flows and are measured as the difference between the carrying value and the fair value. Based upon the Company's assessment, there was no impairment of its intangible assets of \$108 million at December 31, 2020 or \$118 million at December 31, 2019.

See Notes 2(j), 2(k) and 6 to the Consolidated Financial Statements in Item 18 of this report for further details.

New Accounting Pronouncements

See Note 2(s) to the Consolidated Financial Statements included in Item 18 of this report.

C. Research and Development, Patents and Licenses, etc.

Not applicable.

D. Trend Information

For a discussion of known trends, uncertainties and other events that are reasonably likely to have a material impact on the Company, see Operating Results in Item 5, Liquidity and Capital Resources in Item 5 and Tabular Disclosure of Contractual Obligations in Item 5 of this report.

E. Off-balance sheet arrangements

As more fully described in Note 9 to the Consolidated Financial Statements in Item 18 of this report, the Company has fully and unconditionally guaranteed the obligations related to debt issued to third parties by its finance subsidiaries as follows:

- senior notes with an aggregate principal amount of €750 million issued by PartnerRe Ireland Finance DAC
- senior notes with an aggregate principal of \$500 million issued by PartnerRe Finance B LLC
- junior subordinated notes with an aggregate principal of \$500 million issued by PartnerRe Finance B LLC
- junior subordinated CENts with a remaining aggregate principal amount of \$62 million issued by PartnerRe Finance II Inc.

The debt issued by PartnerRe Ireland Finance DAC, and the intercompany notes related to debt issued by PartnerRe Finance B LLC and PartnerRe Finance II Inc., is included in Debt in the Consolidated Balance Sheet at December 31, 2020.

F. Tabular Disclosure of Contractual Obligations

In the normal course of its business, the Company is a party to a variety of contractual obligations as summarized below. These contractual obligations are considered by the Company when assessing its liquidity requirements and the Company is confident in its ability to meet all of its obligations. Contractual obligations at December 31, 2020 were as follows (in millions):

	Total	< 1 year	1-3 years	3-5 years	> 5 years
Contractual obligations:					
Operating leases ⁽¹⁾	\$ 114.2	\$ 15.4	\$ 27.0	\$ 23.6	\$ 48.2
Other operating agreements	\$ 38.2	\$ 26.6	\$ 8.6	\$ 2.3	\$ 0.7
Other invested assets ⁽²⁾	\$ 793.1	\$ 318.1	\$ 450.0	\$ 25.0	\$ —
Payables for securities purchased	\$ 286.1	\$ 286.1	\$ —	\$ —	\$ —
Non-life reserves ⁽³⁾	\$ 11,395.3	\$ 3,945.5	\$ 3,373.3	\$ 1,644.9	\$ 2,431.6
Life and health reserves ⁽⁴⁾	\$ 3,654.3	\$ 453.5	\$ 648.9	\$ 423.4	\$ 2,128.5
Deposit liabilities	\$ 5.9	\$ 0.8	\$ 1.6	\$ 2.3	\$ 1.2
Senior notes and preferred shares:					
2029 senior notes—principal ⁽⁵⁾	\$ 500.0	\$ —	\$ —	\$ —	\$ 500.0
2029 senior notes—interest ⁽⁵⁾	\$ 157.3	\$ 9.3	\$ 37.0	\$ 37.0	\$ 74.0
2026 senior notes—principal ⁽⁵⁾	€ 750.0	€ —	€ —	€ —	€ 750.0
2026 senior notes—interest ⁽⁵⁾	€ 56.4	€ 9.4	€ 18.8	€ 18.8	€ 9.4
2050 junior subordinated notes—principal ⁽⁵⁾	\$ 500.0	\$ —	\$ —	\$ —	\$ 500.0
2050 junior subordinated notes—interest ^{(5), (6)}	n/a	\$ 22.5	\$ 45.0	\$ 45.0	\$ 112.5 ⁽⁶⁾
Capital efficient notes—principal ^{(5), (7)}	\$ 62.5	\$ —	\$ —	\$ —	\$ 62.5
Capital efficient notes—interest ^{(5), (7)}	n/a	— ⁽⁷⁾	— ⁽⁷⁾	— ⁽⁷⁾	— ⁽⁷⁾
Series G cumulative preferred shares—principal ⁽⁸⁾	\$ 160.4	\$ —	\$ —	\$ —	\$ 160.4
Series G cumulative preferred shares—dividends ⁽⁸⁾	n/a	\$ 10.4	\$ 20.8	\$ 20.8	\$10.4 per annum
Series H cumulative preferred shares—principal ⁽⁸⁾	\$ 293.8	\$ —	\$ —	\$ —	\$ 293.8
Series H cumulative preferred shares—dividends ⁽⁸⁾	n/a	\$ 21.3	\$ 42.6	\$ 42.6	\$21.3 per annum
Series I non-cumulative preferred shares—principal ⁽⁸⁾	\$ 183.0	\$ —	\$ —	\$ —	\$ 183.0
Series I non-cumulative preferred shares—dividends ⁽⁸⁾	n/a	\$ 10.8	\$ 21.6	\$ 21.6	\$10.8 per annum

n/a: Not applicable

(1) The Company has lease commitments of \$30 million related to leases that will not commence until 2021, with contractual lease terms of up to 10 years. As these leases have not yet commenced, the commitments are not included in the Consolidated Balance Sheet at December 31, 2020, but are included in the table above.

(2) The amounts above for other invested assets represent the Company's expected timing of funding capital commitments related to its investments portfolio.

- (3) *The Company's non-life reserves represent management's best estimate of the cost to settle the ultimate liabilities based on information available at December 31, 2020, and are not fixed amounts payable pursuant to contractual commitments. The timing and amounts of actual loss payments related to these reserves might vary significantly from the Company's current estimate of the expected timing and amounts of loss payments based on many factors, including large individual losses as well as general market conditions.*
- (4) *Life and health reserves in the table above are presented on an undiscounted basis.*
- (5) *See Note 9 to the Consolidated Financial Statements in Item 18 of this report for further details.*
- (6) *Interest on these notes is payable semi-annually at an annual fixed rate of 4.500% until the first reset date on October 1, 2030. From the first reset date, and resetting every five years thereafter, the notes will bear interest at an annual rate equal to the five-year treasury rate plus 3.815%. As a result of the variable interest rate, the table above does not show interest payable after the first reset date. See Note 9 to the Consolidated Financial Statements in Item 18 of this report for further details.*
- (7) *The aggregate principal amount of the CENts of \$62 million included above represents PartnerRe Finance II Inc.'s debt to third parties. Interest on the CENts is payable quarterly until maturity at an annual rate of 3-month LIBOR plus a margin equal to 2.325%. As a result of the variable interest rate, the table above does not show the interest payable.*
- (8) *See Note 10 to the Consolidated Financial Statements in Item 18 of this report for further details. The Company's preferred shares have no mandatory redemption requirement. The Company utilized a portion of the proceeds of the issuance of 2050 junior subordinated notes on the redemption of Series F preferred shares in 2020, and expects to utilize the remaining proceeds to redeem additional preferred shares and for other general corporate purposes in 2021.*

The Contractual Obligations and Commitments table above does not include an estimate of the period of cash settlement of its tax liabilities with the respective taxing authorities given the Company cannot make a reasonably reliable estimate of the timing of cash settlements.

Due to the limited nature of the information presented above, it should not be considered indicative of the Company's liquidity or capital needs. See Liquidity section above.

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, 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.

G. Safe Harbor

PartnerRe Ltd. has made statements in this annual report on Form 20-F that are forward-looking statements. In some cases, you can identify these statements by forward-looking words such as "may," "might," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential," or "continue," the negative of these terms and other comparable terminology. These forward-looking statements, which are subject to various risks, uncertainties and assumptions about us, may include projections of our future financial performance, our anticipated growth strategies and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from the results, level of activity, performance or achievements expressed or implied by the forward-looking statements, including those factors described in Risk Factors in Item 3.D of this report.

Accordingly, we cannot guarantee future results, level of activity, performance or achievements. Forward-looking statements, subject to the risks, uncertainties and assumptions described above, speak only as of the date on which they are made, and we assume no obligation to update or revise any forward-looking statements or other information contained herein, whether as a result of new information, future events or otherwise. You are cautioned not to put undue reliance on these forward-looking statements. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of any of these forward-looking statements.

H. Non-GAAP Financial Measures

The Company has not presented or discussed any non-GAAP financial measures in this report as an addition to or substitute for measures of financial performance prepared in accordance with U.S. GAAP.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. Directors and Senior Management

The following are the directors and executive officers of the Company as of February 25, 2021.

Name	Position with the Company	Date Appointed
Brian Dowd	Director, Chairman of Audit Committee and Chairman of the Board	March 18, 2016
Mary Ann Brown	Director, Member of the Audit Committee	September 1, 2018
Hermann Pohlchristoph	Director, Member of the Audit Committee	February 4, 2021
Enrico Vellano	Director ⁽¹⁾	February 18, 2021
Jacques Bonneau	Director, President and CEO, PartnerRe Ltd. ⁽²⁾	July 28, 2020
Nicolas Burnet	Executive Vice President and CFO, PartnerRe Ltd. ⁽³⁾	February 7, 2020
Scott Altstadt	Chief Underwriting Officer	July 1, 2016
Marc Archambault	CEO Life and Health	April 1, 2017
Dorothee Burkel	Chief Corporate and People Operations Officer	October 2, 2017
Turab Hussain	Chief Risk and Actuarial Officer	December 2, 2017
Tom Leone	Chief Investment Officer ⁽⁴⁾	February 18, 2021
Philippe Meyenhofer	CEO Specialty Lines	April 1, 2019
James Beedle	CEO P&C APAC	April 1, 2019
Greg Haft	CEO Global Catastrophe	April 1, 2019
Jonathan Colello	CEO P&C Americas	July 1, 2019
Andrew Gibbs	Chief Operations Officer	October 14, 2019
Christian Mitterer	CEO P&C EMEA	December 10, 2020
Simon Clifford	CUO Life & Health	October 30, 2020
Andrew Hughes	CEO Third Party Capital	February 1, 2021
Gerd Maxl	Chief Legal Counsel	February 18, 2021

(1) Enrico Vellano joined as Director, PartnerRe Ltd. on February 18, 2021, succeeding John Elkann as EXOR's representative.

(2) Jacques Bonneau joined as Independent Director and Member of the Audit Committee, PartnerRe Ltd. on February 20, 2019 and assumed the role of Director, President and CEO effective July 28, 2020. Emmanuel Clarke was Director, President and CEO, PartnerRe Ltd. during a portion of 2020 and resigned from those roles effective July 28, 2020.

(3) Mario Bonaccorso was Executive Vice President and CFO, PartnerRe Ltd. during a portion of 2020 and resigned as CFO effective April 1, 2020 and resigned as Executive Vice President effective December 31, 2020.

(4) Nikhil Srinivasan was Chief Investment Officer, PartnerRe Ltd. during 2020 and a portion of 2021 and Tom Leone assumed the role of Chief Investment Officer effective February 18, 2021.

Biographical information

- **Brian Dowd, Director, Chairman of the Board and Audit Committee (Independent)**

Brian Dowd is Chairman of PartnerRe and was formerly Vice Chairman of ACE Limited and a member of the ACE Group's Office of the Chairman before his retirement in 2015. Mr. Dowd focused on underwriting-related matters including oversight of the Group's product boards, the general underwriting disciplines of the company's profit centers, outward reinsurance placements and run-off operations, as well as special strategic projects. Mr. Dowd previously held relevant positions at ACE from 1997 until his appointment as Chairman of ACE's Insurance – North America business segment in 2006. He held the role of Vice Chairman, ACE Limited from 2009. Prior to 1997, Mr. Dowd held underwriting positions of increasing responsibility at Arkwright Mutual Insurance Company over a seven-year period. He is Chairman of the Board for ABR Reinsurance Ltd. Mr. Dowd holds a Bachelor of Science in Finance from Northern Illinois University as well as the Chartered Property Casualty Underwriter (CPCU) professional designation.

- **Enrico Vellano, Director**

Enrico Vellano is Chief Financial Officer of EXOR. Mr. Vellano was born in Torino in 1967 and graduated in Economics at the University of Torino. In 1992, he started his professional career at Arthur Andersen. In 1995, he joined SAI Assicurazioni where he specialized in the management of equities and bond portfolios. In 1997, he started his working experience at IFIL, the investment company controlled by the Agnelli Family. He held increasingly relevant positions until 2006 when he was named Chief Financial Officer of IFIL, which was merged in 2009 to create EXOR S.p.A. From December 2016, EXOR S.p.A. was merged into EXOR N.V. based in Amsterdam. Mr. Vellano is also a board member of Almacantar, Welltec, Juventus Football Club and Paris Office JV Ltd.

- **Mary Ann Brown, Director, Member of the Audit Committee (Independent)**

Mary Ann Brown was Chair of Pacific Life Re and has held multiple roles at Pacific Life before her retirement in 2017. As Chair of Pacific Life Re Ltd., Ms. Brown directed strategy and growth of the global reinsurance division. Prior to joining Pacific Life, Ms. Brown held multiple executive roles at MetLife, Swiss Re and New York Life. She holds a Bachelors and Masters of Arts in Education from Emory University, USA as well as a Masters of Actuarial Science from Georgia State University.

- **Hermann Pohlchristoph, Director, Member of the Audit Committee (Independent)**

Hermann Pohlchristoph has held multiple executive roles, most recently at Munich Re as a Member of the Board of Management from 2017 to 2020 and as CFO Reinsurance, Munich Re from 2006 to 2017. Prior to that, he served as Head of Financial Reporting and Accounting, Munich Re for two years. He obtained a degree in business administration at the Universities Bayreuth and Mainz, Germany.

- **Jacques Bonneau, Director, President and CEO, PartnerRe Ltd.**

Jacques Bonneau is a member of PartnerRe's Executive Leadership Team and is responsible for the strategic direction and management of the Company. Mr. Bonneau has over 40 years of professional experience in the re/insurance industry. Prior to becoming CEO and President of PartnerRe Ltd. in July 2020, he served as an independent director of the Company's Board of Directors and a member of the Audit Committee since February 2019. He has held multiple executive roles, most recently at Chubb Ltd. as Group Chief Underwriting Officer from 2015 to 2017 and as CEO, Chubb Tempest Re Group from 2005 to 2014. Prior to that, he served as CEO, Chubb Tempest Re USA from 1999 to 2005. He holds a Bachelor's degree of Commerce from Carleton University, Ontario as well as a Masters of Business Administration from Queen's University, Ontario.

- **Nicolas Burnet, Executive Vice President and CFO, PartnerRe Ltd.**

Nicolas Burnet is a member of PartnerRe's Executive Leadership Team responsible for the Company's Finance, Risk Management and Actuarial functions. Prior to joining PartnerRe in 2020, Mr. Burnet spent nearly 16 years with Zurich Insurance Group where he was a member of the Leadership Team and held various senior leadership roles over the years, most notably: Group Head of Planning and Performance Management 2016 – 2020; General Insurance CFO 2015 – 2016, Global Life CFO 2012 – 2015, Chief Risk Officer Global Life 2011 – 2012 and Chief Operating Officer for Zurich's Centrally Managed Businesses 2007 – 2010. Mr. Burnet joined Zurich in 2004 from Neuberger Berman and prior to that worked for JP Morgan and Price Waterhouse. Mr. Burnet holds a Bachelor's degree in Finance from Saint Joseph's University and a Master's degree in business administration from Cornell University's Johnson Graduate School of Management.

- **Scott Altstadt, Chief Underwriting Officer**

Scott Altstadt is a member of PartnerRe's Executive Leadership Team and has executive responsibility for the Company's underwriting and claims functions. Mr. Altstadt has over 25 years of professional experience in the insurance/reinsurance industry. He joined PartnerRe in 2001, as Senior Pricing Actuary of P&C and was appointed as Chief Pricing Actuary for Specialty Lines in 2002, becoming Deputy Head of P&C in 2008. He was appointed to the position of Chief Underwriting Officer PartnerRe Global in 2013. Prior to joining PartnerRe, Mr. Altstadt worked in the U.S. and Europe with Zurich Financial Services and CNARe. Mr. Altstadt has a B.S. in Mathematics and Statistics from Purdue University.

- **Marc Archambault, CEO Life and Health**

Marc Archambault is a member of PartnerRe's Executive Leadership Team and is responsible for the Company's worldwide Life & Health business segment. Mr. Archambault has more than 25 years of experience in life reinsurance, most recently as CEO of SCOR Global Life Asia-Pacific, where he led the company's regional growth strategy in those markets, and as a member of the senior management team for Global Life. Prior to that, Mr. Archambault held a number of senior management positions at SCOR where he implemented growth strategies and product development initiatives across multiple international markets in Europe, North America, Asia and Africa. Mr. Archambault holds a Bachelor of Actuarial Science from Laval University in Quebec, Canada and is an Associate with the Canadian Institute of Actuaries.

- **Dorothee Burkel, Chief Corporate and People Operations Officer**

Dorothee Burkel is a member of PartnerRe's Executive Leadership Team and has executive responsibility for IT, Facilities and for strategies related to attracting, developing and retaining the best talent, aligning culture and strategy, and ensuring governance and operational effectiveness. Mrs. Burkel specializes in Human Resources & Communications and has experience across a number of international companies. Prior to joining PartnerRe, Mrs. Burkel was formerly the Human Resources Director for Google Southern Europe from 2008 – 2012. In 2012, this role was extended to include the Middle East and Africa and in 2015, to the entire EMEA region where she supported Google's Business and G&A functions. Mrs. Burkel worked for AOL France from 2001 – 2005 as the Human Resources Director and was promoted to Vice President for Human Resources and Corporate Communications for AOL France in 2005. Before leaving in 2008, she also took on the responsibility for Branding and Communications for AOL Europe. Mrs. Burkel holds a Master's degree in French Modern Literature and graduated with honors in Political Sciences from the Institut d'Etudes Politiques in Paris.

- **Turab Hussain, Chief Risk and Actuarial Officer**

Turab Hussain is a member of PartnerRe's Executive Leadership Team and is responsible for the risk management, capital modeling and reserving functions. Mr. Hussain has more than 20 years' experience in the insurance and reinsurance industries. Prior to joining PartnerRe, Mr. Hussain held several senior actuarial and underwriting roles with responsibility for reserving, risk assessment, capital allocation and analysis at the Hartford as well as Arch Insurance Group and American Reinsurance. Mr. Hussain is an Associate of the Casualty Actuarial Society (ACAS), a Member of the American Academy of Actuaries (MAAA) and a Chartered Enterprise Risk Analyst (CERA). He earned his bachelor's degree in economics and statistics from Rutgers University.

- **Tom Leone, Chief Investment Officer**

Tom Leone is a member of PartnerRe's Executive Leadership Team and is responsible for the Company's investments. Mr. Leone joined PartnerRe in 2013 as Portfolio Manager, Global Governments. He was appointed to Head of Public Fixed Income in 2019. Prior to joining PartnerRe, Mr. Leone spent seven years at Genworth Financial on the derivatives desk performing group asset liability management. He holds a Bachelor's degree in Finance from Bryant College and a Master's degree from The Rensselaer Polytechnic Institute.

- **Philippe Meyenhofer, CEO Specialty Lines**

Philippe Meyenhofer is a member of PartnerRe's Executive Leadership Team and has executive responsibility for the Company's Specialty business segment. Mr. Meyenhofer joined PartnerRe in 2010 as Head of Financial & Professional Lines PartnerRe Global. He was appointed to Head of Specialty Casualty PartnerRe Global in 2013, to Head of Europe P&C in 2016, and gained the additional responsibility of Deputy CEO P&C in 2018. In 2019, he was named CEO of the Company's P&C EMEA regional unit. Mr. Meyenhofer was previously with Transatlantic Re, has over 16 years of industry experience and strong, proven business leadership skills. He holds a Master of Law degree from the University of Fribourg, Switzerland, and a MBA from the University of Chicago Booth School of Business.

- **James Beedle, CEO P&C APAC**

James Beedle is a member of PartnerRe's Executive Leadership Team and has executive responsibility for the Company's P&C Asia-Pacific regional business unit and its Global Clients and Broker Management unit. Mr. Beedle is also CEO of Partner Reinsurance Asia Pte. Ltd. Mr. Beedle has over 30 years of experience in reinsurance and reinsurance broking, strong strategic leadership capabilities and deep regional knowledge of Asia-Pacific markets. Mr. Beedle joined PartnerRe in 2017 as Head of Asia-Pacific P&C & CEO Partner Reinsurance Asia Pte. Ltd. from Willis Re, most recently as Senior Managing Director of Willis Re Asia-Pacific. His previous roles within Willis Re include COO Willis Re Australia and CEO Willis Re Japan. Mr. Beedle has a BA (Hons) in Economics from the University of York, England, is an Associate of the Chartered Insurance Institute and Executive Committee member of the Singapore Reinsurers' Association.

- **Greg Haft, CEO Global Catastrophe**

Greg Haft is a member of PartnerRe's Executive Leadership Team and has executive responsibility for the Company's Global Catastrophe business unit. Mr. Haft has over 25 years of industry experience, combining a strong skill-set of actuarial, reinsurance business and leadership capabilities spanning property, casualty and specialty lines. Mr. Haft joined PartnerRe in 2013 as Head of Catastrophe, Bermuda. In 2016, he was appointed to Head of Global Cat and Property North America, and thereafter to Deputy CEO Specialty Lines and leader of Specialty Lines' Property, Marine and Energy (PME) unit and in 2019, he held executive responsibility for the Company's Specialty business segment. Prior to joining PartnerRe, Mr. Haft was Managing Director, Head of U.S. Property Catastrophe Underwriting at Markel Corporation. Mr. Haft holds a B.S. Mathematics and Statistics from the University of Michigan, is a Fellow of the Casualty Actuarial Society and a Certified Cat Risk Analyst.

- **Jonathan Colello, CEO P&C Americas**

Jonathan Colello is a member of PartnerRe's Executive Leadership Team and has executive responsibility for leading PartnerRe's P&C business in the US, Canada and Latin America, and for the Company's Health business in the U.S. Mr. Colello is also President of Partner Reinsurance Company of the U.S. Mr. Colello has extensive reinsurance experience and has spent the majority of his 20 plus year career in the industry. Most recently, he was President North America at AXIS Re in the US where he had overall responsibility for underwriting platforms in Bermuda, Canada and the United States, and served as a member of the Reinsurance Leadership Team. Prior to that, he held several leadership positions within AXIS Re since joining the company in 2004. Mr. Colello holds an MBA from New York University's Stern School of Business and a Bachelor of Science in Business from the University of Vermont.

- **Andrew Gibbs, Chief Operations Officer**

Andrew Gibbs is a member of PartnerRe's Executive Leadership Team and has executive responsibility for the Company's end-to-end underwriting support processes which includes: underwriting support, reinsurance accounting, payments and collections, as well as transformation, third party management and procurement. Mr. Gibbs has more than 30 years of professional experience in insurance, reinsurance, regulatory compliance and financial services, having held senior positions with the Bermuda Monetary Authority, Validus Holdings Ltd., ACE Group of Companies (now Chubb Group of Companies) and Ernst & Young. Prior to joining PartnerRe, Mr. Gibbs held the position of Executive Chairman at Maiden Reinsurance Ltd. Mr. Gibbs has a BA in Economics from the University of Essex in England and is a Chartered Accountant and a Chartered Insurer, a Fellow of the Institute of Chartered Accountants in England & Wales and holds an Advanced Diploma in Insurance from the Chartered Insurance Institute and a Diploma in Company Direction from the Institute of Directors.

- **Christian Mitterer, CEO P&C EMEA**

Christian Mitterer is a member of PartnerRe's Executive Leadership Team and has executive responsibility for the Company's P&C EMEA regional business unit. Mr. Mitterer has over 14 years of experience in both the reinsurance and banking industries with proven business leadership skills and strong focus on execution. Mr. Mitterer joined the Company in 2012 as Senior Underwriter, Specialty Casualty. In 2015, he was named Head of Financial & Professional Lines and thereafter Head of Specialty Casualty, Europe P&C in 2016 and Head of Specialty Casualty, P&C EMEA in 2019. In 2020, he was named Head of EMEA P&C followed by this appointment as CEO P&C EMEA. Prior to joining the Company, Mr. Mitterer was with AIG in Zurich and London. Mr. Mitterer holds a degree in business administration from the University of Passau, Germany.

- **Simon Clifford, CUO Life & Health**

Simon Clifford is a member of PartnerRe's Executive Leadership Team and has executive responsibility for the Company's Life and Health underwriting functions. He brings over 25 years of experience in life insurance, with deep experience in actuarial and financial analysis and management. Prior to joining PartnerRe in 2020, Mr. Clifford was with Zurich Insurance Group, where he most recently held the position of Head of Life Legacy UK for Zurich UK Life. Prior to that, he held various positions, including Global Head of Life Technical Excellence, Global Head of Proposition Management and CFO of Zurich International Life. Simon is an actuary and graduated with a Bachelor's degree in mathematics and a Master's degree in applied statistics from the University of Oxford.

- **Andrew Hughes, CEO Third Party Capital**

Andrew Hughes is a member of PartnerRe's Executive Leadership Team and has executive responsibility for the Company's third-party capital business initiatives. Mr. Hughes has over 12 years of experience in investment management. Mr. Hughes joins PartnerRe from Hiscox ILS, where he held various roles between 2015 and 2020, initially as General Counsel and Chief Compliance Officer and most recently as Managing Principal where he was responsible for strategy and operations of the Hiscox ILS platform. Prior to that, he was counsel as QIC Limited, an Australian diversified alternatives asset manager, and various international law firms. Mr. Hughes is a triple qualified attorney (England & Wales; Queensland, Australia; Bermuda) with a background in insurance linked securities, alternative asset management, banking securitization and structured finance. Mr. Hughes holds a B.A. in Law and Information from the University of Exeter, England.

- **Gerd Maxl, Chief Legal Counsel**

Gerd Maxl is a member of PartnerRe's Executive Leadership Team and has overall responsibility for the legal and compliance functions of the Company. Mr. Maxl has more than 17 years of experience in life and non-life (re)insurance. Mr. Maxl joined the Company in November 2012 as General Counsel Global looking after PartnerRe's legal and compliance matters outside of Bermuda and North America and was promoted to Chief Legal Counsel in August 2017. Prior to joining PartnerRe, Mr. Maxl was an associate in a law firm in Switzerland and thereafter worked for over nine years for the Zurich Insurance Group in a number of positions in Switzerland and the U.S. Mr. Maxl has a law degree from the University of Basel, Switzerland and was admitted to the bar in Switzerland in 2001.

The Directors referred to above as "Independent" are considered independent in accordance with the definition of the applicable NYSE and SEC Rules.

B. Compensation

Executive Compensation

Executive compensation is comprised of salary, annual incentives, long-term incentive and other benefits. The long-term incentive (LTI) program consists of awards either in the form of deferred cash or restricted Class B common shares (Class B shares) issued to certain executives.

For the year ended December 31, 2020, the Company recorded compensation expense of \$31 million paid or payable to executives as a form of cash compensation. In addition, for the year ended December 31, 2020, certain executives were granted restricted Class B shares and the Company recorded compensation expense of \$9 million related to Class B shares held by certain executives.

The compensation expense for restricted Class B shares granted to executives is recognized at fair value over the restriction period of up to three years from date of grant. See Note 13 to the Consolidated Financial Statements in Item 18 of this report for further details. See also Item 6.E below for details of share ownership related to the Class B shares and Item 10.D regarding restrictions on share transfers.

Director Compensation

The Company paid approximately \$1 million in cash as compensation to non-executive directors of the Company for their services as directors in 2020. For the year ended December 31, 2020, certain non-executive directors of the Company were issued Class B shares and the Company recorded compensation expense of less than \$1 million related to these shares. Executive directors do not receive any compensation for their services as directors. All directors are reimbursed for travel and other related expenses personally incurred while attending Board or committee meetings.

See Note 13 to the Consolidated Financial Statements in Item 18 of this report for further details. See also Item 6.E below for details of share ownership related to the Class B shares and Item 10.D regarding restrictions on share transfers.

C. Board Practices

The Board currently consists of five directors (see Item 6.A above for details). The current Board have been elected to serve until the next Annual General Meeting of the Company or until their respective successors are appointed. As provided in our Bye-Laws, the number of Directors shall be such number not less than three as the Company by resolution may, from time to time, determine (see also Item 10.B for the details of the Company's Bye-laws).

There are no service contracts between the Company and any of the Company's directors providing for benefits upon termination of their employment or service.

Audit Committee

The Board has established an Audit Committee comprised of Mr. Dowd (Chairman), Ms. Brown and Mr. Pohlchristoph who are independent in accordance with the definition of the applicable NYSE and SEC Rules. Ms. Brown is designated as the Audit Committee financial expert as noted in Item 16A of this report.

Pursuant to its charter, the Audit Committee's primary responsibilities are to assist Board oversight of:

- the integrity of PartnerRe's financial statements;
- PartnerRe's compliance with legal and regulatory requirements;
- the Company's system of internal controls;
- the qualifications and independence of the external auditors; and
- the performance of the Company's internal and external audit functions.

The Audit Committee regularly meets with management, the Chief Audit Officer and the Company's independent registered public accounting firm to review matters relating to the quality of financial reporting and internal accounting controls, including the nature, extent and results of their audits.

Underwriting and Risk Committee

The Board, in 2019, established an Underwriting and Risk Committee. The URC is comprised of Ms. Brown (Chair), Mr. Bonneau and Mr. Dowd.

The purpose of the URC, as per its charter, is to review the Company's (i) policies, guidelines and processes relating to the underwriting of reinsurance risks and assumption of investment risks and (ii) Enterprise Risk Management Framework. The URC meets regularly with management.

Investment Committee

The Board, in November 2020, established an Investment Committee. The Investment Committee is comprised of Mr. Dowd (Chair) and Mr. Bonneau. It is the intent of the Board to appoint Mr. Vellano as a member of the Investment Committee.

The purpose of the Investment Committee is to (i) consider and advise the Board on certain investment matters that the Board and the Investment Committee each believe are more appropriately considered by the Investment Committee rather than the Board and (ii) discuss appropriate practices for the Company, including the Company's policies, guidelines, performance, risk management and processes relating to the investment operations undertaken by the Company.

D. Employees

The Company had 1,078 employees at December 31, 2020. The following table shows the breakdown of the number of employees by geographic location as of December 31, 2020, 2019 and 2018:

Geographic location	December 31, 2020	December 31, 2019	December 31, 2018
Asia, Australia and New Zealand	77	62	50
Europe	580	551	541
Latin America, Caribbean and Africa	5	4	5
North America	416	391	362
Total	1,078	1,008	958

In addition to the above, the Company employed an average of 50 temporary employees during 2020.

The increase in the number of employees in 2020 compared to 2019 and 2018 was primarily driven by growth in the Life and Health segment.

E. Share ownership

As more fully described in section B. Compensation above, and in Note 13 to the Consolidated Financial Statements in Item 18 of this report, the Company has designated, granted and issued Class B shares to certain executives and directors of the Company.

As of February 25, 2021, 100,000,000 Class A common shares are held by EXOR Nederland N.V. and 274,664 Class B shares are held by certain executive officers and directors of the Company, either by grant of restricted or by purchase of unrestricted Class B shares.

The Class B shares issued and outstanding represent less than 0.3% of the beneficial ownership and voting rights of the Company as of February 25, 2021.

Except as otherwise required by law or the Certificate of Designation, or any sub-plan or addendum thereto, holders of Class B shares have the same voting rights as the holders of Class A common shares.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. Major Shareholders

As more fully described in Note 1 to the Consolidated Financial Statements in Item 18 of this report, 100% of the Company's Class A shares are owned by EXOR Nederland N.V.

B. Related Party Transactions

As at December 31, 2020 and 2019, EXOR Nederland N.V. held 100% of the Class A shares and more than 99% of the total voting shares (Class A and Class B) of the Company and therefore has the power to make decisions that impact the Company.

The Company has entered into certain related party transactions as disclosed in Notes 9 and 17 to the Consolidated Financial Statements in Item 18 of this report.

C. Interests of Experts and Counsel

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. Consolidated Statements and Other Financial Information

See the Consolidated Financial Statements, Notes to the Consolidated Financial Statements and Financial Statements Schedules in Item 18 of this report.

B. Significant Changes

See Note 19 to the Consolidated Financial Statements in Item 18 for a disclosure of events subsequent to year end and prior to the date of filing.

ITEM 9. THE OFFER AND LISTING

A. Offer and Listing Details

The Company's common shares are no longer listed as a result of the acquisition by EXOR N.V. in March 2016. The Company's preferred shares are listed on the NYSE under the symbols PRE-G, PRE-H, and PRE-I. Refer to Note 10 to the Consolidated Financial Statements in Item 18 of this report for further details.

B. Plan of Distribution

Not applicable.

C. Markets

Each series of the Company's preferred shares is listed and traded on the NYSE. The 6.50% Series G Cumulative Preferred Shares, the 7.25% Series H Cumulative Preferred Shares and the 5.875% Series I Non-Cumulative Preferred Shares began trading on May 6, 2016. The 5.875% Series F Non-Cumulative Preferred Shares, which began trading on February 19, 2013, were fully redeemed on October 22, 2020.

D. Selling Shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the Issue

Not applicable.

ITEM 10. ADDITIONAL INFORMATION

A. Share Capital

Not applicable.

B. Memorandum and Articles of Association

The Company's Amended Memorandum of Association has been filed as exhibit 3.1 to Form F-3 (File No. 333-7094) filed with the SEC on June 20, 1997, and is hereby incorporated by reference into this Annual Report.

The Company's amended Bye-Laws were adopted on December 19, 2019, and have been filed as exhibit 1.2 to the Company's Annual Report on Form 20-F (File No. 001-14536) filed with the SEC on March 2, 2020, and are hereby incorporated by reference into this Annual Report.

Corporate Registration and Objectives

PartnerRe Ltd. is incorporated under the laws of Bermuda. The Company is registered at the Bermuda Registrar of Companies under registration number 18620. The objects and powers of the Company are set forth in the Memorandum of Association of the Company.

Board of Directors

The Companies Act authorizes the directors of a company, subject to its bye-laws, to exercise all powers of the company except those that are required by the Companies Act or its bye-laws to be exercised by the shareholders. The Company's Bye-Laws provide that its business is to be generally managed and conducted by the Board and that the Board shall be such number not less than three as the Company by resolution may, from time to time, determine. The Directors shall be elected or appointed at the Annual General Meeting, at any Special General Meeting called for that purpose or by Resolution. Directors shall hold office for such term as the Shareholders may determine or, in the absence of such determination, until the next Annual General Meeting or until their successors are elected or appointed or their office is otherwise vacated.

Under the Insurance Act, the Company must serve notice to the BMA of the fact that any person has become or ceased to be a director or officer of the Company. Such notice shall be served before the end of forty-five days beginning with the day on which the designated insurer becomes aware of the relevant facts.

Under the Company's Bye-Laws and subject to the Companies Act, a Director is not prohibited from being a party to or otherwise have an interest in, any transaction or arrangement with the Company or in which the Company is otherwise interested. A Director who has complied with the Companies Act and with the Company's Bye-Laws with regard to declaring the nature of his interest in a transaction or arrangement with the Company, or in which the Company is otherwise interested, may be counted in the quorum and vote at any meeting at which such transaction or arrangement is considered by the Board.

In addition to its powers granted under Bye-Law 27, the Majority Common Shareholder for and on behalf of the Company may provide benefits, whether by the payment of gratuities or pensions or otherwise, for any person including any Director or former Director who has held any executive office or employment with the Company or with any body corporate which is or has been a subsidiary or Affiliate of the Company or a predecessor in the business of the Company or of any such subsidiary or Affiliate, and to any member of his family or any person who is or was dependent on him, and may contribute to any fund and pay premiums for the purchase or provision of any such gratuity, pension or other benefit, or for the insurance of any such person.

The Company may in a Special General Meeting called for that purpose remove a Director, provided notice of any such meeting shall be served upon the Director concerned not less than fourteen (14) days before such meeting and s/he shall be entitled to be heard at such meeting. The Shareholders may authorize the Directors to fill any vacancy in their number, from time to time.

Under the Company's Bye-Laws the quorum necessary for the transaction of the business of the Board may be fixed by the Board and, unless so fixed at any other number, shall be three (3) individuals and requires the presence of at least one Majority Shareholder Director Designee for so long as the Board consists of at least one Majority Shareholder Director Designee. Any Director who ceases to be a Director at a meeting of the Board may continue to be present and to act as a Director and be counted in the quorum until the termination of the meeting if no other Director objects and if otherwise a quorum of Directors would not be present.

A resolution in writing signed by all the Directors for the time being entitled to receive notice of a meeting of the Board shall be valid and effectual as a resolution passed at a meeting of the Board.

A meeting of the Board or a committee appointed by the Board may be held by means of such telephone, electronic or other communication facilities (including, without limiting the generality of the foregoing, by telephone or by video conferencing) as to permit all persons participating in the meeting to communicate with each other simultaneously and instantaneously and participation in such a meeting shall constitute presence in person at such meeting. Such a meeting shall be deemed to take place where the largest group of those Directors participating in the meeting is physically assembled, or, if there is no such group, where the chairman of the meeting then is.

Among the powers of the Company which the Board may exercise, the Board is allowed to borrow money and to mortgage or charge all or any part of the undertaking, property and assets (present and future) and uncalled capital of the Company. The Board may also issue debentures and other securities (whether outright or as collateral security for any debt, liability or obligation of the Company or of any other persons).

Bermuda law provides that the Directors owe a fiduciary duty to the Company to act in good faith in their dealings with or on behalf of the Company and exercise their powers and fulfill the duties of their office honestly. This duty includes the following essential elements:

- a duty to act in good faith in the best interests of the Company;
- a duty not to make a personal profit from opportunities that arise from the office of director;
- a duty to avoid situations in which there is an actual or potential conflict between a personal interest or the duties owed to third parties and/or the Director's duty to the Company; and
- a duty to exercise powers for the purpose for which such powers were intended.

The Companies Act imposes a duty on the Directors and Officers to:

- act honestly and in good faith with a view to the best interests of the Company; and
- exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances.

The Companies Act also imposes various duties on the Directors and Officers with respect to certain matters of management and administration of the Company.

Under Bermuda law, the Directors and Officers generally owe fiduciary duties to the Company itself, not to the Company's individual shareholders, members, or creditors.

Shares and Share Rights

Subject to any special rights conferred on the holders of any Share or class of Shares, any Share in the Company may be issued with or have attached thereto such preferred, deferred, qualified or other special rights or such restrictions, whether in regard to dividend, voting, return of capital or otherwise, as the Board may determine.

Subject to the general provisions of Bermuda law, the Board may, at its discretion and without the sanction of a Resolution, authorize the acquisition by the Company of its own Shares, of any class, at any price (whether at par or above or below par). Under Bermuda law, the Company must pay for such share purchases out of capital paid-up for these shares, out of funds that would otherwise be available for a dividend or distribution or out of proceeds of the issue of additional shares for the purpose of the purchase. However, to the extent that any premium over the par value is payable on the purchase, the premium must be provided out of funds that would otherwise be available for a dividend or distribution or out of the Company's share premium account.

Any Shares to be purchased may be selected in any manner whatsoever, to be either cancelled or held as Treasury Shares, upon such terms as the Board may in its discretion determine, provided always that such acquisition is effected in accordance with the provisions of the Companies Act. The whole or any part of the amount payable on any such acquisition may be paid or satisfied otherwise than in cash, to the extent permitted by the Companies Act.

As provided in our Bye-Laws and subject to the Companies Act, all or any of the special rights for the time being attached to any class of Shares for the time being issued may from time to time (whether or not the Company is being wound up) be altered or abrogated with the consent in writing of the holders of not less than seventy five percent (75%) of the issued Shares of that class or with the sanction of a resolution passed at a separate general meeting of the holders of not less than seventy five percent (75%) of the issued Shares of that class, voting in person or by proxy. To any such separate general meeting, all the provisions of these Bye-Laws as to general meetings of the Company shall mutatis mutandis apply, but so that the necessary quorum shall be two (2) or more persons holding or representing by proxy any of the Shares of the relevant class, that every holder of Shares of the relevant class shall be entitled on a poll to one vote for every such Share held by him and that any holder of Shares of the relevant class

present in person or by proxy may demand a poll; provided however, that if the Company or a class of Shareholders shall have only one Shareholder, one Shareholder present in person or by proxy shall constitute the necessary quorum.

Subject to Bermuda law and except insofar as the rights attaching to, or the terms of issue of, any Share otherwise provide, the Board may from time to time declare dividends or distributions out of contributed surplus to be paid to the Shareholders according to their rights and interests, including such interim dividends as appear to the Board to be justified by the position of the Company. The Board, in its discretion, may determine that any dividend shall be paid in cash or shall be satisfied, subject to the Bye-Laws, in paying up in full Shares in the Company to be issued to the Shareholders credited as fully paid or partly paid or partly in one way and partly the other. The Board may also pay any fixed cash dividend which is payable on any Shares of the Company half yearly or on such other dates, whenever the position of the Company, in the opinion of the Board, justifies such payment.

The Board may from time to time resolve to capitalize all or any part of any amount for the time being standing to the credit of any reserve or fund which is available for distribution or to the credit of any Share premium account and accordingly that such amount be set free for distribution amongst the Shareholders or any class of Shareholders who would be entitled thereto.

If the Company shall be wound up, the liquidator may, with the sanction of a Resolution of the Company and any other sanction required by the Companies Act, divide amongst the Shareholders in specie or kind the whole or any part of the assets of the Company (whether they shall consist of property of the same kind or not) and may for such purposes set such values as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the Shareholders or different classes of Shareholders. The liquidator may, with the like sanction, vest the whole or any part of such assets in trustees upon such trust for the benefit of the contributories as the liquidator, with the like sanction, shall think fit, but so that no Shareholder shall be compelled to accept any Shares or other assets upon which there is any liability.

See Notes 10 and 13 to the Consolidated Financial Statements in Item 18 of this report for details of rights, preferences and restrictions attached to common and preferred shares.

General Meetings of Shareholders and Voting Rights

If required under the Companies Act, the Board shall convene and the Company shall hold general meetings as Annual General Meetings in accordance with the requirements of the Companies Act at such times and places as the Board shall appoint or, if requested in writing signed by the Majority Common Shareholder, at such times and places as the Majority Common Shareholder shall request. The Board may, whenever it thinks fit, and shall, when required by the Companies Act or when requested by the Majority Common Shareholder, convene general meetings other than Annual General Meetings which shall be called Special General Meetings, at such time and place as the Board may appoint or, if requested in writing signed by the Majority Common Shareholder, at such time and place as the Majority Common Shareholder shall request. Except as required by the Companies Act or when requested by the Majority Common Shareholder, Special General Meetings may not be called by any person other than the Board. Save where a greater majority is required by the Companies Act or the Bye-Laws, any question proposed for consideration at any general meeting shall be decided on by a simple majority of votes cast.

Except in the case of the removal of auditors or Directors, anything which may be done by resolution of the Shareholders in general meeting or by resolution of any class of Shareholders in a separate general meeting may be done by resolution in writing. Any such Resolution shall be signed by such number of Shareholders (or the holders of such class of Shares) as would be required if the Resolution had been voted on at a meeting of Shareholders or, all the Shareholders, or such other majority of the Shareholders as may be provided by the Bye-Laws. Such resolution in writing may be signed by the Shareholder or its proxy, or in the case of a Shareholder that is a corporation (whether or not a company within the meaning of the Companies Act) by its representative on behalf of such Shareholder, in as many counterparts as may be necessary.

Under our Bye-Laws should any person (other than EXOR or any member of the Exor Group) be a Ten Percent Shareholder, notwithstanding any provision to the contrary in these Bye-Laws, the votes conferred by the Controlled Shares of such person are hereby reduced (and shall be automatically reduced in the future) by whatever amount is necessary so that after any such reduction such person shall not be a Ten Percent Shareholder. Notwithstanding the foregoing, the Board may waive the restrictions in its discretion and on a case by case basis.

Mergers and Amalgamations

Subject to the Companies Act and pursuant to our Bye-Laws, in addition to the approval of the Board, any resolution proposed for consideration at any general meeting to approve the amalgamation or merger of the Company with any other company, wherever incorporated, shall require the approval of a simple majority of votes cast at such meeting. A poll may be demanded in respect of such resolution in accordance with the Bye-Laws. Under Bermuda law, in the event of an amalgamation or a merger of a Bermuda Company with another, a shareholder of the Bermuda company who has not voted in favor of the amalgamation or merger and is not satisfied that a fair value has been offered for such shareholder's shares, may apply to the Supreme Court of Bermuda, within one month's notice of the special general meeting, to appraise the fair value of the shares.

Changes in Capital

Subject to the Companies Act, Bye-Laws and Amended Memorandum of Association, the Company may from time to time by Resolution authorize the reduction of its issued Share Capital or any Share premium account.

C. Material Contracts

Refer to Note 9 to the Consolidated Financial Statements in Item 18 of this report for information on the Company's debt issuances.

D. Exchange Controls

Securities may be offered or sold in Bermuda only in compliance with the provisions of the Companies Act, Investment Business Act 2003, and the Exchange Control Act 1972 and related regulations, each as amended, which regulate the sale of securities in Bermuda. In particular, specific permission is required from the BMA, pursuant to the provisions of the Exchange Control Act 1972 and related regulations (Exchange Control Act), for all issuances and transfers of securities of Bermuda companies, other than in cases where the BMA has granted a general permission. The BMA, in its policy dated June 1, 2005, provides that where any equity securities of a Bermuda company are listed on an appointed stock exchange (the NYSE is deemed to be an appointed stock exchange under Bermuda law), general permission is given for the issue and subsequent transfer of any equity securities of such company from and/or to a non-resident of Bermuda, for as long as any equity securities of the company remain so listed. Our common shares are not listed on the NYSE, and accordingly, the general permission will not apply to them.

The BMA has, however, granted us permission for the issue, sale and transfer of up to 20% of any security as defined in the Exchange Control Act including (without limitation) the grant or creation of options, warrants, coupon, rights and depository receipts (collectively, Securities) to and among persons who are resident of Bermuda for exchange control purposes, whether or not the Securities are listed on an appointed stock exchange.

Under the Insurance Act, where the shares of the insurer or the shares of its parent company are not traded on any stock exchange, no person shall become a 10%, 20%, 33% or 50% shareholder controller of the insurer unless (a) he has served on the BMA a notice in writing that he intends to become a controller of the insurer and (b) either the BMA has, before the end of the period of 45 days beginning with the date of service of that notice, notified him in writing that there is no objection to his becoming such a controller of the insurer or that period has elapsed without the BMA having served him with a written notice of objection to his becoming such as controller of the insurer. Likewise, no person who is a shareholder controller shall reduce or dispose of his holding in the insurer where the proportion of the voting rights held by the shareholder controller in the insurer will reach or fall below 10%, 20%, 33% or 50% as the case may be unless that shareholder controller has served on the BMA a notice in writing not later than 45 days of such disposal. As described herein, our Bye-Laws contain restrictions on the transfer of shares that generally would have the effect of prohibiting any shareholder, other than EXOR or any member of the Exor Group, from owning 10% or more of our common shares.

Any person or entity who contravenes the Insurance Act by failing to give notice or knowingly becoming a controller of any description before the required 45 days has elapsed is guilty of an offense under Bermuda law and liable to a fine of \$25,000 on summary conviction.

The BMA may file a notice of objection to any person or entity who has become a controller of any category when it appears that such person or entity is not, or is no longer, fit and proper to be a controller of the registered insurer. Before issuing a notice of objection, the BMA is required to serve upon the person or entity concerned a preliminary written notice stating the BMA's intention to issue formal notice of objection. Upon receipt of the preliminary written notice, the person or entity served may, within 28 days, file written representations with the BMA which shall be taken into account by the BMA in making its final determination. Any person or entity who continues to be a controller of any description after having received a notice of objection is guilty of an offense and liable on summary conviction to a fine of \$25,000 (and a continuing fine of \$500 per day for each day that the offense is continuing) or, if convicted on indictment, to a fine of \$100,000 and/or 2 years in prison.

E. Taxation

PartnerRe Ltd. and PartnerRe Bermuda are not subject to income or profits tax, withholding tax, capital gains tax or capital transfer tax in Bermuda. See Business Overview—Taxation of the Company and its Subsidiaries in Item 4.B for further details.

F. Dividends and Paying Agents

Not applicable.

G. Statement by Experts

Not applicable.

H. Documents on Display

We maintain a website at <http://www.partnerre.com>. The information on our website is not incorporated by reference to this Annual Report on Form 20-F. We make available, free of charge through our website, our Annual Reports on Form 20-F as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the U.S. Securities and Exchange Commission (SEC). Filings with the SEC are also available to the public from commercial document retrieval services, and from the website maintained by the SEC at <http://www.sec.gov>.

I. Subsidiary Information

Not applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Overview

Management believes that the Company is principally exposed to six types of market related risks: interest rate risk, credit spread risk, foreign currency risk, counterparty credit risk, equity price risk and real estate price risk. How these risks relate to the Company, and the process used to manage them, is discussed below.

The Company's investment philosophy distinguishes between assets that are generally matched against the estimated net reinsurance liabilities (liability funds) and those assets that represent shareholder capital (capital funds). The Company manages the duration and currency composition of its assets to mitigate the impact of changes in interest rates and foreign exchange rates.

The Company's capital funds are invested primarily in U.S. dollar denominated investments, reducing foreign currency risk. In considering the market risk of capital funds, it is important to recognize the benefits of portfolio diversification. Although these asset classes in isolation may introduce more risk into the portfolio, market forces have a tendency to influence each class in different ways and at different times. Consequently, the aggregate risk introduced by a portfolio of these assets should be less than might be estimated by summing the individual risks.

Although the focus of this discussion is to identify risk exposures that impact the market value of assets alone, it is important to recognize that the risks discussed herein are significantly mitigated to the extent that the Company's investment strategy allows market factors to influence the economic valuation of assets and liabilities in a way that is generally offsetting.

As described above in this report, the Company's investment strategy allows the use of certain derivative investments, subject to strict limitations. The Company also imposes a high standard for the credit quality of counterparties in all derivative transactions and aims to diversify its counterparty credit risk exposure. See Note 5 to the Consolidated Financial Statements in Item 18 of this report for additional information related to derivatives.

The following addresses those areas where the Company believes it has exposure to material market risk in its operations.

Interest Rate Risk

The Company's fixed income portfolio, including the fixed maturity portfolio and corporate loan portfolio, is exposed to interest rate risk. Fluctuations in interest rates have a direct impact on the market valuation of these securities. The Company manages interest rate risk by constructing bond portfolios in which the economic impact of a general interest rate shift on invested assets is comparable to the impact on the liabilities. This process mitigates the overall net interest rate risk on an economic basis.

The Company's liabilities are carried at their nominal value, and are not adjusted for changes in interest rates, with the exception of certain policy benefits for life and annuity contracts and deposit liabilities that are interest rate sensitive. However, substantially all of the Company's invested assets are carried at fair value, which reflects such changes. As a result, an increase in interest rates will result in a decrease in the fair value of the Company's investments and a corresponding decrease, net of applicable taxes, in the Company's shareholders' equity. A decrease in interest rates would have the opposite effect.

At December 31, 2020 and 2019, the Company held approximately \$4,717 million and \$3,185 million, respectively, of mortgage/asset-backed securities. These assets are exposed to prepayment risk, the adverse impact of which is more evident in a

declining interest rate environment. For further details on the increase in mortgage-backed securities, refer to Liquidity and Capital Resources—Investments in Item 5.

At December 31, 2020 and 2019, the fair value of investments exposed to interest rate risk was \$15,994 million and \$14,284 million, respectively.

At December 31, 2020 and 2019, the Company estimates that the hypothetical case of an immediate 100 basis points or 200 basis points parallel shift in global bond curves would result in a change in the fair value of investments exposed to interest rate risk, total invested assets and shareholders' equity as follows (in millions of U.S. dollars, except percentages):

	-200 Basis Points	% Change	-100 Basis Points	% Change	December 31, 2020	+100 Basis Points	% Change	+200 Basis Points	% Change
Fair value of investments exposed to interest rate risk ⁽¹⁾	\$ 16,773	5 %	\$ 16,430	3 %	\$ 15,994	\$ 15,468	(3)%	\$ 14,850	(7)%
Total invested assets ⁽²⁾	\$ 20,956	4 %	\$ 20,613	2 %	\$ 20,178	\$ 19,651	(3)%	\$ 19,033	(6)%
Shareholders' equity	\$ 8,105	11 %	\$ 7,762	6 %	\$ 7,327	\$ 6,801	(7)%	\$ 6,183	(16)%

	-200 Basis Points	% Change	-100 Basis Points	% Change	December 31, 2019	+100 Basis Points	% Change	+200 Basis Points	% Change
Fair value of investments exposed to interest rate risk ⁽¹⁾	\$ 15,062	5 %	\$ 14,684	3 %	\$ 14,284	\$ 13,883	(3)%	\$ 13,481	(6)%
Total invested assets ⁽²⁾	\$ 18,689	4 %	\$ 18,311	2 %	\$ 17,911	\$ 17,510	(2)%	\$ 17,109	(5)%
Shareholders' equity	\$ 8,048	11 %	\$ 7,670	6 %	\$ 7,270	\$ 6,869	(6)%	\$ 6,467	(11)%

(1) Includes fixed maturity securities, short-term investments, certain other invested assets, certain cash and cash equivalents and funds holding fixed income securities.

(2) Includes total investments, cash and cash equivalents and accrued interest.

The changes do not take into account any potential mitigating impact from the equity market, taxes or the corresponding change in value of the Company's reinsurance liabilities, which would substantially offset the economic impact on invested assets, although the offset would not be reflected in the Consolidated Balance Sheet.

The impacts of an immediate change in interest rates on the fair value of investments exposed to interest rate risk, the Company's total invested assets and shareholders' equity, in both absolute terms and as a percentage of total invested assets and shareholders' equity, at December 31, 2020 is higher or equal to the impacts at December 31, 2019, driven by an increase in average duration of the investment portfolio.

The Company manages its net foreign currency exposures to major currencies. The exact market value effect of a change in interest rates will depend on which countries experience interest rate changes and the foreign currency mix of the Company's fixed maturity portfolio at the time of the interest rate changes. See Foreign Currency Risk below.

Interest rate movements also affect the economic value of the Company's outstanding debt obligations and preferred securities in the same way that they affect the Company's fixed maturity investments. This can result in a liability whose economic value is different from the carrying value reported in the Consolidated Balance Sheet, given the Company records the carrying value of its outstanding debt obligations at the original issued principal amount. For the Company's preferred shares, fair value is based on quoted market prices, while carrying value is based on the aggregate liquidation value of the shares. See Notes 3(b) and 9 to the Consolidated Financial Statements in Item 18 of this report for further details regarding the fair value of debt. See also Note 10 to the Consolidated Financial Statements in Item 18 of this report for further details regarding preferred shares.

Credit Spread Risk

The Company's fixed income portfolio, including the fixed maturity portfolio and corporate loan portfolio, is exposed to credit spread risk. Fluctuations in market credit spreads have a direct impact on the market valuation of these securities. The Company manages credit spread risk by the selection of securities within its fixed maturity portfolio. Changes in credit spreads directly affect the market value of certain fixed maturity securities, but do not necessarily result in a change in the future expected cash flows associated with holding individual securities. Other factors, including liquidity, supply and demand, and changing risk preferences of investors, may affect market credit spreads without any change in the underlying credit quality of the security.

As with interest rates, changes in credit spreads impact the shareholders' equity of the Company as invested assets are carried at fair value, which includes changes in credit spreads. As a result, an increase in credit spreads will result in a decrease in the fair

value of the Company's investments and a corresponding decrease, net of applicable taxes, in the Company's shareholders' equity. A decrease in credit spreads would have the opposite effect.

At December 31, 2020 and 2019, the fair value of investments exposed to credit spread risk was \$12,970 million and \$11,349 million, respectively. This represents a portion of investments exposed to interest rate risk as discussed above as it excludes certain government securities that are not considered to be sensitive to credit spread risk.

At December 31, 2020 and 2019, the Company estimates that the hypothetical case of an immediate 100 basis points or 200 basis points parallel shift in global credit spreads would result in a change in the fair value of investments exposed to credit spread risk, total invested assets and shareholders' equity as follows (in millions of U.S. dollars, except percentages):

	-200 Basis Points	% Change	-100 Basis Points	% Change	December 31, 2020	+100 Basis Points	% Change	+200 Basis Points	% Change
Fair value of investments exposed to credit spread risk ⁽¹⁾	\$ 13,652	5 %	\$ 13,361	3 %	\$ 12,970	\$ 12,479	(4)%	\$ 11,889	(8)%
Total invested assets ⁽²⁾	\$ 20,860	3 %	\$ 20,569	2 %	\$ 20,178	\$ 19,687	(2)%	\$ 19,097	(5)%
Shareholders' equity	\$ 8,009	9 %	\$ 7,718	5 %	\$ 7,327	\$ 6,836	(7)%	\$ 6,246	(15)%

	-200 Basis Points	% Change	-100 Basis Points	% Change	December 31, 2019	+100 Basis Points	% Change	+200 Basis Points	% Change
Fair value of investments exposed to credit spread risk ⁽¹⁾	\$ 12,077	6 %	\$ 11,714	3 %	\$ 11,349	\$ 10,983	(3)%	\$ 10,617	(6)%
Total invested assets ⁽²⁾	\$ 18,640	4 %	\$ 18,276	2 %	\$ 17,911	\$ 17,546	(2)%	\$ 17,179	(4)%
Shareholders' equity	\$ 7,998	10 %	\$ 7,635	5 %	\$ 7,270	\$ 6,905	(5)%	\$ 6,538	(10)%

(1) Includes certain fixed maturity securities, certain short-term investments, certain other invested assets, certain cash and cash equivalents and funds holding fixed income securities.

(2) Includes total investments, cash and cash equivalents and accrued interest.

The changes above also do not take into account any potential mitigating impact from the taxes, which may offset the economic impact on invested assets.

The impacts of an immediate decrease in credit spreads on the fair value of investments exposed to credit spread risk, the Company's total invested assets and shareholders' equity, as a percentage of total invested assets and shareholders' equity, at December 31, 2020 is lower than or equal to the impacts at December 31, 2019, while the impact of an immediate increase in credit spreads at December 31, 2020 is greater than or equal to the impacts at December 31, 2019. The asymmetric impacts observed are mainly due to negative average convexity of credit spread sensitive investments.

Foreign Currency Risk

Through its multinational reinsurance operations, the Company conducts business in a variety of non-U.S. currencies, with the principal exposures being the Euro, Canadian dollar, Swiss franc, British pound and Japanese yen. As the Company's reporting currency is the U.S. dollar, foreign exchange rate fluctuations that are not hedged may materially impact the Company's Consolidated Financial Statements. For the non-U.S. dollar currencies for which the Company deems the net asset or liability exposures to be material, the Company employs a hedging strategy utilizing foreign exchange forward contracts and other derivative financial instruments, as appropriate, to reduce exposure by currency. The Company does not hedge currencies for which its asset or liability exposures are not material or where it is unable or impractical to do so. In such cases, the Company is exposed to foreign currency risk. However, the Company does not believe that the foreign currency risks corresponding to these unhedged positions are material. Derivatives are included in Other invested assets in the Consolidated Balance Sheets (see Note 5 to the Consolidated Financial Statements in Item 18 of this report for further details).

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The Company's gross and net exposures in its Consolidated Balance Sheets at December 31, 2020 and 2019 to foreign currency as well as the associated foreign currency derivatives the Company has entered into to manage these exposures, were as follows (in millions of U.S. dollars):

December 31, 2020	Euro	CAD	CHF	GBP	JPY ⁽¹⁾	Other	Total ⁽²⁾
Total assets	\$ 2,416	\$ 1,683	\$ 37	\$ 1,819	\$ 731	\$ 1,275	\$ 7,961
Total liabilities	(4,007)	(500)	(283)	(1,794)	(595)	(1,727)	(8,906)
Total gross foreign currency exposure	\$(1,591)	\$ 1,183	\$(246)	\$ 25	\$ 136	\$(452)	\$(945)
Total derivative amount	1,613	(1,171)	—	—	(189)	(2)	251
Net foreign currency exposure	\$ 22	\$ 12	\$(246)	\$ 25	\$(53)	\$(454)	\$(694)

December 31, 2019	Euro	CAD	CHF	GBP	JPY ⁽¹⁾	Other	Total ⁽²⁾
Total assets	\$ 2,244	\$ 1,552	\$ 32	\$ 1,883	\$ 329	\$ 1,325	\$ 7,365
Total liabilities	(3,744)	(500)	(339)	(1,909)	(442)	(1,734)	(8,668)
Total gross foreign currency exposure	\$(1,500)	\$ 1,052	\$(307)	\$(26)	\$(113)	\$(409)	\$(1,303)
Total derivative amount	1,540	(1,049)	—	75	(96)	—	470
Net foreign currency exposure	\$ 40	\$ 3	\$(307)	\$ 49	\$(209)	\$(409)	\$(833)

- (1) The JPY exposure as at December 31, 2020 and 2019 excludes reinsurance assets of approximately \$74 million and \$130 million, respectively, denominated in U.S. dollars for which the underlying value is linked to JPY.
- (2) As the U.S. dollar is the Company's reporting currency, there is no currency risk attached to the U.S. dollar and it is excluded from the above tables. The U.S. dollar accounts for the difference between the Company's total foreign currency exposure and the total assets and total liabilities in the Consolidated Balance Sheets at December 31, 2020 and 2019.

The above numbers include the Company's investment in certain of its subsidiaries, branches and equity method investees, whose functional currencies are the Euro, British pound, and Canadian dollar, and the foreign exchange forward contracts that the Company entered into during the year to hedge a portion of its translation exposure in light of the significant volatility in foreign exchange markets.

At December 31, 2020, and at December 31, 2019, the Company's most significant net foreign currency exposure to the Swiss franc presented in the table above reflects the unhedged net foreign currency exposure to certain liability balances denominated in Swiss franc.

At December 31, 2020, assuming all other variables remain constant and disregarding any tax effects, a change in the U.S. dollar of 10% or 20% relative to all of the other currencies held by the Company simultaneously would result in a change in shareholders' equity of \$69 million and \$139 million, respectively, inclusive of the effect of foreign exchange forward contracts and other derivative financial instruments.

At December 31, 2019, assuming all other variables remain constant and disregarding any tax effects, a change in the U.S. dollar of 10% or 20% relative to all of the other currencies held by the Company simultaneously would result in a change in shareholders' equity of \$83 million and \$167 million, respectively, inclusive of the effect of foreign exchange forward contracts and other derivative financial instruments.

Counterparty Credit Risk

Investments and Cash

The Company has exposure to credit risk primarily as a holder of fixed maturity securities and, to a lesser extent, through its corporate loan portfolio within Other invested assets. The Company controls this exposure by emphasizing investment grade credit quality in the fixed maturity securities it purchases. At December 31, 2020 and 2019, approximately 73% and 74%, respectively, of the Company's fixed maturity portfolio was rated AA (or equivalent rating) or better. Refer to Liquidity and Capital Resources—Investments in Item 5 for further details of the Company's corporate loan portfolio.

At December 31, 2020 and 2019, approximately 85% and 89%, respectively, of the Company's fixed maturity and short-term investments were rated A or better and 5% and 3%, respectively, were rated below investment grade or not rated. The Company believes this high quality concentration reduces its exposure to credit risk on fixed maturity investments to an acceptable level. At December 31, 2020, the Company was not exposed to any significant credit concentration risk on its investments, excluding securities issued by the U.S. and Canada governments which are rated AA+ and AAA, respectively. At December 31, 2020, the

Company held fixed maturity investments in the Canadian government of \$776 million. At December 31, 2019, the Company was not exposed to any significant credit concentration risk on its investments, excluding securities issued by the U.S. government and the World Bank which are rated AA+ and AAA, respectively. At December 31, 2019, the Company held fixed maturity investments in the World Bank of \$1,110 million. At December 31, 2020 and 2019, the single largest corporate issuer accounted for less than 3% and 4%, respectively, and the top 10 corporate issuers accounted for less than 23% and 32%, respectively, of the Company's total corporate fixed maturity securities.

The Company holds cash and cash equivalents in several banks and ensures that there are no significant concentrations of credit risk in any one bank.

Derivatives

The Company also has credit risk exposure as a party to foreign exchange forward contracts and other derivative contracts. The Company's investment strategy allows the use of derivative investments, subject to strict limitations. The Company imposes a high standard for the credit quality of counterparties in all derivative transactions. To mitigate credit risk, the Company monitors its exposure by counterparty, aims to diversify its counterparty credit risk and ensures that counterparties to these contracts are high credit quality international banks or institutions. These contracts are generally of short duration (approximately 90 days) and settle on a net basis, which means that the Company is exposed to the movement of one currency against the other, as opposed to the notional amount of the contracts. At December 31, 2020 and 2019, the Company's net notional exposure of foreign exchange forward contracts was \$3,843 million and \$3,028 million, respectively, while the net fair value of those contracts was a \$3 million liability position and \$1 million liability position at December 31, 2020 and 2019, respectively. See Note 5 to the Consolidated Financial Statements in Item 18 of this report for additional information related to derivatives.

Underwriting Operations

The Company is also exposed to credit risk in its underwriting operations, most notably in the financial risks line. Loss experience in these lines of business is cyclical and is affected by the general economic environment. The Company provides its clients in these lines of business with protection against credit deterioration, defaults or other types of financial non-performance of or by the underlying credits that are the subject of the protection provided and, accordingly, the Company is exposed to the credit risk of those clients. As with all of the Company's business, these risks are subject to rigorous underwriting and pricing standards. In addition, the Company strives to mitigate 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 swaps and total return and interest rate swaps.

The Company is subject to the credit risk of its cedants in the event of their insolvency or their failure to honor the value of the funds held balances due to the Company for any other reason. However, the Company's credit risk in some jurisdictions is mitigated by a mandatory right of offset of amounts payable by the Company to a cedant against amounts due to the Company. In certain other jurisdictions the Company is able to mitigate this risk, depending on the nature of the funds held arrangements, to the extent that the Company has the contractual ability to offset any shortfall in the payment of the funds held balances with amounts owed by the Company to cedants for losses payable and other amounts contractually due. Funds held balances for which the Company receives an investment return based upon either the results of a pool of assets held by the cedant or the investment return earned by the cedant on its investment portfolio are exposed to counterparty credit risk. The Company is also exposed, to some extent, to the underlying financial market risk of the pool of assets, to the extent the underlying policies may have guaranteed minimum returns on GMD business.

The Company has exposure to credit risk as it relates to its business written through brokers if any of the Company's brokers are 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. See Note 18 to the Consolidated Financial Statements in Item 18 of this report of this report for information related to two brokers that accounted for 51% and 50%, respectively, of the Company's gross premiums written for the years ended December 31, 2020 and 2019.

The Company has exposure to credit risk as it relates to its reinsurance balances receivable and reinsurance recoverable on paid and unpaid losses.

Reinsurance balances receivable from the Company's cedants at December 31, 2020 and 2019 were \$3,119 million and \$3,400 million, respectively, including balances both currently due and accrued. The Company believes that credit risk related to these balances is mitigated by several factors, including but not limited to, credit checks performed as part of the underwriting process and monitoring of aged receivable balances. In addition, as the majority of its reinsurance agreements permit the Company the right to

offset reinsurance balances receivable from clients against losses payable to them, the Company believes that the credit risk in this area is substantially reduced. Provisions are made for amounts considered potentially uncollectible and the allowance for uncollectible premiums receivable at December 31, 2020 and 2019 was \$9 million and \$7 million, respectively.

The Company purchases retrocessional reinsurance and requires its reinsurers to have adequate financial strength. The Company evaluates the financial condition of its reinsurers and monitors its concentration of credit risk on an ongoing basis. Provisions are made for amounts considered potentially uncollectible. At December 31, 2020 and 2019, the balance of reinsurance recoverable on paid and unpaid losses was \$901 million and \$889 million respectively, and includes \$818 million and \$771 million, respectively, of reinsurance recoverable on unpaid losses related to the total Non-life and Life and health reserves. At December 31, 2020, the Company recorded an allowance for credit losses of \$3 million on its reinsurance recoverable balance. This compared to no allowance for its reinsurance recoverable balance at December 31, 2019. At December 31, 2020 and 2019, 43% and 36%, respectively, of the Company's reinsurance recoverable on unpaid losses were due from reinsurers with an A- or better rating from Standard & Poor's, and the remaining 57% and 64%, respectively, was collateralized. See Liquidity and Capital Resources—Reinsurance Recoverable on Paid and Unpaid Losses in Item 5 of this report for further details of the Company's reinsurance recoverable on unpaid losses categorized by the reinsurer's Standard & Poor's rating.

Other than the items discussed above, the concentrations of the Company's counterparty credit risk exposures have not changed materially at December 31, 2020 compared to December 31, 2019.

Public Equity Price Risk

The Company invests a portion of its capital funds in public equity securities. At December 31, 2020 and 2019, the fair market value of these securities was \$1,398 million and \$1,223 million, respectively, excluding funds holding fixed income securities of \$98 million and \$72 million at December 31, 2020 and 2019, respectively. These equity investments are primarily mutual funds and are exposed to equity price risk, defined as the potential for loss in market value due to a decline in equity prices. The Company believes that the effects of diversification and the relatively small size of its investments in equities relative to total invested assets mitigate its exposure to equity price risk. At December 31, 2020, the Company estimates that a 10% and 20% movement in the relevant index would result in a change in the fair value of the Company's public equity portfolio, total invested assets and shareholders' equity by \$106 million and \$213 million, respectively and \$23 million and \$47 million, respectively at December 31, 2019. These changes do not take into account any potential mitigating impact from the fixed maturity securities or taxes.

Real Estate Price Risk

The Company invests a portion of its capital funds in real estate assets either through direct investment or through investments in variable interest entities that hold underlying real estate assets as follows:

- Investments in real estate with a carrying value of \$68 million and \$72 million at December 31, 2020 and 2019, respectively, recorded in the Consolidated Balance Sheets
- Equity method investment in Almacantar with a carrying value of \$494 million and \$483 million at December 31, 2020 and 2019, respectively, recorded in Other invested assets in the Consolidated Balance Sheets
- Investments in limited partnerships with underlying real estate assets with a carrying value of \$239 million and \$204 million at December 31, 2020 and 2019, respectively, recorded in Other invested assets in the Consolidated Balance Sheets.

These investments are exposed to real estate market price risk, defined as the potential for loss in market value due to a decline in real estate prices. The Company believes that the effects of diversification and the relatively small size of its investments in real estate assets relative to total invested assets mitigate its exposure to real estate price risk. At December 31, 2020, the Company estimates that a 10% and 20% movement in comparable real estate prices would result in a change in the total carrying value of \$801 million of the Company's real estate asset investments referred to above, total invested assets, and shareholders' equity by \$80 million and \$160 million, respectively. At December 31, 2019, the Company estimates that a 10% and 20% movement in comparable real estate prices would result in a change in the total carrying value of \$759 million of the Company's real estate asset investments referred to above, total invested assets, and shareholders' equity by \$76 million and \$152 million, respectively. These changes do not take into account any potential mitigating impact from taxes.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

Not applicable.

PART II

ITEM 13. DEFAULTS, DIVIDENDS ARREARAGES AND DELINQUENCIES

None.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

None.

ITEM 15. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

The Company carried out an evaluation, under the supervision and with the participation of management, including the CEO and CFO, as of December 31, 2020, of the effectiveness of the Company's disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended. Based upon that evaluation, the CEO and CFO concluded that, as of December 31, 2020, the disclosure controls and procedures are effective such that information required to be disclosed by the Company in reports that it files or submits pursuant to the Securities Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC and is accumulated and communicated to management, including its principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosures.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is designed to provide reasonable assurance regarding the preparation of financial statements for external purposes in accordance with U.S. GAAP.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect material misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management has assessed the effectiveness of internal control over financial reporting as of December 31, 2020. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control-Integrated Framework (2013).

Based on our assessment and those criteria, management believes that the Company maintained effective internal control over financial reporting as of December 31, 2020.

Changes in Internal Control over Financial Reporting

There have been no changes in the Company's internal control over financial reporting that occurred during the year ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, the Company's internal controls over financial reporting.

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

The Company's Board has determined that Ms. Mary Ann Brown is an independent director and audit committee financial expert in accordance with the NYSE listing rules.

ITEM 16B. CODE OF ETHICS

The Audit Committee of PartnerRe Ltd. has adopted the Code of Business Conduct and Ethics, which applies to all directors, officers and employees and is incorporated by reference as exhibit 11.1 to this annual report. Any specific waiver of its provisions requires the approval of the Audit Committee. Any waiver required to be publicly disclosed will be posted on our website at www.partnerre.com within four business days of such waiver being granted. During 2020 and 2021, there were minor updates and revisions to the Code of Business Conduct and Ethics and no disclosable waivers. Any violation to the Code of Business Conduct and Ethics will be investigated and may result in disciplinary action, as appropriate.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The Audit Committee is directly responsible for the appointment, retention, compensation and oversight of the work of the Company’s independent registered public accounting firm. The Audit Committee also pre-approves the audit services and non-audit services to be provided, including the fees for such services, before the public accounting firm is engaged to render such services. The Audit Committee may delegate the authority to grant such approval to one or more designated members of the Audit Committee, provided that the decisions of any member to whom authority is delegated shall be presented to the full Audit Committee at its next meeting. The Audit Committee has sole authority to approve all audit fees and terms. All services of Ernst & Young Ltd. and their respective affiliates (collectively, EY) were pre-approved by the Audit Committee.

During 2020, the Audit Committee had seven meetings to discuss the Company’s quarterly results as well as to receive updates on legal matters, matters relating to internal and external auditors, and other matters as deemed necessary. The meetings, which included informational calls, were conducted to encourage communication among the members of the Audit Committee, management, the internal auditors and EY. The Audit Committee also discussed with EY the overall scope and plans for EY’s audits and the results of such audits. The Audit Committee met with representatives from EY, both with and without management present.

The following table presents fees for professional services rendered by the independent auditors for the years ended December 31, 2020 and 2019 (in U.S. dollars):

	2020	2019
Audit Fees ⁽¹⁾	\$ 5,456,021	\$ 5,181,482
Audit-Related Fees ⁽²⁾	171,530	117,072
Tax Fees ⁽³⁾	363,064	36,247
All Other Fees	11,200	11,200
Total	\$ 6,001,815	\$ 5,346,001

(1) For the years ended December 31, 2020 and 2019, audit fees relate to professional services rendered by EY for the audit of the Company’s annual financial statements and other audit services provided in connection with statutory and regulatory filings.

(2) Audit-related fees are fees for services performed that are reasonably related to the performance of the audit or review of the Company’s financial statements but are not described in (1) above. Audit-related fees in 2020 and 2019 were for services performed by EY related to employee benefit plan audits and comfort letter procedures related to debt issuances. Audit-related fees for 2020 also included agreed upon procedures related to one of the Company’s subsidiaries.

(3) Tax fees in 2020 and 2019 relate to services performed by EY for tax compliance services and on-call advisory.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

None.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

On October 22, 2020, PartnerRe Ltd. filed a Form 25 Notification of Removal From Listing And/Or Registration Under Section 12(b) of the Securities Exchange Act of 1934 to redeem all of its outstanding 5.875% Series F Non-Cumulative Preferred Shares, par value \$1.00 per share. For further details related to the redemption, refer to Note 10 to the Consolidated Financial Statements in Item 18 of this report.

ITEM 16F. CHANGE IN REGISTRANT’S CERTIFYING ACCOUNTANT

None.

ITEM 16G. CORPORATE GOVERNANCE

Pursuant to exemptions available under the NYSE listing standards, as the Company is a foreign private issuer and a controlled company with no common shares listed, we are not required to comply with all of the corporate governance practices followed by U.S. domestic filer companies under the NYSE listing standards. Below is a summary of the significant differences between our corporate governance practices and the NYSE standards applicable to listed U.S. companies that are domestic filers:

- **Nominating/Corporate Governance Committee:** The NYSE requires that listed companies must have a nominating/corporate governance committee composed entirely of independent directors and a committee charter detailing the committee's purpose and responsibilities and an annual performance evaluation of the committee. Under Bermuda law and our Bye-Laws as well as the NYSE exemptions applicable to controlled companies, we are not required to have, and do not have, a separate nominating or corporate governance committee; instead, that function is filled by our full Board.
- **Compensation Committee:** The NYSE requires that listed companies must have a compensation committee composed entirely of independent directors and a committee charter detailing the committee's purpose and responsibilities, an annual performance evaluation of the committee and the rights and responsibilities of the committee with respect to retaining or obtaining advice from an independent adviser. Under Bermuda law and our Bye-Laws, as well as the NYSE exemptions applicable to controlled companies, we are not required to have, and do not have, a separate compensation committee; instead, that function is filled by our full Board, its committees, the Chairman and our CEO.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

PART III

ITEM 17. FINANCIAL STATEMENTS

See Item 18 of this report.

ITEM 18. FINANCIAL STATEMENTS

PartnerRe Ltd.
Consolidated Balance Sheets

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

	December 31, 2020	December 31, 2019
Assets		
Investments:		
Fixed maturities, at fair value (amortized cost: 2020, \$12,341,937; 2019, \$10,468,937)	\$ 12,786,380	\$ 10,680,714
Short-term investments, at fair value (amortized cost: 2020, \$416,059; 2019, \$1,003,508)	416,350	1,003,421
Equities, at fair value (cost: 2020, \$847,066; 2019, \$821,430)	1,496,441	1,295,164
Investments in real estate	67,980	71,834
Other invested assets	2,967,738	3,266,009
Total investments	17,734,889	16,317,142
Cash and cash equivalents	2,350,833	1,484,463
Accrued investment income	92,058	109,673
Reinsurance balances receivable	3,118,870	3,400,070
Reinsurance recoverable on paid and unpaid losses	901,063	889,021
Prepaid reinsurance premiums	115,986	80,942
Funds held by reinsured companies	704,768	815,167
Deferred acquisition costs	819,971	874,608
Deposit assets	139,818	168,067
Net tax assets	182,077	179,813
Goodwill	456,380	456,380
Intangible assets	107,669	117,538
Other assets	174,193	169,521
Total assets	\$ 26,898,575	\$ 25,062,405
Liabilities		
Non-life reserves	\$ 11,395,321	\$ 10,363,383
Life and health reserves	2,704,229	2,417,044
Unearned premiums	2,265,214	2,433,860
Other reinsurance balances payable	482,468	521,338
Debt	1,974,731	1,398,054
Deposit liabilities	5,925	5,507
Net tax liabilities	131,621	135,966
Accounts payable, accrued expenses and other	612,069	517,084
Total liabilities	19,571,578	17,792,236
Shareholders' Equity		
Common shares (par value \$0.00000001; issued and outstanding: 100,000,000 shares)	—	—
Preferred shares (par value \$1.00; issued and outstanding: 2020, 25,489,636 shares; 2019, 28,169,062 shares; aggregate liquidation value: 2020, \$637,241; 2019, \$704,227)	25,490	28,169
Additional paid-in capital	2,334,564	2,396,530
Accumulated other comprehensive loss	(96,005)	(75,925)
Retained earnings	5,062,948	4,921,395
Total shareholders' equity	7,326,997	7,270,169
Total liabilities and shareholders' equity	\$ 26,898,575	\$ 25,062,405

See accompanying Notes to Consolidated Financial Statements.

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

	For the year ended		
	December 31, 2020	December 31, 2019	December 31, 2018
Revenues			
Gross premiums written	\$ 6,875,925	\$ 7,285,320	\$ 6,299,929
Net premiums written	\$ 6,300,858	\$ 6,909,058	\$ 5,803,364
Decrease (increase) in unearned premiums	235,968	(383,840)	(289,554)
Net premiums earned	6,536,826	6,525,218	5,513,810
Net investment income	360,668	448,538	415,921
Net realized and unrealized investment gains (losses)	454,319	886,670	(389,632)
Other income	13,491	15,321	50,127
Total revenues	7,365,304	7,875,747	5,590,226
Expenses			
Losses and loss expenses	5,334,900	4,923,156	4,193,255
Acquisition costs	1,356,118	1,455,462	1,237,464
Other expenses	355,647	369,969	305,568
Interest expense	39,200	40,150	43,152
Loss on redemption of debt	—	15,175	—
Amortization of intangible assets	9,988	11,434	35,473
Net foreign exchange losses (gains)	51,964	86,760	(119,151)
Total expenses	7,147,817	6,902,106	5,695,761
Income (loss) before taxes and interest in earnings of equity method investments	217,487	973,641	(105,535)
Income tax (benefit) expense	(13,091)	52,536	(8,934)
Interest in earnings of equity method investments	23,611	15,643	10,607
Net income (loss)	254,189	936,748	(85,994)
Preferred dividends	45,990	46,416	46,416
Loss on redemption of preferred shares	2,341	—	—
Net income (loss) attributable to common shareholder	\$ 205,858	\$ 890,332	\$ (132,410)
Comprehensive income (loss)			
Net income (loss)	\$ 254,189	\$ 936,748	\$ (85,994)
Change in currency translation adjustment	(5,884)	71,796	(74,797)
Change in unfunded pension obligation, net of tax	(14,383)	(6,803)	24,859
Change in fair value of designated cash flow hedges, net of reclassification adjustment	—	(1,877)	1,877
Change in unrealized gains or losses on investments, net of tax	187	(407)	(292)
Other comprehensive (loss) income	(20,080)	62,709	(48,353)
Comprehensive income (loss)	\$ 234,109	\$ 999,457	\$ (134,347)

The Company's common shares included in shareholders' equity are owned by EXOR Nederland N.V. and are not publicly traded. As such, earnings per share data is not meaningful to present.

See accompanying Notes to Consolidated Financial Statements.

PartnerRe Ltd.
Consolidated Statements of Shareholders' Equity
(Expressed in thousands of U.S. dollars)

	For the year ended		
	December 31, 2020	December 31, 2019	December 31, 2018
Common shares			
Balance at beginning of year	\$ —	\$ —	\$ —
Balance at end of year	—	—	—
Preferred shares			
Balance at beginning of year	28,169	28,169	28,169
Redemption of preferred shares	(2,679)	—	—
Balance at end of year	25,490	28,169	28,169
Additional paid-in capital			
Balance at beginning of year	2,396,530	2,396,530	2,396,530
Redemption of preferred shares	(61,966)	—	—
Balance at end of year	2,334,564	2,396,530	2,396,530
Accumulated other comprehensive loss			
Balance at beginning of year	(75,925)	(138,634)	(90,281)
Currency translation adjustment			
Balance at beginning of year	(59,904)	(131,700)	(56,903)
Change in foreign currency translation adjustment	(5,884)	71,796	(74,797)
Balance at end of year	(65,788)	(59,904)	(131,700)
Unfunded pension obligation			
Balance at beginning of year	(15,988)	(9,185)	(34,044)
Change in unfunded pension obligation, net of tax	(14,383)	(6,803)	24,859
Balance at end of year (net of tax: 2020, \$7,559; 2019, \$4,379; 2018, \$2,479)	(30,371)	(15,988)	(9,185)
Unrealized gain (loss) on investments			
Balance at beginning of year	(33)	2,251	666
Change in fair value of designated cash flow hedges, net of reclassification adjustment	—	(1,877)	1,877
Change in unrealized gains or losses on investments, net of tax	187	(407)	(292)
Balance at end of year (net of tax: 2020, 2019 and 2018: \$nil)	154	(33)	2,251
Balance at end of year	(96,005)	(75,925)	(138,634)
Retained earnings			
Balance at beginning of year	4,921,395	4,230,449	4,410,694
Net income (loss)	254,189	936,748	(85,994)
Dividends on common shares	(50,000)	(199,386)	(47,835)
Dividends on preferred shares	(45,990)	(46,416)	(46,416)
Loss on redemption of preferred shares	(2,341)	—	—
Cumulative effect of adoption of accounting guidance (Note 2)	(14,305)	—	—
Balance at end of year	5,062,948	4,921,395	4,230,449
Total shareholders' equity	\$ 7,326,997	\$ 7,270,169	\$ 6,516,514

See accompanying Notes to Consolidated Financial Statements.

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

	For the year ended		
	December 31, 2020	December 31, 2019	December 31, 2018
Cash flows from operating activities			
Net income (loss)	\$ 254,189	\$ 936,748	\$ (85,994)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Amortization of net premium on investments	34,708	14,478	52,495
Amortization of intangible assets	9,988	11,434	35,473
Net realized and unrealized investment (gains) losses	(454,319)	(886,670)	389,632
Loss on redemption of debt	—	15,175	—
Changes in:			
Reinsurance balances, net	274,506	(397,563)	(427,220)
Reinsurance recoverable on paid and unpaid losses, net of ceded premiums payable	16,026	112,223	(98,086)
Funds held by reinsured companies and funds held—directly managed	175,272	56,890	(23,483)
Deferred acquisition costs	74,871	(128,426)	(98,475)
Net tax assets and liabilities	(23,647)	17,118	(82,247)
Non-life and life and health reserves	944,263	713,281	637,652
Unearned premiums, net of prepaid reinsurance premiums	(235,968)	383,841	289,554
Other net changes in operating assets and liabilities	55,004	150,340	(141,808)
Net cash provided by operating activities	1,124,893	998,869	447,493
Cash flows from investing activities			
Sales of fixed maturities	5,518,588	16,502,655	14,665,938
Redemptions of fixed maturities	1,821,934	738,478	494,148
Purchases of fixed maturities	(8,962,066)	(14,918,698)	(15,638,777)
Sales of short-term investments	3,637,532	1,914,640	224,411
Redemptions of short-term investments	1,971,826	724,033	23,432
Purchases of short-term investments	(5,006,397)	(3,142,818)	(733,431)
Sales of equities	143,932	133,891	89,349
Purchases of equities	(151,292)	(296,687)	(218,751)
Sales and redemptions of other invested assets	1,300,591	330,227	328,924
Purchases of other invested assets	(930,827)	(2,009,452)	(490,797)
Other, net	23,431	(94,263)	(5,357)
Net cash used in investing activities	(632,748)	(117,994)	(1,260,911)
Cash flows from financing activities			
Dividends paid to common and preferred shareholders	(95,990)	(245,802)	(94,251)
Issuance of unrestricted Class B common shares ⁽¹⁾	2,257	1,159	—
Redemption of unrestricted Class B common shares ⁽¹⁾	(5,157)	(6,540)	—
Redemption of preferred shares	(66,985)	—	—
Issuance of debt	494,237	496,012	—
Redemption of debt	—	(512,697)	—
Net cash provided by (used in) financing activities	328,362	(267,868)	(94,251)
Effect of foreign exchange rate changes on cash	45,863	(6,451)	13,564
Increase (decrease) in cash and cash equivalents	866,370	606,556	(894,105)
Cash and cash equivalents—beginning of year	1,484,463	877,907	1,772,012
Cash and cash equivalents—end of year	\$ 2,350,833	\$ 1,484,463	\$ 877,907
Supplemental cash flow information:			
Taxes paid	\$ 64,288	\$ 85,047	\$ 139,543
Interest paid	\$ 33,164	\$ 38,650	\$ 41,551

(1) Class B shares are recorded as a liability on the Company's Consolidated Balance Sheet. See Note 13 for further details.

See accompanying Notes to Consolidated Financial Statements.

PartnerRe Ltd.
Notes to Consolidated Financial Statements

1. Organization

PartnerRe Ltd. provides reinsurance on a worldwide basis through its principal wholly-owned subsidiaries, including Partner Reinsurance Company Ltd. (PartnerRe Bermuda), Partner Reinsurance Europe SE (PartnerRe Europe), Partner Reinsurance Company of the U.S. (PartnerRe U.S.) and Partner Reinsurance Asia Pte. Ltd. (PartnerRe Asia). 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 include mortality, morbidity and longevity. Reinsurance of alternative risk products include weather and credit protection to financial, industrial and service companies on a worldwide basis.

PartnerRe Ltd. and its subsidiaries are collectively referred to hereinafter as PartnerRe, the Company or the Group.

The Company was incorporated in August 1993 under the laws of Bermuda. The Company commenced operations in November 1993 upon completion of the sale of common shares and warrants pursuant to subscription agreements and an initial public offering.

The Company completed the acquisition of Societe Anonyme Francaise de Reassurances (SAFR, subsequently renamed PartnerRe SA and reinsurance business transferred into PartnerRe Europe) in 1997, the acquisition of Winterthur Re in 1998, the acquisition of PARIS RE Holdings Limited (Paris Re) in 2009, the acquisition of Presidio Reinsurance Group, Inc. (Presidio) in 2012 and the acquisition of Aurigen Capital Limited (Aurigen) in April 2017.

On March 18, 2016, the Company's publicly held common shares were acquired by Exor N.V. (subsequently renamed to EXOR Nederland N.V.), whose ultimate parent is EXOR N.V. (Exor), one of Europe's leading investment companies controlled by the Agnelli family, which is listed on the Milan Stock Exchange. As a result of the acquisition, PartnerRe's publicly issued common shares were cancelled and are no longer publicly traded. The Company's preferred shares continue to be traded on the New York Stock Exchange (NYSE).

At December 31, 2020 and 2019, the Company's 100 million common shares (Class A shares) issued to EXOR Nederland N.V. are included in Shareholders' Equity in the Consolidated Balance Sheets (see Note 10). At December 31, 2020 and 2019, the Company also had 274,664 and 281,768, respectively, of Class B common shares (Class B shares) issued to certain executives and directors of the Company which are recognized in Accounts payable, accrued expenses and other in the Consolidated Balance Sheets (see Note 13). The percentage of total common shares owned by EXOR Nederland N.V. at December 31, 2020 and 2019 was approximately 99.7%.

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;
- Recoverability of deferred tax assets;
- Valuation of certain investments that are measured using significant unobservable inputs; and
- Valuation of goodwill and intangible assets.

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.

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, 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 and Liabilities

In the normal course of its operations, the Company writes certain contracts that do not meet the risk transfer provisions of U.S. GAAP. While these contracts do not meet risk transfer provisions for accounting purposes, there is a remote possibility that the Company will suffer a loss. The Company accounts for these contracts using the deposit accounting method originally recording deposit assets or liabilities for an amount equivalent to the consideration paid or received, respectively. The difference between the consideration received and the estimated liability for unpaid losses is determined upon entering into the contract and, if a loss, recognized into income immediately, and if a gain, the gain is deferred and earned over the expected settlement period of the contract, with the unearned portion recorded as a component of deposit liabilities. Actuarial studies are used to estimate the liabilities under these contracts and the appropriate accretion rates to increase or decrease the liabilities over the term of the contracts. The change in the estimated liability for the period is recorded in Other income or loss in the Consolidated Statements of Operations. Under some of these contracts, cedants retain the assets on a funds-held basis. In those cases, the Company records those assets as deposit assets and records the related income in Net investment income in the Consolidated Statements of Operations. Also included in Deposit assets are 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, or by designating as available-for-sale with changes in fair value recorded in Other comprehensive income or loss.

Investments in real estate are recorded at cost less any write down for impairment, where applicable. Real estate assets held for investment are reviewed for impairment at least annually, or more frequently when events or changes in circumstances indicate the carrying value may not be recoverable and exceeds its estimated fair value.

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 entities in which the Company has significant influence, including an ownership of more than 20% and less than 50% of the voting rights, and limited partnerships in which the Company has more than a minor interest (typically more than 3 to 5%), 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(n) 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) Business Combinations

The Company accounts for transactions in which it obtains control over one or more businesses using the acquisition method. The purchase price is allocated to identifiable assets and liabilities, including any intangible assets, based on their estimated fair value at the acquisition date. The estimates of fair values for assets and liabilities acquired are determined based on various market and income analyses and appraisals. Any excess of the purchase price over the fair value of net assets acquired is recorded as Goodwill in the Company's Consolidated Balance Sheets, while any excess of the fair value of net assets acquired over the purchase price is recorded as a gain in the Consolidated Statements of Operations. All costs associated with an acquisition are expensed as incurred.

(j) Goodwill

Goodwill represents the excess of the purchase price over the fair value of the net assets acquired in a business combination. 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.

(k) Intangible Assets

Intangible assets represent the fair value adjustments related to renewal rights, and customer relationships; value of life business acquired; and U.S. licenses arising from acquisitions. Definite-lived intangible assets are amortized over their useful lives and the Amortization of intangible assets is recorded in the Consolidated Statement of Operations. Indefinite-lived intangible assets are not subject to amortization. The carrying values of indefinite-lived intangible assets are reviewed for indicators of impairment on an annual basis (as of December 31) or more frequently if events or changes in circumstances indicate that impairment may exist. Impairment is recognized if the carrying values of the intangible assets are not recoverable from their undiscounted cash flows and is measured as the difference between the carrying value and the fair value.

(l) Income Taxes

Certain subsidiaries and branches 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.

(m) 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. Non-monetary assets and liabilities denominated in foreign currency are not subsequently remeasured.

The reporting currency of the Company is the U.S. dollar. The national currencies of the Company's subsidiaries and branches are generally their functional currencies, except for the Company's Bermuda subsidiaries, its Swiss branch and its Singapore subsidiary and branches, whose functional currency is the U.S. dollar. In translating the financial statements of those subsidiaries or branches 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.

(n) Derivatives

The Company's investment strategy allows for the use of certain 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. For its derivatives designated as hedges at December 31, 2018, the Company's method for assessing the effectiveness of the designated hedge was a qualitative assessment, as the Company determined that the hedging instrument (the designated foreign currency forward contracts) and the hedged assets (the available-for-sale foreign currency denominated short-term investments) were perfectly aligned as they related to the hedged risk, the foreign currency exchange rate risk exposure. These hedges were settled during 2019, and 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.

(o) Pensions

The Company recognizes an asset or a liability in the Consolidated Balance Sheets for the funded status of its defined benefit plans that are overfunded or underfunded, respectively, measured as the difference between the fair value of plan assets and the pension obligation and recognizes changes in the funded status of defined benefit plans in the year in which the changes occur as a component of Accumulated other comprehensive income or loss, net of tax.

(p) 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.

(q) Segment Reporting

The Company monitors the performance of its operations in three segments: Property & Casualty (P&C), Specialty and Life and Health. Segments represent markets that are reasonably homogeneous in terms of client types, buying patterns, underlying risk patterns or approach to risk management.

Since the Company does not manage its assets by segment, neither assets nor net investment income are allocated to the P&C and Specialty segments. However, because of the interest-sensitive nature of some of the Company's life products, allocated net investment income is considered in management's assessment of the profitability of the Life and Health segment. The following items are not considered in evaluating the results of the P&C, Specialty and Life and Health segments: Net realized and unrealized investment gains or losses, Interest expense, Loss on redemption of debt, Amortization of intangible assets, Net foreign exchange gains or losses, Income tax expense or benefit and Interest in earnings and losses of equity method investments. These items are included in the Corporate and Other component, which is comprised of the Company's investment and corporate activities, including other expenses.

(r) Share-Based Incentives

The Company is authorized to issue restricted Class B shares to certain executives and directors. The compensation cost for restricted shares is measured at fair value and expensed over the period for which the employee is required to provide services in exchange for the award, up to three years from the date of grant. The Company has elected to recognize forfeitures as they occur. Unrestricted Class B shares can be sold back to the Company at the option of the shareholder. Class B shares are accounted for as liabilities and included in Accounts payable, accrued expenses and other on the Consolidated Balance Sheets.

(s) Recent Accounting Pronouncements

Adopted during 2020

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, 2019, and 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, and 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.

In August 2018, the FASB issued updated guidance to improve the effectiveness of disclosures for defined benefit plans, 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, and the Company adopted the 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 14 for the relevant disclosures.

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 and Investments in real estate, 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, 2019. The Company adopted the guidance on January 1, 2020 and recorded an after-tax cumulative effect adjustment as a decrease to retained earnings of \$14 million upon adoption. Refer to Notes 8(a) and 15(a) for further information regarding the impacts of adoption of this guidance.

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. The Company is currently evaluating the impact of this guidance on its Consolidated Financial Statements and disclosures required to be adopted for the year ended December 31, 2023. 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.

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; certain 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 exchange forward contracts; foreign currency option 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: inactively traded fixed maturities including U.S. state, territory and municipal bonds; certain corporate bonds; special purpose financing asset-backed bonds; unlisted or private equities; certain other mutual fund equities; privately placed corporate loans, notes and loans receivable and notes securitizations included in Other invested assets; and certain other derivatives, including weather derivatives, longevity insurance-linked securities; warrants; and total return swaps included in Other invested assets.

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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):

December 31, 2020	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Fixed maturities				
U.S. government and government sponsored enterprises	\$ —	\$ 2,409,540	\$ —	\$ 2,409,540
U.S. states, territories and municipalities	—	17,491	120,477	137,968
Non-U.S. sovereign government, supranational and government related	—	2,180,762	—	2,180,762
Corporate bonds	—	3,325,324	16,530	3,341,854
Asset-backed securities	—	—	17,528	17,528
Residential mortgage-backed securities	—	4,698,728	—	4,698,728
Fixed maturities	\$ —	\$ 12,631,845	\$ 154,535	\$ 12,786,380
Short-term investments	\$ —	\$ 416,350	\$ —	\$ 416,350
Equities				
Energy	\$ —	\$ —	\$ 34,448	\$ 34,448
Consumer cyclical	13,312	—	475	13,787
Consumer non-cyclical	—	—	6,886	6,886
Insurance	—	117	4,000	4,117
Finance	3,508	—	138	3,646
Real estate	—	—	2,338	2,338
Industrials	—	—	39	39
Diversified	2	—	3,098	3,100
Mutual funds	—	—	1,428,080	1,428,080
Equities	\$ 16,822	\$ 117	\$ 1,479,502	\$ 1,496,441
Other invested assets				
Derivative assets				
Foreign exchange forward contracts	\$ —	\$ 7,309	\$ —	\$ 7,309
Total return swaps	—	—	797	797
Insurance-linked securities	—	—	3,074	3,074
Other	—	—	419	419
Other				
Corporate loans ⁽¹⁾	—	—	1,326,143	1,326,143
Notes and loans receivable and notes securitization	—	—	7,121	7,121
Private equities	—	—	756,731	756,731
Derivative liabilities				
Foreign exchange forward contracts	—	(10,698)	—	(10,698)
Total return swaps	—	—	(3,152)	(3,152)
Interest rate swaps	—	(17,509)	—	(17,509)
Insurance-linked securities	—	—	(2,000)	(2,000)
Other invested assets	\$ —	\$ (20,898)	\$ 2,089,133	\$ 2,068,235
Total	\$ 16,822	\$ 13,027,414	\$ 3,723,170	\$ 16,767,406

(1) Corporate loans includes a portfolio of third-party, individually managed privately issued corporate loans that are managed under an externally managed mandate with a fair value of \$0.9 billion and \$1.4 billion 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 includes \$0.4 billion and \$0.5 billion of other privately issued corporate loans at December 31, 2020 and 2019 respectively.

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December 31, 2019	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Fixed maturities				
U.S. government and government sponsored enterprises	\$ —	\$ 1,421,716	\$ —	\$ 1,421,716
U.S. states, territories and municipalities	—	13,807	143,427	157,234
Non-U.S. sovereign government, supranational and government related	—	3,255,154	—	3,255,154
Corporate bonds	—	2,643,402	18,687	2,662,089
Asset-backed securities	—	—	18,228	18,228
Residential mortgage-backed securities	—	3,166,290	—	3,166,290
Other mortgage-backed securities	—	3	—	3
Fixed maturities	\$ —	\$ 10,500,372	\$ 180,342	\$ 10,680,714
Short-term investments	\$ —	\$ 1,003,421	\$ —	\$ 1,003,421
Equities				
Finance	\$ 31,315	\$ 2	\$ 126	\$ 31,443
Consumer cyclical	20,117	—	—	20,117
Insurance	5,284	273	9,403	14,960
Consumer noncyclical	13,126	—	—	13,126
Basic materials	5,295	—	—	5,295
Industrials	4,042	—	—	4,042
Technology	3,027	—	—	3,027
Real estate	—	—	2,385	2,385
Communications	922	—	—	922
Mutual funds	—	—	1,199,847	1,199,847
Equities	\$ 83,128	\$ 275	\$ 1,211,761	\$ 1,295,164
Other invested assets				
Derivative assets				
Foreign exchange forward contracts	\$ —	\$ 4,363	\$ —	\$ 4,363
Total return swaps	—	—	1,448	1,448
Insurance-linked securities	—	—	2,728	2,728
Foreign currency option contracts	—	266	—	266
Other				
Corporate loans	—	—	1,879,105	1,879,105
Notes and loans receivable and notes securitization	—	—	3,085	3,085
Private equities	—	—	533,744	533,744
Derivative liabilities				
Foreign exchange forward contracts	—	(5,643)	—	(5,643)
Total return swaps	—	—	(2,962)	(2,962)
Interest rate swaps	—	(12,378)	—	(12,378)
Insurance-linked securities	—	—	(3,871)	(3,871)
Other invested assets	\$ —	\$ (13,392)	\$ 2,413,277	\$ 2,399,885
Total	\$ 83,128	\$ 11,490,676	\$ 3,805,380	\$ 15,379,184

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 \$900 million and \$866 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, an equity security valued at \$4 million was transferred from Level 1 to Level 3 due to the unavailability of quoted prices in active markets. There were no transfers from Level 1 to Level 3 during the year ended December 31, 2019.

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During the years ended December 31, 2020 and 2019, private equity securities valued at \$3 million and \$14 million, respectively, were 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 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 (losses) gains included in net income	Purchases	Settlements and sales ⁽¹⁾	Net transfers into (out of) Level 3	Balance at end of year	Change in unrealized investment (losses) gains relating to assets held at end of year
Fixed maturities							
U.S. states, territories and municipalities	\$ 143,427	\$ (5,785)	\$ —	\$ (17,165)	\$ —	\$ 120,477	\$ (5,780)
Asset-backed securities	18,228	—	—	(700)	—	17,528	—
Corporate bonds	18,687	(128)	—	(2,029)	—	16,530	(128)
Fixed maturities	\$ 180,342	\$ (5,913)	\$ —	\$ (19,894)	\$ —	\$ 154,535	\$ (5,908)
Equities							
Energy	\$ —	\$ 3,419	\$ 31,128	\$ (99)	\$ —	\$ 34,448	\$ 3,320
Consumer noncyclical	—	(3,168)	5,560	—	4,494	6,886	278
Insurance	9,403	(5,403)	—	—	—	4,000	4,000
Real estate	2,385	(416)	369	—	—	2,338	(416)
Consumer cyclical	—	—	475	—	—	475	—
Finance	126	12	—	—	—	138	12
Industrials	—	(491)	530	—	—	39	(491)
Diversified	—	(706)	3,804	—	—	3,098	(706)
Mutual funds	1,199,847	206,654	47,391	(25,812)	—	1,428,080	198,911
Equities	\$1,211,761	\$ 199,901	\$ 89,257	\$ (25,911)	\$ 4,494	\$1,479,502	\$ 204,908
Other invested assets							
Derivatives, net	\$ (2,657)	\$ (8,217)	\$ 5,008	\$ 5,004	\$ —	\$ (862)	\$ (5,085)
Corporate loans	1,879,105	(10,980)	555,780	(1,097,762)	—	1,326,143	31,980
Notes and loan receivables and notes securitization	3,085	124	4,448	(536)	—	7,121	(979)
Private equities	533,744	105,627	260,096	(140,074)	(2,662)	756,731	93,903
Other invested assets	\$2,413,277	\$ 86,554	\$825,332	\$(1,233,368)	\$ (2,662)	\$2,089,133	\$ 119,819
Total	\$3,805,380	\$ 280,542	\$914,589	\$(1,279,173)	\$ 1,832	\$3,723,170	\$ 318,819

(1) Settlements and sales of Equities and Other invested assets included sales of \$26 million and \$1.1 billion, respectively. Sales of Other invested assets of \$1.1 billion included sales of corporate loans of \$981 million and private equities of \$137 million.

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For the year ended December 31, 2019	Balance at beginning of year	Realized and unrealized investment gains (losses) included in net income	Purchases	Settlements and sales ⁽¹⁾	Net transfers (out of) into Level 3	Balance at end of year	Change in unrealized gains (losses) relating to assets held at end of year
Fixed maturities							
U.S. states, territories and municipalities	\$ 120,898	\$ 12,959	\$ 10,455	\$ (885)	\$ —	\$ 143,427	\$ 12,951
Asset-backed securities	17,596	1,274	—	(642)	—	18,228	1,274
Corporate	21,470	157	—	(2,940)	—	18,687	157
Fixed maturities	\$ 159,964	\$ 14,390	\$ 10,455	\$ (4,467)	\$ —	\$ 180,342	\$ 14,382
Equities							
Finance	\$ 13,710	\$ 100	\$ —	\$ —	\$ (13,684)	\$ 126	\$ (3)
Technology	12,256	(1,538)	—	(10,718)	—	—	—
Mutual funds	621,759	388,024	206,685	(16,621)	—	1,199,847	385,317
Insurance	—	7,514	1,889	—	—	9,403	7,514
Real estate	—	—	2,385	—	—	2,385	—
Equities	\$ 647,725	\$ 394,100	\$ 210,959	\$ (27,339)	\$ (13,684)	\$1,211,761	\$ 392,828
Other invested assets							
Derivatives, net	\$ (1,279)	\$ 115	\$ (2,000)	\$ 507	\$ —	\$ (2,657)	\$ (111)
Corporate loans	401,702	9,237	1,828,802	(360,636)	—	1,879,105	9,940
Notes and loan receivables and notes securitization	6,507	(717)	—	(2,705)	—	3,085	139
Private equities	372,710	49,759	132,256	(20,981)	—	533,744	37,159
Other invested assets	\$ 779,640	\$ 58,394	\$1,959,058	\$ (383,815)	\$ —	\$2,413,277	\$ 47,127
Total	\$1,587,329	\$ 466,884	\$2,180,472	\$ (415,621)	\$ (13,684)	\$3,805,380	\$ 454,337

(1) Settlements and sales of Equities and Other invested assets included sales of \$27 million and \$289 million, respectively. Sales of Other invested assets of \$289 million included sales of corporate loans of \$270 million, notes and loan receivables and notes securitization of \$2 million, and private equities of \$17 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				
U.S. states, territories and municipalities	\$120,477	Discounted cash flow	Credit spreads	2.5% – 283.2% (14.8%)
Asset backed securities	17,528	Discounted cash flow	Credit spreads	4.7% (4.7%)
Other invested assets				
Total return swaps, net	(2,355)	Discounted cash flow	Credit spreads	2.7% – 36.7% (29.8%)
Insurance-linked securities – longevity swaps	3,074	Discounted cash flow	Credit Spreads	1.8% (1.8%)
Notes and loans receivables	6,446	Discounted cash flow	Credit spread	17.5% (17.5%)
			Gross revenue/fair value	1.1 (1.1)
Note securitization	675	Discounted cash flow	Credit spreads	2.5% (2.5%)
Private equity – other	30,067	Discounted cash flow	Effective yield	3.9% (3.9%)
Private equity – funds	188,533	Lag reported market value	Net asset value, as reported	100.0% (100.0%)
			Market adjustments	15.7% – 16.0% (15.9%)

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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%)
Equities				
Insurance	9,403	Weighted market comparables	Revenue multiple	2.6x (2.6x)
			Adjusted earnings multiple	7.7x (7.7x)
			Liquidity discount	30.0% (30.0%)
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 loans receivables	2,153	Discounted cash flow	Credit spreads	17.5% (17.5%)
			Gross revenue/fair value ratios	1.1 (1.1)
Note securitization	932	Discounted cash flow	Credit spreads	1.2% (1.2%)
Private equity – other	15,800	Discounted cash flow	Effective yield	3.0% (3.0%)
Private equity – funds	167,804	Lag reported market value	Net asset value, as reported	100.0% (100.0%)
			Market adjustments	1.9% – 15.0% (9.7%)

(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 equities 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, 2019 and 2018 were as follows (in thousands of U.S. dollars):

	2020	2019	2018
Fixed maturities and short-term investments	\$ 219,946	\$ 190,343	\$ (150,926)
Equities	167,456	403,011	2,791
Other invested assets	63,669	50,857	(12,987)
Funds held–directly managed ⁽¹⁾	—	—	(6,484)
Total	\$ 451,071	\$ 644,211	\$ (167,606)

(1) The funds held–directly managed account was settled in 2018 upon commutation of the related Paris Re Reserve Agreement. See Note 7(a).

Substantially all of the above changes in fair value are included in Net realized and unrealized investment gains (losses) in the Consolidated Statements of Operations. 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.
- *U.S. states, territories and municipalities*—consists primarily of 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 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. The remaining 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.
- *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*—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*—primarily consists 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*—primarily consists 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.

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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 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. The significant unobservable inputs used in the fair value measurement of inactively traded common stocks classified as Level 3 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, including revenue multiples and adjusted earnings multiples. Significant increases (decreases) in any of these inputs could result in a significantly higher (lower) fair value measurement. Significant unobservable inputs used in measuring the fair value measurement of inactively traded common stocks also include a liquidity discount. A significant increase (decrease) in the liquidity discount could result in a significantly lower (higher) fair value measurement.

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, interest rate swaps and foreign currency option contracts 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 certain derivatives, including weather derivative insurance-linked securities and total return swaps; privately placed corporate loans; notes and loans receivable 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 increases (decreases) in any of these inputs in isolation could result in a significantly lower (higher) fair value measurement. 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 and effective yields. Significant increases (decreases) in these inputs in isolation could result in a significantly higher (lower) fair value measurement. 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, with the exception of the long-term debt related to senior notes and junior subordinated notes. The fair value of the debt related to senior notes as of December 31, 2020 and 2019 was calculated based on discounted cash flow models using observable market yields and contractual cash flows based on the aggregate principal amount outstanding. The fair value of the debt related to junior subordinated notes as of December 31, 2020 and 2019 was calculated based on market data valuation models using observable inputs based on the aggregate principal amount outstanding of the intercompany debt.

See Note 9 for further details related to the Company's debt, including the carrying values and fair values.

At December 31, 2020 and 2019, the Company's debt related to the senior notes and junior subordinated notes was classified as Level 2 in the fair value hierarchy.

Disclosures about the fair value of financial instrument liabilities exclude insurance contracts.

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, 2019 and 2018 were as follows (in thousands of U.S. dollars):

	<u>2020</u>	<u>2019</u>	<u>2018</u>
Net realized investment gains (losses) on fixed maturities and short-term investments	\$ 24,828	\$ 243,508	\$(224,887)
Net realized investment gains on equities	21,538	6,545	14,601
Net realized investment (losses) gains on other invested assets	(30,436)	830	7,136
Net realized investment gains on funds held—directly managed ⁽¹⁾	—	—	1,200
Net realized investment gains (losses)	<u>\$ 15,930</u>	<u>\$ 250,883</u>	<u>\$(201,950)</u>
Change in net unrealized investment gains (losses) on fixed maturities and short-term investments	\$ 219,946	\$ 190,343	\$(150,926)
Change in net unrealized investment gains on equities	167,456	403,011	2,791
Change in net unrealized investment gains (losses) on other invested assets	58,452	44,441	(25,607)
Change in net unrealized investment losses on funds held—directly managed ⁽¹⁾	—	—	(6,484)
Net other realized and unrealized investment (losses) gains	<u>(1,346)</u>	<u>969</u>	<u>(1,334)</u>
Change in net unrealized investment gains (losses)	<u>\$ 444,508</u>	<u>\$ 638,764</u>	<u>\$(181,560)</u>
Impairment loss on investments in real estate	<u>\$ (6,119)</u>	<u>\$ (2,977)</u>	<u>\$ (6,122)</u>
Net realized and unrealized investment gains (losses)	<u>\$ 454,319</u>	<u>\$ 886,670</u>	<u>\$(389,632)</u>

(1) The funds held—directly managed account was settled in 2018 upon commutation of the related Paris Re Reserve Agreement. See also Note 7(a) for further details.

(b) Net Investment Income

The components of net investment income for the years ended December 31, 2020, 2019 and 2018 were as follows (in thousands of U.S. dollars):

	2020	2019	2018
Fixed maturities	\$ 290,259	\$ 379,939	\$ 378,726
Short-term investments and cash and cash equivalents	12,000	26,981	13,279
Other invested assets	89,129	68,879	26,234
Equities, funds held and other ⁽¹⁾	20,477	12,221	21,964
Funds held—directly managed ⁽²⁾	—	—	4,674
Investment expenses	(51,197)	(39,482)	(28,956)
Net investment income	\$ 360,668	\$ 448,538	\$ 415,921

(1) The Company generally earns investment income on funds held by reinsured companies 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 0.1% to 6.5%, 0.1% to 5.1% and 0.1% to 7.4% for the years ended December 31, 2020, 2019 and 2018, respectively.

(2) The funds held—directly managed account was settled in 2018 upon commutation of the related Paris Re Reserve Agreement. See also Note 7(a) for further details.

(c) Pledged and Restricted Assets

At December 31, 2020 and 2019, approximately \$209 million and \$294 million, respectively, of cash and cash equivalents and approximately \$4,993 million and \$4,025 million, respectively, of securities were deposited, pledged or held in escrow accounts in favor of ceding companies and other counterparties or government authorities to comply with reinsurance contract provisions and insurance laws.

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

At December 31, 2020 and 2019, receivables for securities sold of \$24 million and \$31 million, respectively, were recorded within Other assets. At December 31, 2020 and 2019, payables for securities purchased of \$286 million and \$169 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, trusts, 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 (see Note 15(c)).

(f) Equity Method Investments

Investments accounted for under the equity method at December 31, 2020 and 2019 totaled \$900 million and \$866 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). The total carrying value of this investment was \$494 million and \$483 million, at December 31, 2020 and 2019, respectively, and is included within Other invested assets in the Consolidated Balance Sheets. The Company's other equity method investments are comprised of primarily of passive investment interests focusing in the real estate sector.

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.

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):

December 31, 2020	Asset derivatives at fair value	Liability derivatives at fair value	Net derivatives	
			Fair value	Net notional exposure
Derivatives not designated as hedges				
Foreign exchange forward contracts	\$ 7,309	\$ (10,698)	\$ (3,389)	\$ 3,843,436
Insurance-linked securities ⁽¹⁾	3,074	(2,000)	1,074	18,850
Total return swaps	797	(3,152)	(2,355)	31,580
Interest rate swaps ⁽²⁾	—	(17,509)	(17,509)	—
Other	419	—	419	—
Total derivatives not designated as hedges	\$ 11,599	\$ (33,359)	\$ (21,760)	

December 31, 2019	Asset derivatives at fair value	Liability derivatives at fair value	Net derivatives	
			Fair value	Net notional exposure
Derivatives not designated as hedges				
Foreign exchange forward contracts	\$ 4,363	\$ (5,643)	\$ (1,280)	\$ 3,028,063
Foreign currency option contracts	266	—	266	—
Insurance-linked securities ⁽¹⁾	2,728	(3,871)	(1,143)	46,250
Total return swaps	1,448	(2,962)	(1,514)	31,641
Interest rate swaps ⁽²⁾	—	(12,378)	(12,378)	—
Total derivatives not designated as hedges	\$ 8,805	\$ (24,854)	\$ (16,049)	

(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 includes 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.*

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The gains and losses in the Consolidated Statements of Operations for derivatives not designated as hedges for the years ended December 31, 2020, 2019 and 2018 were as follows (in thousands of U.S. dollars):

	2020	2019	2018
Foreign exchange forward contracts	\$ (32,611)	\$ (41,171)	\$ 45,143
Total included in Net foreign exchange (losses) gains	\$ (32,611)	\$ (41,171)	\$ 45,143
Futures contracts	\$ —	\$ (9,952)	\$ 11,043
Insurance-linked securities	(2,341)	(4,381)	6,134
Total return swaps	(845)	—	—
Interest rate swaps	(5,131)	(5,230)	2,332
TBAs	(510)	—	(13,614)
Other	1,376	463	—
Total included in Net realized and unrealized investment gains (losses)	\$ (7,451)	\$ (19,100)	\$ 5,895
Total derivatives not designated as hedges	\$ (40,062)	\$ (60,271)	\$ 51,038

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 recognized ⁽¹⁾	Gross amounts offset in the balance sheet	Net amounts of assets/liabilities presented in the balance sheet	Gross amounts not offset in the balance sheet		Net amount
				Financial instruments	Cash collateral received/pledged	
December 31, 2020						
Total derivative assets	\$ 11,599	\$ —	\$ 11,599	\$ —	\$ (26,853)	\$ (15,254)
Total derivative liabilities	\$ (33,359)	\$ —	\$ (33,359)	\$ —	\$ 11,503	\$ (21,856)
December 31, 2019						
Total derivative assets	\$ 8,805	\$ —	\$ 8,805	\$ —	\$ (19,537)	\$ (10,732)
Total derivative liabilities	\$ (24,854)	\$ —	\$ (24,854)	\$ —	\$ 2,977	\$ (21,877)

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

6. Goodwill and Intangible Assets

The Company's goodwill related to the acquisitions of PartnerRe SA, Winterthur Re, Paris Re and Presidio and intangible assets related to the acquisitions of Paris Re, Presidio, Aurigen and Claims Analytics at December 31, 2020, 2019 and 2018 were as follows (in thousands of U.S. dollars):

	Goodwill	Definite-lived intangible assets	Indefinite-lived intangible assets	Total intangible assets
Balance at December 31, 2017	\$ 456,380	\$ 150,679	\$ 9,555	\$ 160,234
Acquired during the year ⁽¹⁾	—	4,138	—	4,138
Intangible assets amortization	n/a	(35,473)	n/a	(35,473)
Balance at December 31, 2018	\$ 456,380	\$ 119,344	\$ 9,555	\$ 128,899
Foreign currency translation	—	73	—	73
Intangible assets amortization	n/a	(11,434)	n/a	(11,434)
Balance at December 31, 2019	\$ 456,380	\$ 107,983	\$ 9,555	\$ 117,538
Foreign currency translation	—	119	—	119
Intangible assets amortization	n/a	(9,988)	n/a	(9,988)
Balance at December 31, 2020	\$ 456,380	\$ 98,114	\$ 9,555	\$ 107,669

n/a: Not applicable

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(1) In June 2018, the Company completed the acquisition for 100% of the assets in Claim Analytics Inc., a Canadian based provider of predictive analytics solutions for the insurance industry. In relation to this acquisition, the Company recorded intangible assets related to customer relationships of \$4 million.

The gross carrying value and accumulated amortization of intangible assets included in the Consolidated Balance Sheets at December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

	December 31, 2020			December 31, 2019		
	Gross carrying value	Accumulated amortization	Net carrying value	Gross carrying value	Accumulated amortization	Net carrying value
Definite-lived intangible assets:						
Renewal rights	\$ 48,163	\$ (38,205)	\$ 9,958	\$ 48,163	\$ (35,238)	\$ 12,925
Customer relationships	67,738	(47,867)	19,871	67,619	(42,419)	25,200
Life VOBA	75,583	(7,298)	68,285	75,583	(5,725)	69,858
Total definite-lived intangible assets	\$ 191,484	\$ (93,370)	\$ 98,114	\$ 191,365	\$ (83,382)	\$ 107,983
Indefinite-lived intangible assets:						
Insurance licenses	9,555	n/a	9,555	9,555	n/a	9,555
Total intangible assets	\$ 201,039	\$ (93,370)	\$ 107,669	\$ 200,920	\$ (83,382)	\$ 117,538

n/a: Not applicable

Definite-lived intangible assets are amortized over a period of 10-13 years for renewal rights and customer relationships, and 100 years for life VOBA.

The allocation of the goodwill to the Company's segments at December 31, 2020 and 2019 was as follows (in thousands of U.S. dollars):

	2020	2019
P&C segment	\$ 242,376	\$ 242,376
Specialty segment	196,047	196,047
Life and Health segment	17,957	17,957
Total	\$ 456,380	\$ 456,380

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

Year	VOBA	Other definite-lived intangible assets	Total definite-lived intangible assets
2021	\$ 1,486	\$ 7,349	\$ 8,835
2022	2,478	6,423	8,901
2023	2,272	5,641	7,913
2024	2,296	4,960	7,256
2025	2,070	4,367	6,437
Thereafter	57,683	1,089	58,772
Total	\$ 68,285	\$ 29,829	\$ 98,114

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).

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The Company's gross liability for non-life reserves reported by cedants (case reserves) and those estimated by the Company (ACRs and IBNR reserves) at December 31, 2020 and 2019 was as follows (in thousands of U.S. dollars):

	December 31, 2020	December 31, 2019
Case reserves	\$ 4,646,633	\$ 4,203,052
ACRs	171,381	158,220
IBNR reserves	6,577,307	6,002,111
Non-life reserves	\$ 11,395,321	\$ 10,363,383

The reconciliation of the beginning and ending gross and net liability for non-life reserves for the years ended December 31, 2020, 2019 and 2018 was as follows (in thousands of U.S. dollars):

	2020	2019	2018
Gross liability at beginning of year	\$ 10,363,383	\$ 9,895,376	\$ 10,102,172
Reinsurance recoverable at beginning of year	754,795	850,946	719,998
Net liability at beginning of year	9,608,588	9,044,430	9,382,174
Net incurred losses related to: ⁽¹⁾⁽²⁾			
Current year	3,945,248	3,716,988	3,417,366
Prior years	71,456	(56,848)	(248,719)
	4,016,704	3,660,140	3,168,647
Net paid losses related to:			
Current year	(459,718)	(439,285)	(336,584)
Prior years	(2,772,886)	(2,651,385)	(2,585,403)
	(3,232,604)	(3,090,670)	(2,921,987)
Retroactive reinsurance recoverable ⁽²⁾	—	(81,013)	—
Change in Paris Re reserve agreement ⁽³⁾	—	—	(397,493)
Effects of foreign exchange rate changes and other	220,303	75,701	(186,911)
Net liability at end of year	\$ 10,612,991	\$ 9,608,588	\$ 9,044,430
Reinsurance recoverable at end of year	782,330	754,795	850,946
Gross liability at end of year	\$ 11,395,321	\$ 10,363,383	\$ 9,895,376

(1) Net incurred losses include favorable loss development of \$3 million during the year ended December 31, 2019, which are allocated to Corporate and Other as disclosed in Note 18. Non-life reserves allocated to Corporate and Other totaled \$6 million and \$9 million at December 31, 2019 and 2018, respectively. There were no incurred losses or non-life reserves allocated to Corporate and Other during 2020.

(2) In the fourth quarter of 2019, the Company entered into a loss portfolio transfer agreement transferring 100% of liabilities, including profit commissions, related to its wholesale managing general agent portfolio. As a result of the transaction, the Company recorded a reinsurance recoverable of \$81 million and a related deferred gain of \$14 million, which was included in Accounts payable, accrued expenses and other in the Consolidated Balance Sheet at December 31, 2019. In the fourth quarter of 2020, the Company completed a business transfer to extinguish the remaining \$70 million of non-life reserves and derecognized the \$70 million of related reinsurance recoverables. As a result, during 2020, the \$14 million deferred gain was recognized within Losses and loss expenses in the Consolidated Statement of Operations. At settlement, \$64 million of invested assets were transferred, and there was a corresponding decrease in Other reinsurance balances payable.

(3) The change in reserve agreement includes adverse development on Paris Re's reserves which were guaranteed by Axa under the reserve agreement. In 2018, this balance also includes the reduction of the guaranteed reserves following the commutation of the agreement in the fourth quarter of 2018.

For the year ended December 31, 2020, the Company reported net unfavorable loss development for prior accident years resulting from adverse loss emergence in the Specialty segment, which was partially offset by favorable loss emergence in the P&C segment. The adverse loss emergence within the Specialty segment was across multiple accident years, predominantly from property, engineering, multiline and aviation business. The favorable loss emergence within the P&C segment was primarily from accident years 2015 and prior, mainly driven by the European casualty, motor and property business, which was partially offset by adverse loss emergence in the U.S. and Asia property business.

For the year ended December 31, 2019, the Company reported net favorable loss development for prior accident years resulting from favorable loss emergence in the P&C segment, which was partially offset by adverse loss emergence for the Specialty segment. The favorable loss emergence within the P&C segment was primarily from accident years 2014 and prior, mainly driven by the European casualty and motor business, which was partially offset by adverse loss emergence in the U.S. casualty business. The adverse loss emergence within the Specialty segment was across multiple accident years, predominantly from the engineering, aviation and multiline business.

For the year ended December 31, 2018, the Company reported net favorable loss development for prior accident years resulting from favorable loss emergence in both Non-life segments. The favorable loss emergence within the P&C segment was across multiple accident years, mainly driven by the European casualty business. The favorable loss emergence within the Specialty segment was across multiple accident years, predominantly from the financial risks and property marine energy business.

Paris Re Reserve Agreement

Following Paris Re's acquisition of substantially all of the reinsurance operations of Colisée Re in 2006, Paris Re's French operating subsidiary (Paris Re France) entered into a reserve agreement (Reserve Agreement) whereby AXA and Colisée Re guaranteed reserves in respect of Paris Re France and subsidiaries acquired in the acquisition. The Reserve Agreement related to losses incurred prior to December 31, 2005. The reserve guarantee was conditioned upon, among other things, the guaranteed business, including related ceded reinsurance, being managed by AXA Liabilities Managers, an affiliate of Colisée Re. At December 31, 2017, the Company's gross liability for non-life reserves included \$426 million of guaranteed reserves, which were settled prior to December 31, 2018 as a result of the commutation of the remaining reserves under the Reserve Agreement. As a result of this commutation, a gain of \$29 million was recorded in Other income within the Consolidated Statement of Operations during the year ended December 31, 2018. As of December 31, 2020 and 2019, respectively, no balances related to the Paris Re agreement remain.

Asbestos and Environmental Claims

The Company's net non-life reserves at December 31, 2020 and 2019 included \$43 million and \$45 million, respectively, related to asbestos and environmental claims. The gross liability for such claims at December 31, 2020 and 2019 was \$50 million and \$51 million, respectively.

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.

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 each of the Specialty segment and P&C segment were ELR, Reported/Paid B-F, and Reported/Paid CL, with the exception of catastrophe risks within the P&C segment 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, 2019 and 2018 was as follows (in thousands of U.S. dollars):

	2020	2019	2018
Gross liability at beginning of period	\$ 2,417,044	\$ 2,198,080	\$ 2,098,759
Reinsurance recoverable at beginning of period	16,183	11,829	9,287
Net liability at beginning of period	\$ 2,400,861	\$ 2,186,251	\$ 2,089,472
Net incurred losses ⁽¹⁾	1,318,196	1,263,016	1,024,608
Net losses paid	(1,230,383)	(1,071,487)	(818,916)
Effects of foreign exchange rate changes and other	179,893	23,081	(108,913)
Net liability at end of period	\$ 2,668,567	\$ 2,400,861	\$ 2,186,251
Reinsurance recoverable at end of period	35,662	16,183	11,829
Gross liability at end of period	\$ 2,704,229	\$ 2,417,044	\$ 2,198,080

(1) During 2020, certain life and health treaties in the European region were recaptured, resulting in total gains upon recapture of \$28 million, recorded as a reduction to net incurred losses.

Net incurred losses includes unfavorable prior years' loss development of \$52 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 and 2018.

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 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, 2019 and 2018 were comprised as follows (in thousands of U.S. dollars):

	2020	2019	2018
Non-life ⁽¹⁾	\$ 4,016,704	\$ 3,660,140	\$ 3,168,647
Life and Health	1,318,196	1,263,016	1,024,608
Losses and loss expenses	\$ 5,334,900	\$ 4,923,156	\$ 4,193,255

(1) Net incurred losses include favorable loss development of \$3 million during the year ended December 31, 2019, which are allocated to Corporate and Other as disclosed in Note 18.

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 for each of the years ended December 31, 2012 through 2019 and the average annual percentage payout of incurred claims by age, net of reinsurance, 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 reflect losses incurred at the average exchange rate for the period.

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

For the year ended December 31,

December 31, 2020

Total of IBNR plus
expected
development on
reported claims

Accident year	2012	2013	2014	2015	2016	2017	2018	2019	2020	
2012	\$ 2,639,688	\$ 2,448,003	\$ 2,290,439	\$ 2,185,285	\$ 2,153,160	\$ 2,184,735	\$ 2,161,359	\$ 2,128,131	\$ 2,113,301	\$ 56,549
2013		2,878,960	2,701,251	2,524,503	2,471,199	2,438,378	2,410,942	2,407,964	2,389,223	93,466
2014			2,832,489	2,613,300	2,502,796	2,471,459	2,484,045	2,476,974	2,455,964	127,048
2015				2,884,189	2,593,622	2,488,546	2,504,538	2,505,549	2,481,206	171,655
2016					2,913,005	2,679,891	2,620,822	2,635,472	2,644,764	214,995
2017						2,955,964	2,937,200	2,894,231	2,881,721	336,779
2018							3,025,845	3,157,015	3,158,785	661,933
2019								3,438,573	3,666,589	1,322,179
2020									3,964,240	2,790,092
Total									\$25,755,793	\$ 5,774,696

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	\$ 282,336	\$ 1,051,844	\$ 1,435,654	\$ 1,602,522	\$ 1,706,226	\$ 1,797,329	\$ 1,846,856	\$ 1,903,538	\$ 1,924,585
2013		243,125	1,295,766	1,647,638	1,849,033	1,979,137	2,072,228	2,138,888	2,173,004
2014			302,881	1,311,827	1,616,215	1,825,493	1,967,077	2,076,264	2,154,230
2015				302,359	1,216,114	1,615,865	1,837,345	2,007,020	2,109,694
2016					322,009	1,363,347	1,721,704	1,997,281	2,125,590
2017						385,968	1,501,428	1,952,096	2,240,013
2018							258,601	1,430,969	2,010,369
2019								376,937	1,578,528
2020									445,338
Total									\$16,761,351
Net reserves for Accident Years and exposures included in the triangles									\$ 8,994,442
All outstanding liabilities before Accident Year 2012, net of reinsurance									1,242,482
Total outstanding liabilities for unpaid claims									\$10,236,924

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	11%	38%	16%	9%	6%	4%	3%	2%	1%

NET INCURRED LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - PROPERTY

For the year ended December 31,

Accident year										December 31, 2020
	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total of IBNR plus expected development on reported claims
2012	\$ 669,251	\$ 665,457	\$ 585,528	\$ 569,161	\$ 553,571	\$ 553,162	\$ 541,206	\$ 530,578	\$ 529,800	\$ 1,389
2013		688,562	583,828	550,859	535,390	531,092	520,552	518,273	517,995	9
2014			517,561	471,863	450,396	448,016	444,502	442,768	441,020	958
2015				591,817	548,716	523,677	516,138	510,688	506,222	3,806
2016					726,247	684,070	637,316	617,028	613,810	(1,802)
2017						1,016,229	1,066,376	982,359	951,418	6,426
2018							854,166	899,055	886,662	82,052
2019								797,247	848,801	90,827
2020									1,183,875	656,924
Total									\$6,479,603	\$ 840,589

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	\$ 100,426	\$ 358,758	\$ 452,456	\$ 486,598	\$ 498,174	\$ 507,557	\$ 510,674	\$ 518,029	\$ 517,970
2013		90,133	341,662	442,974	477,517	495,869	498,952	503,187	505,337
2014			91,891	323,437	388,024	414,395	424,068	429,160	432,996
2015				96,019	354,874	443,500	472,059	483,099	488,049
2016					137,065	459,492	541,070	579,666	592,826
2017						223,598	729,810	839,658	891,247
2018							77,248	573,855	715,182
2019								69,729	479,960
2020									108,876
Total									\$4,732,443
Net reserves for Accident Years and exposures included in the triangles									\$1,747,160
All outstanding liabilities before Accident Year 2012, net of reinsurance									96,511
Total outstanding liabilities for unpaid claims									\$1,843,671

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

Years	1	2	3	4	5	6	7	8	9
Property	15%	52%	15%	6%	2%	1%	1%	1%	—%

NET INCURRED LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - CASUALTY

For the year ended December 31,

December 31, 2020

Total of IBNR plus
expected
development on
reported claims

Accident year	2012	2013	2014	2015	2016	2017	2018	2019	2020	
2012	\$ 687,962	\$ 673,952	\$ 645,961	\$ 606,043	\$ 588,811	\$ 597,170	\$ 592,669	\$ 577,494	\$ 569,594	\$ 41,729
2013		800,809	796,525	747,617	729,592	725,500	721,980	719,484	705,107	77,368
2014			901,424	877,191	857,330	863,051	879,547	873,227	857,663	103,508
2015				899,355	840,261	816,250	858,788	861,603	855,377	147,031
2016					849,717	801,939	822,539	850,527	856,372	174,156
2017						761,089	729,564	757,962	767,640	216,810
2018							941,900	957,888	975,851	418,539
2019								1,214,328	1,223,746	745,117
2020									1,278,149	1,073,385
Total									\$ 8,089,499	\$ 2,997,643

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	\$ 51,015	\$ 134,416	\$ 203,970	\$ 276,902	\$ 333,006	\$ 391,406	\$ 422,362	\$ 449,854	\$ 467,395
2013		50,172	158,781	266,697	348,233	418,556	480,167	521,355	547,056
2014			71,742	209,570	313,465	413,742	501,473	573,308	637,432
2015				67,091	187,339	300,083	398,324	501,468	575,490
2016					33,049	163,317	263,687	380,668	468,089
2017						61,811	180,400	292,946	399,268
2018							62,403	238,134	375,961
2019								89,228	294,178
2020									97,584
Total									\$ 3,862,453
Net reserves for Accident Years and exposures included in the triangles									\$ 4,227,046
All outstanding liabilities before Accident Year 2012, net of reinsurance									1,059,637
Total outstanding liabilities for unpaid claims									\$ 5,286,683

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

Years	1	2	3	4	5	6	7	8	9
Casualty	7%	16%	13%	12%	11%	9%	6%	4%	3%

NET INCURRED LOSSES AND LOSS EXPENSES DEVELOPMENT TABLE - SPECIALTY

For the year ended December 31,

Accident year										December 31, 2020
	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total of IBNR plus expected development on reported claims
2012	\$ 1,282,475	\$ 1,108,594	\$ 1,058,950	\$ 1,010,081	\$ 1,010,778	\$ 1,034,403	\$ 1,027,484	\$ 1,020,059	\$ 1,013,907	\$ 13,431
2013		1,389,589	1,320,898	1,226,027	1,206,217	1,181,786	1,168,410	1,170,207	1,166,121	16,089
2014			1,413,504	1,264,246	1,195,070	1,160,392	1,159,996	1,160,979	1,157,281	22,582
2015				1,393,017	1,204,645	1,148,619	1,129,612	1,133,258	1,119,607	20,818
2016					1,337,041	1,193,882	1,160,967	1,167,917	1,174,582	42,641
2017						1,178,646	1,141,260	1,153,910	1,162,663	113,543
2018							1,229,779	1,300,072	1,296,272	161,342
2019								1,426,998	1,594,042	486,235
2020									1,502,216	1,059,783
Total									\$11,186,691	\$ 1,936,464

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	\$ 130,895	\$ 558,670	\$ 779,228	\$ 839,022	\$ 875,046	\$ 898,366	\$ 913,820	\$ 935,655	\$ 939,220
2013		102,820	795,323	937,967	1,023,283	1,064,712	1,093,109	1,114,346	1,120,611
2014			139,248	778,820	914,726	997,356	1,041,536	1,073,796	1,083,802
2015				139,249	673,901	872,282	966,962	1,022,453	1,046,155
2016					151,895	740,538	916,947	1,036,947	1,064,675
2017						100,559	591,218	819,492	949,498
2018							118,950	618,980	919,226
2019								217,980	804,390
2020									238,878
Total									\$ 8,166,455
Net reserves for Accident Years and exposures included in the triangles									\$ 3,020,236
All outstanding liabilities before Accident Year 2012, net of reinsurance									86,334
Total outstanding liabilities for unpaid claims									\$ 3,106,570

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

Years	1	2	3	4	5	6	7	8	9
Specialty	12%	46%	17%	8%	4%	2%	1%	1%	—%

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.

As disclosed in the notes to the consolidated financial statements for the year ended December 31, 2016, the Company concluded that it was impracticable to provide net incurred and paid losses and loss expenses development data for 10 years. As a result, the Company provided 5 years of data in 2016 and includes an additional year of data for each subsequent year such that by 2021 a full 10 years of data will be disclosed.

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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):

	<u>December 31, 2020</u>
Total outstanding liability for unpaid claims	
Property	\$ 1,843,671
Casualty	5,286,683
Specialty	3,106,570
Total outstanding liabilities for unpaid claims	<u>\$ 10,236,924</u>
Unallocated loss expenses	\$ 186,523
U.S. health net reserves ⁽¹⁾	188,879
Other	665
Total other liabilities	<u>\$ 376,067</u>
Net liability at end of year	<u>\$ 10,612,991</u>
Reinsurance recoverable on paid and unpaid claims	
Property	\$ 327,935
Casualty	166,494
Specialty	287,901
Reinsurance recoverable at end of year	<u>\$ 782,330</u>
Gross liability at end of year	<u>\$ 11,395,321</u>

(1) U.S. health business is not meaningful to include in the development tables as the estimated average duration of the health reserves is less than one year and substantially all claims are expected to be paid within two years, based on historical payout patterns.

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 that have a credit rating of A- or higher. In certain cases where an otherwise suitable retrocessional 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 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 \$3 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, 2019 and 2018 were as follows (in thousands of U.S. dollars):

2020	Premiums Written	Premiums Earned	Losses and Loss Expenses
Non-life	\$ 5,376,703	\$ 5,571,201	\$ 4,358,975
Life and Health	1,499,222	1,505,819	1,344,117
Assumed	\$ 6,875,925	\$ 7,077,020	\$ 5,703,092
Non-life	\$ 550,784	\$ 516,672	\$ 342,271
Life and Health	24,283	23,522	25,921
Ceded	\$ 575,067	\$ 540,194	\$ 368,192
Non-life	\$ 4,825,919	\$ 5,054,529	\$ 4,016,704
Life and Health	1,474,939	1,482,297	1,318,196
Net	\$ 6,300,858	\$ 6,536,826	\$ 5,334,900
2019	Premiums Written	Premiums Earned	Losses and Loss Expenses
Non-life ⁽¹⁾	\$ 5,792,542	\$ 5,433,357	\$ 3,879,242
Life and Health	1,492,778	1,489,721	1,277,684
Assumed	\$ 7,285,320	\$ 6,923,078	\$ 5,156,926
Non-life ⁽¹⁾	\$ 353,735	\$ 375,301	\$ 219,102
Life and Health	22,527	22,559	14,668
Ceded	\$ 376,262	\$ 397,860	\$ 233,770
Non-life ⁽¹⁾	\$ 5,438,807	\$ 5,058,056	\$ 3,660,140
Life and Health	1,470,251	1,467,162	1,263,016
Net	\$ 6,909,058	\$ 6,525,218	\$ 4,923,156
2018	Premiums Written	Premiums Earned	Losses and Loss Expenses
Non-life	\$ 5,064,780	\$ 4,751,958	\$ 3,566,201
Life and Health	1,235,149	1,235,973	1,035,363
Assumed	\$ 6,299,929	\$ 5,987,931	\$ 4,601,564
Non-life	\$ 472,498	\$ 450,096	\$ 397,554
Life and Health	24,067	24,025	10,755
Ceded	\$ 496,565	\$ 474,121	\$ 408,309
Non-life	\$ 4,592,282	\$ 4,301,862	\$ 3,168,647
Life and Health	1,211,082	1,211,948	1,024,608
Net	\$ 5,803,364	\$ 5,513,810	\$ 4,193,255

(1) Non-life Losses and loss expenses include amounts allocated to Corporate and Other as disclosed in Note 18.

9. Debt

The debt outstanding related to senior notes and junior subordinated notes and the carrying value recorded in the Consolidated Balance Sheets at December 31, 2020 and 2019 was comprised as follows (in thousands):

Issuer	Related Maturity Date	Commitment	December 31, 2020		December 31, 2019	
			Carrying Value	Fair Value	Carrying Value	Fair Value
Debt related to senior notes						
PartnerRe Finance B LLC	Due 2029	\$ 500,000	\$ 496,168	\$ 586,057	\$ 495,614	\$ 535,309
PartnerRe Ireland Finance DAC	Due 2026	€ 750,000	914,223	985,352	832,351	871,088
			\$1,410,391	\$1,571,409	\$1,327,965	\$1,406,397
Debt related to junior subordinated notes						
PartnerRe Finance B LLC	Due 2050	\$ 500,000	\$ 494,251	\$ 523,685	\$ —	\$ —
PartnerRe Finance II Inc.	Due 2066	\$ 62,484	70,089	61,013	70,089	55,866
			\$ 564,340	\$ 584,698	\$ 70,089	\$ 55,866
Debt			\$1,974,731	\$2,156,107	\$1,398,054	\$1,462,263

PartnerRe Finance B LLC and PartnerRe Finance II Inc. (collectively, U.S. finance entities) were utilized to issue U.S. dollar denominated debt while PartnerRe Ireland Finance DAC (Irish finance entity) was formed in order to issue Euro denominated senior notes.

The U.S. finance entities are wholly-owned by PartnerRe U.S. Corporation, a holding company indirectly 100% owned by the Company. The proceeds received by the U.S. finance entities upon issuance of debt were provided to PartnerRe U.S. Corporation in exchange for notes receivable for the same principal and interest terms as the related debt issued externally. The Company determined that the U.S. entities were VIEs; however, the Company was not the primary beneficiary and, as a result, did not consolidate the U.S. finance entities. The intercompany notes payable by PartnerRe U.S. Corporation to the U.S. finance entities are recorded within Debt in the Consolidated Balance Sheets and the related interest as Interest expense in the Consolidated Statements of Operations.

The Irish finance entity is wholly-owned by PartnerRe Holdings Europe Limited, a wholly owned subsidiary of the Company. The proceeds received by the Irish finance entity upon issuance of debt were provided to the Company in exchange for notes receivable, which are eliminated on consolidation, together with the related interest. The Company determined that PartnerRe Ireland Finance DAC is a VIE and the Company is the primary beneficiary. As a result, the debt issued externally has been reflected as Debt in the Consolidated Balance Sheets and the related interest as Interest expense in the Consolidated Statements of Operations.

Debt related to senior notes

In March 2010, PartnerRe Finance B LLC issued \$500 million aggregate principal amount of 5.500% senior notes due June 1, 2020 with the option to redeem, in whole or in part, at any time. PartnerRe U.S. Corporation agreed to pay the related 5.500% note payable on the same terms to PartnerRe Finance B LLC. On July 19, 2019, the Company early redeemed these senior notes and settled the related intercompany note, with an aggregate principle of \$500 million for a make-whole redemption price. As a result, the Company recorded a Loss on redemption of debt of \$15 million in the Consolidated Statement of Operations during 2019.

In June 2019, PartnerRe Finance B LLC issued \$500 million aggregate principal amount of 3.700% senior notes at a price of 99.783% of the principal amount. The net proceeds of the issuance, after consideration of the offering discount and underwriting expenses and commissions, totaled \$496 million. These senior notes may be redeemed at the option of the issuer, in whole or in part, at any time, with early redemption requiring the payment of a make-whole premium. Early redemption prior to June 19, 2022 is subject to the Bermuda Monetary Authority's approval. Commencing on January 2, 2020, interest on these notes is payable semi-annually at an annual fixed rate of 3.700%. Unless previously redeemed, the notes mature on July 2, 2029. PartnerRe U.S. Corporation has agreed to pay a related 3.700% note payable to PartnerRe Finance B LLC for any unpaid principal amount on July 2, 2029. These senior notes are ranked as senior unsecured obligations of PartnerRe Finance B LLC and the Company has fully and unconditionally guaranteed all obligations of PartnerRe Finance B LLC related to these senior notes. The Company's obligations under this guarantee are senior and unsecured and rank equally with all other senior unsecured indebtedness. The proceeds from this issuance were used to fully redeem the senior notes due 2020 on July 19, 2019.

In September 2016, PartnerRe Ireland Finance DAC issued €750 million aggregate principal amount of 1.250% senior notes at a price of 99.144% of the principal amount, which are listed in the main securities market of the Irish Stock Exchange. Interest is payable annually commencing on September 15, 2017. These senior notes may be redeemed at the option of the issuer, in whole or in part, at any time. Early redemption prior to September 15, 2021 is subject to the Bermuda Monetary Authority's approval. Unless previously redeemed, the notes mature on September 15, 2026. These senior notes are ranked as senior unsecured obligations of PartnerRe Ireland Finance DAC. The Company has fully and unconditionally guaranteed all obligations of PartnerRe Ireland Finance DAC under these senior notes. The Company's obligations under this guarantee are senior and unsecured and rank equally with all other senior unsecured indebtedness.

Debt related to junior subordinated notes

In November 2006, PartnerRe Finance II Inc. issued Fixed-to-Floating Rate Junior Subordinated CENts with a principal amount of \$250 million and on March 13, 2009, purchased and retired \$187 million of this principal amount. On June 5, 2019, an additional \$1 million of the principal amount was purchased and retired. As a result, the remaining aggregate principal amount of the CENts as at December 31, 2020 and 2019 was \$62 million. In November 2006, PartnerRe U.S. Corporation issued a Fixed-to-Floating Rate promissory note, with a principal amount of \$258 million to PartnerRe Finance II Inc. due December 1, 2066. In March 2009, \$187 million of the principal amount was extinguished, with an additional \$1 million of the principal amount extinguished in June 2019. As a result, the remaining principal amount of the intercompany promissory note as at December 31, 2020 and 2019, which is included in Debt in the Consolidated Balance Sheets, was \$70 million.

The CENts have been redeemable at the option of the issuer, in whole or in part, since December 1, 2016 and are ranked as junior subordinated unsecured obligations of PartnerRe Finance II Inc. The Company has fully and unconditionally guaranteed on a subordinated basis all obligations of PartnerRe Finance II Inc. under the CENts. The Company's obligations under this guarantee are unsecured and rank junior in priority of payments to the Company's senior notes.

Interest on both the CENts and the promissory note was payable semi-annually through to December 1, 2016 at an annual fixed rate of 6.440% and payable quarterly thereafter until maturity at an annual rate of 3-month LIBOR plus a margin equal to 2.325%, reset quarterly. Since December 1, 2016, PartnerRe Finance II Inc. has had the right to defer one or more interest payments for up to ten years to December 1, 2026.

In September 2020, PartnerRe Finance B LLC issued \$500 million aggregate principal amount of 4.500% fixed-rate reset junior subordinated notes at par. The net proceeds of the issuance, after consideration of the underwriting expenses, commissions and other expenses, totaled \$494 million. Commencing on April 1, 2021, interest on these notes is payable semi-annually at an annual fixed rate of 4.500% until the first reset date on October 1, 2030. From the first reset date, and resetting every five years thereafter, the notes will bear interest at an annual rate equal to the five-year treasury rate plus 3.815%. These junior subordinated notes may be redeemed at the option of the issuer, in whole or in part, at any time, with early redemption outside of a par call period requiring the payment of a make-whole premium. Par call periods occur between April 1 and October 1 in each year in which the interest rate resets. Early redemption prior to October 1, 2025 is subject to the Bermuda Monetary Authority's approval. Unless previously redeemed, the notes mature on October 1, 2050. These notes are ranked as unsecured junior subordinated obligations, and will rank junior in right of payment to all outstanding and future senior indebtedness of PartnerRe Finance B LLC and the Company has fully and unconditionally guaranteed all obligations of PartnerRe Finance B LLC related to these junior subordinated notes. The Company's obligations under this guarantee are unsecured junior subordinated obligations and rank junior in right of payment to all outstanding and future senior indebtedness of the Company, and equally in right of payment with all future unsecured indebtedness that is by its terms equal in right of payment to the junior subordinated notes.

10. Shareholders' Equity

Authorized Shares

At December 31, 2020 and 2019, the total authorized share capital (common and preferred) of the Company was \$200 million.

Common Shares

At December 31, 2020 and 2019, 100 million authorized and issued Class A common shares of \$0.00000001 par value each were owned by EXOR Nederland N.V.

Redeemable Preferred Shares

At December 31, 2020, the Company's issued and outstanding redeemable preferred shares, each with a par value of \$1.00 per share, were as follows (in millions of U.S. dollars, except number of shares and percentage amounts):

	Series G	Series H	Series I	Total
Date of issuance	May 2016	May 2016	May 2016	
Number of preferred shares outstanding	6,415,264	11,753,798	7,320,574	25,489,636
Annual dividend rate	6.5 %	7.25 %	5.875 %	
Underwriting discounts and commissions ⁽¹⁾	\$ 5.4	\$ 9.5	\$ 6.4	\$ 21.3
Aggregate liquidation value, at \$25 per share	\$ 160.4	\$ 293.8	\$ 183.0	\$ 637.2

(1) *Underwriting discounts and commissions represent the original amounts paid to issue Series D, E and F shares. These amounts were reallocated on a pro-rata basis between the previously issued and the newly issued shares as a result of the share exchange in May 2016 for \$nil consideration described below.*

At December 31, 2019, the Company's issued and outstanding redeemable preferred shares, each with a par value of \$1.00 per share, also included Series F preferred shares and totaled 28,169,062.

Following the acquisition by EXOR N.V. (subsequently renamed EXOR Nederland N.V.) in 2016, the Company launched an exchange offer whereby participating preferred shareholders could exchange any or all existing preferred shares for newly issued preferred shares reflecting, subject to certain exceptions, an extended call date of the fifth anniversary from the date of issuance, and a restriction on payment of dividends on common shares declared with respect to any fiscal quarter to an amount not exceeding 67% of net income during such fiscal quarter until December 31, 2020, when the restriction expired. As a result of the exchange offer, the Company cancelled the Series D, E and F preferred shares tendered in the exchange offer. Non-tendered preferred shares not exchanged and the new Series G, H and I preferred shares remained outstanding and continued to be listed on the NYSE. The terms of the newly issued preferred shares would otherwise remain identical in all material respects to the Company's existing preferred shares, which are described below.

The redemption price of all preferred shares is \$25 per share plus accrued and unpaid dividends. In the event of liquidation of the Company, the preferred shares rank on parity with each other, but rank senior to the common shares, and the holders of the preferred shares would receive a distribution of \$25 per share. In addition, upon liquidation, non-cumulative Series I preferred shares would receive any declared but unpaid dividends while the cumulative Series G and H preferred shares would receive any accrued but unpaid dividends.

On October 22, 2020, the Company redeemed 2,679,426 Series F preferred shares at \$25 per share for an aggregate liquidation value of \$67 million. In addition, unpaid preferred dividends accrued to the redemption date totaling \$1 million were paid. In connection with the redemption, the Company recognized a loss of \$2 million related to the deferred issuance costs paid upon issuance which were included in Additional paid-in capital related to the Series F preferred shares. There was no additional gain or loss on redemption to recognize as the redemption price and the initial consideration received on the issue of preferred shares were both \$25 per share. The loss of \$2 million was recognized as a deemed preferred dividend in retained earnings and in determining the Net income attributable to common shareholder.

The Company may redeem each of the Series G, H and I preferred shares on or after May 1, 2021.

Dividends on the Series I preferred shares are non-cumulative and are payable quarterly. Dividends on the Series G and H preferred shares are cumulative from the date of issuance and are payable quarterly in arrears.

11. Dividend Restrictions and Statutory Requirements

The Company's ability to pay common and preferred shareholders' dividends and its corporate expenses is dependent mainly on cash dividends from PartnerRe Bermuda, PartnerRe Europe, PartnerRe U.S. and PartnerRe Asia (collectively, the reinsurance subsidiaries), which are the Company's most significant subsidiaries. The payment of such dividends by the reinsurance subsidiaries to the Company is limited under Bermuda, Irish and Singapore laws and certain statutes of various U.S. states in which PartnerRe U.S. is domiciled. The restrictions are generally based on net income and/or certain levels of surplus as determined in accordance with the relevant statutory accounting practices. In addition, in accordance with the terms of the merger agreement between the Company and EXOR N.V., subsequent to preferred share exchange (see Note 10), the Company's payment of dividends on common shares declared with respect to any fiscal quarter was restricted to an amount not exceeding 67% of net income per fiscal quarter until December 31, 2020. If the Company did not make aggregate distributions of all of the distributable amounts during any fiscal quarter, such remaining amounts would carryover to be available for dividends in subsequent fiscal quarters, regardless of the Company's Net income or loss during such subsequent fiscal quarters. This restriction expired on December 31, 2020. At December 31, 2020, given the Company complied with its Bermuda solvency requirements, there were no other restrictions on the Company's ability to pay common and preferred shareholders' dividends from its retained earnings, except for the reinsurance subsidiaries' dividend restrictions described below.

The reinsurance subsidiaries are required to file annual statements with insurance regulatory authorities prepared on an accounting basis prescribed or permitted by such authorities (statutory basis), maintain minimum levels of solvency and liquidity and comply with risk-based capital requirements and licensing rules. At December 31, 2020, the reinsurance subsidiaries' solvency, liquidity and risk-based capital amounts were in excess of the minimum levels required. The typical adjustments to insurance statutory basis amounts to convert to U.S. GAAP include the elimination of certain statutory reserves, deferral of certain acquisition costs, recognition of goodwill, intangible assets and deferred income taxes that are limited on a statutory basis, valuation of bonds at fair value and presentation of ceded reinsurance balances gross of assumed balances.

PartnerRe Bermuda may declare dividends subject to it continuing to meet its minimum solvency and capital requirements, which are to hold statutory capital and surplus equal to or exceeding the Target Capital Level, which is equivalent to 120% of the Enhanced Capital Requirement (ECR). The ECR is calculated with reference to 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 without prior regulatory approval was approximately \$1,226 million. The reporting deadline for the annual submission is April 30, 2021.

PartnerRe Europe is subject to the Solvency II European Directive (Solvency II Regulations). The Solvency II Regulations relate to the solvency standards applicable to insurers and reinsurers and lay down, at the level of PartnerRe Europe, the minimum amounts of financial resources required in order to cover the risks to which it is exposed and the principles that should guide its overall risk management and reporting. PartnerRe Europe may declare dividends subject to it continuing to meet its Solvency II requirements, which are to hold available capital, calculated on a Solvency II balance sheet basis, in excess of the solvency capital requirement (SCR). The maximum dividend is limited to "profits available for distribution", which consist of accumulated realized profits less accumulated realized losses. The reporting deadline for the annual Solvency II submission is April 8, 2021.

PartnerRe U.S. may declare dividends subject to it continuing to meet its minimum solvency and capital requirements and is generally limited to paying dividends from earned surplus. The maximum dividend that can be declared and paid without prior approval is limited, to the lesser of adjusted net investment income or 10% of its total statutory capital and surplus as of the most recently filed annual statement. The reporting deadline for the annual filing is March 1, 2021.

PartnerRe Asia may declare dividends from unappropriated profits subject to meeting the capital requirements, as laid out by the Monetary Authority of Singapore. As a licensed reinsurer, PartnerRe Asia is required to maintain minimum capital of SGD25 million. In addition, PartnerRe Asia is required to establish and maintain separate insurance funds for each class of business that it writes, for both Singapore and offshore policies. The solvency requirement in respect of each insurance fund shall at all times be not less than the total risk requirement of the fund (determined by reference to three components being insurance risks, asset portfolio risks and asset concentration risks) and above 120% of the total risk requirement on a Company basis. The declaration of a dividend by PartnerRe Asia is subject to conditions and requirements being met as specified under the Companies Act and the Insurance Act and its associated regulations. The filing date for the annual submission is March 31, 2021.

The statutory financial statements and returns of the Company's reinsurance subsidiaries as at, and for the year ended, December 31, 2020 are due to be submitted to the relevant regulatory authorities later in 2021, with different filing dates in each jurisdiction. In certain jurisdictions, the statutory financial statements and returns are subject to the review and final approval of the relevant regulatory authorities. As a result, the comparative figures in the tables below reflect final figures submitted to regulatory authorities for 2019 and 2018.

The statutory net income (loss) of PartnerRe Bermuda, PartnerRe Europe, PartnerRe U.S. and PartnerRe Asia for the years ended December 31, 2020, 2019 and 2018 was as follows (in millions of U.S. dollars):

	2020	2019	2018
PartnerRe Bermuda	\$ (45)	\$ 863	\$ 138
PartnerRe Europe	\$ 237	\$ 188	\$ 1
PartnerRe U.S.	\$ 28	\$ (106)	\$ (197)
PartnerRe Asia	\$ (6)	\$ 17	\$ (40)

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

	PartnerRe Bermuda ⁽¹⁾		PartnerRe Europe		PartnerRe U.S.		PartnerRe Asia	
	2020	2019	2020	2019	2020	2019	2020	2019
Required statutory capital and surplus	\$ 2,386	\$ 2,249	\$ 1,618	\$ 1,535	\$ 1,080	\$ 911	\$ 47	\$ 53
Actual statutory capital and surplus	\$ 5,072	\$ 4,903	\$ 2,417	\$ 2,218	\$ 1,169	\$ 1,080	\$ 249	\$ 211

(1) Required statutory capital and surplus is calculated at the Target Capital Level

In addition to the required statutory capital and surplus requirements for the reinsurance subsidiaries in the table above, the Company is required to assess its solvency capital needs both at a Group and subsidiary level. The Company's capital requirements determine the amount of capital available to be declared as dividends to its shareholders. As Group Supervisor, the Bermuda Monetary Authority is tasked with assessing the financial condition of the Group and coordinates the dissemination of information to other relevant authorities for the purpose of assisting in their regulatory functions and the enforcement of regulatory action against the Company or any of its subsidiaries, including the power to impose restrictions on the ability of the relevant subsidiaries to declare dividends to the Company, and the ability of the Company to pay dividends to shareholders. In addition, the Company is required to maintain the Group ECR imposed by the BMA under Bermuda law.

12. Taxation

The Company and its Bermuda domiciled subsidiaries are 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 and its Bermuda domiciled subsidiaries 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 Hong Kong, Canada, France, Ireland, Singapore, Switzerland and the U.S.

Income tax returns are open for examination for the tax years 2015-2020 in Hong Kong, 2016-2020 in Canada and Ireland, 2013-2020 in the U.S., 2017-2020 in Singapore, 2019-2020 in Switzerland, and 2018-2020 in France. 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.

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Income tax (benefit) expense for the years ended December 31, 2020, 2019 and 2018 was as follows (in thousands of U.S. dollars):

	2020	2019	2018
Current income tax (benefit) expense			
U.S.	\$ (97,155)	\$ 12,899	\$ (6,872)
Non U.S.	44,764	64,069	33,887
Total current income tax (benefit) expense	\$ (52,391)	\$ 76,968	\$ 27,015
Deferred income tax expense (benefit)			
U.S.	\$ 60,932	\$ (25,850)	\$ (40,318)
Non U.S.	(25,560)	4,268	3,256
Total deferred income tax expense (benefit)	\$ 35,372	\$ (21,582)	\$ (37,062)
Unrecognized tax expense (benefit)			
U.S.	\$ —	\$ —	\$ —
Non U.S.	3,928	(2,850)	1,113
Total unrecognized tax expense (benefit)	\$ 3,928	\$ (2,850)	\$ 1,113
Total income tax (benefit) expense			
U.S.	\$ (36,223)	\$ (12,951)	\$ (47,190)
Non U.S.	23,132	65,487	38,256
Total income tax (benefit) expense	\$ (13,091)	\$ 52,536	\$ (8,934)

Income (loss) before taxes attributable to the Company's domestic and foreign operations and a reconciliation of the actual income tax rate to the amount computed by applying the effective tax rate of 0% under Bermuda (the Company's domicile) law to income (loss) before taxes was as follows for the years ended December 31, 2020, 2019 and 2018 (in thousands of U.S. dollars):

	2020	2019	2018
Domestic (Bermuda)	\$ 3,894	\$ 715,912	\$ 33,759
Foreign	237,204	273,372	(128,687)
Income (loss) before taxes	\$ 241,098	\$ 989,284	\$ (94,928)
Reconciliation of effective tax rate (% of income (loss) before taxes)			
Expected tax rate	0.0 %	0.0 %	0.0 %
Foreign taxes at local expected tax rates	15.5	6.5	14.3
Impact of foreign exchange gains or losses	(8.1)	(0.5)	(4.2)
Unrecognized tax expense (benefit)	1.6	0.2	(1.2)
Tax-exempt income and expenses not deductible	(1.4)	(0.6)	7.3
Foreign branch tax	(3.3)	(1.2)	(4.1)
Valuation allowance	3.4	0.7	(12.3)
Outside basis difference in subsidiary	—	—	6.7
Other	(13.1)	0.2	2.9
Actual tax rate	(5.4)%	5.3 %	9.4 %

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was enacted in response to the COVID-19 pandemic. The Company did not make use of any direct support measures. It was only the Company's U.S. subsidiaries that benefited from the CARES Act through the passage of modified tax loss carry-back rules that allow losses to be carried back to years with a higher tax rate. As a result, the Company's U.S. subsidiaries realized a tax benefit of \$35 million (or a reduction of 14.4 points on the effective tax rate) for the year ended December 31, 2020, which is included in Other in the table above.

On September 1, 2019, the Canton of Zurich, Switzerland enacted legislation to reduce the current corporate income tax rate from 21.15% to 19.7% in 2021. As a result, deferred tax assets and liabilities in Switzerland were revalued at December 31, 2019, resulting in an income tax benefit of \$6 million (or a reduction of 0.6 points on the effective tax rate) for the year ended December 31, 2019, which is included in Other in the table above.

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

	December 31, 2020	December 31, 2019
Net tax assets	\$ 182,077	\$ 179,813
Net tax liabilities	(131,621)	(135,966)
Net tax assets	\$ 50,456	\$ 43,847

	December 31, 2020	December 31, 2019
Net current tax assets	\$ 112,992	\$ 65,000
Net deferred tax liabilities	(52,263)	(15,464)
Net unrecognized tax benefit	(10,273)	(5,689)
Net tax assets	\$ 50,456	\$ 43,847

Deferred tax assets and liabilities reflect the tax impact of temporary differences between the carrying amounts of assets and liabilities for financial reporting and income tax purposes. Significant components of the net deferred tax assets and liabilities at December 31, 2020 and 2019 were as follows (in thousands of U.S. dollars):

	December 31, 2020	December 31, 2019
Deferred tax assets		
Discounting of loss reserves and adjustment to life policy reserves	\$ 11,741	\$ 15,924
Foreign tax credit carryforwards	198,263	173,936
Tax loss carryforwards	57,485	80,523
Unearned premiums	34,760	37,226
Unrealized appreciation and timing differences on foreign exchange revaluations	20,493	—
Other deferred tax assets	42,754	50,738
	\$ 365,496	\$ 358,347
Valuation allowance	(211,167)	(186,907)
Deferred tax assets	\$ 154,329	\$ 171,440
Deferred tax liabilities		
Deferred acquisition costs	\$ 67,850	\$ 64,140
Goodwill and other intangibles	58,224	61,773
Equalization reserves	7,366	6,416
Unrealized appreciation and timing differences on investments	46,389	26,752
Unrealized appreciation and timing differences on foreign exchange revaluations	—	18,830
Other deferred tax liabilities	26,763	8,993
Deferred tax liabilities	\$ 206,592	\$ 186,904
Net deferred tax liabilities	\$ (52,263)	\$ (15,464)

Realization of deferred tax assets is dependent on generating sufficient taxable income in future periods. Although realization is not assured, management believes that it is more likely than not that the deferred tax assets will be realized. The valuation allowance recorded at December 31, 2020 relates to a foreign tax credit carryforward of \$198 million in Ireland, and net deferred tax assets of \$3 million in Canada, \$3 million in the United Kingdom and \$7 million in the United States. The valuation allowance recorded at December 31, 2019 related to a foreign tax credit carryforward of \$174 million in Ireland, net deferred tax assets of \$5 million in Canada and \$8 million in the United States.

At December 31, 2020, the deferred tax assets included tax loss carryforwards (after valuation allowance) of \$23 million in Singapore, \$2 million in Hong Kong and \$13 million in France that can be carried forward for an unlimited period of time. At December 31, 2019, the deferred tax assets (after valuation allowance) included tax loss carryforwards of \$18 million in Singapore and \$2 million in Hong Kong that can be carried forward for an unlimited period of time and \$52 million in the United States that predominantly related to non-life taxable losses, which were fully utilized in 2020.

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The total amount of unrecognized tax benefits for the years ended December 31, 2020, 2019 and 2018 was as follows (in thousands of U.S. dollars):

	January 1, 2020	Changes in tax positions taken during a prior year	Tax positions taken during the current year	Change as a result of a lapse of the statute of limitations	Impact of the change in foreign currency exchange rates	December 31, 2020
Unrecognized tax benefits that, if recognized, would impact the effective tax rate	\$ 4,185	\$ 1,415	\$ —	\$ —	\$ 480	\$ 6,080
Interest and penalties recognized on the above	1,504	2,455	—	—	234	4,193
Total unrecognized tax benefits, including interest and penalties	\$ 5,689	\$ 3,870	\$ —	\$ —	\$ 714	\$ 10,273

	January 1, 2019	Changes in tax positions taken during a prior year	Tax positions taken during the current year	Change as a result of a lapse of the statute of limitations	Impact of the change in foreign currency exchange rates	December 31, 2019
Unrecognized tax benefits that, if recognized, would impact the effective tax rate	\$ 6,639	\$ (3,560)	\$ 1,258	\$ —	\$ (152)	\$ 4,185
Interest and penalties recognized on the above	2,104	(669)	121	—	(52)	1,504
Total unrecognized tax benefits, including interest and penalties	\$ 8,743	\$ (4,229)	\$ 1,379	\$ —	\$ (204)	\$ 5,689

	January 1, 2018	Changes in tax positions taken during a prior year	Tax positions taken during the current year	Change as a result of a lapse of the statute of limitations	Impact of the change in foreign currency exchange rates	December 31, 2018
Unrecognized tax benefits that, if recognized, would impact the effective tax rate	\$ 6,460	\$ 73	\$ 346	\$ —	\$ (240)	\$ 6,639
Interest and penalties recognized on the above	1,481	691	—	—	(68)	2,104
Total unrecognized tax benefits, including interest and penalties	\$ 7,941	\$ 764	\$ 346	\$ —	\$ (308)	\$ 8,743

For the years ended December 31, 2020, 2019 and 2018, there were no unrecognized tax benefits that, if recognized, would create a temporary difference between the reported amount of an item in the Company's Consolidated Balance Sheets and its tax basis. The Company recognizes interest and penalties as Income tax expense (benefit) in the Consolidated Statements of Operations.

At December 31, 2020, an unrecognized tax benefit of \$5 million is reasonably expected to reverse within twelve months.

13. Share-Based Incentives

During 2017, the Company designated a new class of voting Class B shares. Class B shares can either be purchased by or granted to certain executives or non-executive directors of the Company at the discretion of the Company in line with the provisions set out in the Certificate of Designation, or any sub-plan or addendum thereto.

Grants can be made by the Company twice per year as of March 1 or September 1. The number of shares granted is determined based on a long-term incentive (LTI) award amount divided by the latest U.S. GAAP book value (or common shareholder's equity) per share published as of either December 31 or June 30. As a result, Class B shares with a grant date of March 1 are based on the U.S. GAAP book value as of the December 31 valuation date, while Class B shares with a grant date of September 1 are based on the U.S. GAAP book value as of the June 30 valuation date. The granted shares may be issued net of share equivalent to settle related withholding taxes, where applicable.

Restricted Class B shares are granted at \$nil consideration and are restricted from sale for a period of up to three years from the date of grant. An acceleration of the restriction period may occur under certain circumstances, including death, permanent disability, or retirement of the shareholder. Notwithstanding these provisions, the Company's Board of Directors has authority to accelerate the restriction period at its own discretion. Restricted Class B shares granted are recognized at fair value over the restriction period.

Unrestricted Class B shares can be purchased based on the latest U.S. GAAP book value as of the applicable valuation date. Unrestricted Class B shares can be transferred or sold back to the Company, subject to any applicable restrictions as per the Certificate of Designation, at the option of the shareholder. The notices of grant require that, once the restriction period has expired, the employee can only sell or transfer the Class B shares back to the Company provided the employee continues to hold shares in the amount of a minimum of four times their gross annual long-term incentive target value, unless otherwise agreed in writing.

The Class B shares are accounted for as liabilities, with \$15 million and \$13 million included in Accounts payable, accrued expense and other in the Consolidated Balance Sheets at December 31, 2020 and 2019, respectively. The compensation expense related to Class B awards for the years ended December 31, 2020, 2019 and 2018 was \$11 million, \$10 million, and \$4 million, respectively, included in Other expenses in the Company's Consolidated Statement of Operations.

During 2020, there were repurchases by the Company of \$11 million, which included \$6 million restricted Class B shares and \$5 million unrestricted Class B shares. During 2019, there were repurchases by the Company of \$13 million, which included \$6 million restricted Class B shares and \$7 million unrestricted Class B shares.

The following table provides an activity summary of the Company's restricted and unrestricted Class B shares outstanding:

	Restricted Class B shares	Unrestricted Class B shares	Total Class B shares
Outstanding December 31, 2018	161,810	183,834	345,644
Granted	117,929	—	117,929
Purchased	—	18,875	18,875
Repurchased	(100,407)	(100,273)	(200,680)
Outstanding December 31, 2019	179,332	102,436	281,768
Granted	167,202	—	167,202
Purchased	—	38,838	38,838
Repurchased	(129,583)	(83,561)	(213,144)
Expiration of restricted period	(27,785)	27,785	—
Outstanding December 31, 2020	189,166	85,498	274,664

14. Retirement Benefit Arrangements

For employee retirement benefits, the Company maintains certain defined contribution plans and other active and frozen defined benefit plans. The majority of the defined benefit obligation at December 31, 2020 relates to a hybrid plan accounted for as a defined benefit plan under U.S. GAAP for the Company's Zurich office employees (the Zurich Plan).

Defined Contribution Plans

Contributions are made by the Company, and in some locations, 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 for the majority of these plans vest immediately or over a four-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 \$13 million for the years ended December 31, 2020, 2019 and 2018, respectively, included within Other expenses in the Company's Consolidated Statements of Operations.

Active Defined Benefit Plan

The Company maintains the Zurich Plan, which is classified as a hybrid plan and accounted for as a defined benefit plan under U.S. GAAP. At December 31, 2020 and 2019, the funded status of the Zurich Plan was as follows (in thousands of U.S. dollars):

	2020	2019
Underfunded pension obligation at beginning of year	\$ 44,442	\$ 37,105
Change in pension obligation		
Service cost	\$ 10,961	\$ 8,619
Interest cost	520	1,584
Plan participants' contributions	4,056	3,604
Actuarial loss	12,023	18,286
Plan amendments	—	3,551
Benefits paid	(3,910)	(2,352)
Foreign currency adjustments	20,550	2,828
Change in pension obligation	\$ 44,200	\$ 36,120
Change in fair value of plan assets		
Actual return on plan assets	2,820	18,140
Employer contributions	7,941	7,193
Plan participants' contributions	4,056	3,604
Benefits paid	(3,910)	(2,352)
Foreign currency adjustments	15,685	2,198
Change in fair value of plan assets	\$ 26,592	\$ 28,783
Underfunded pension obligation at end of year	\$ 62,050	\$ 44,442
Additional information:		
Projected benefit obligation at end of year ⁽¹⁾	\$ 242,112	\$ 197,912
Fair value of plan assets at end of year	\$ 180,062	\$ 153,470
Underfunded pension obligation at end of year	\$ 62,050	\$ 44,442
Accumulated pension obligation at end of year ⁽²⁾	\$ 231,419	\$ 189,089

(1) Represents the actuarial present value of all benefits attributed to employee service rendered to December 31, measured using assumptions as to future compensation levels

(2) Represents the actuarial present value of benefits (whether vested or non-vested) attributed to employee service rendered and compensation to December 31, with no assumption about future compensation levels

At December 31, 2020 and 2019, the underfunded pension obligation of \$62 million and \$44 million, respectively, was included in Accounts payable, accrued expenses and other in the Consolidated Balance Sheets. The amounts included in Accumulated other comprehensive loss at December 31, 2020 and 2019 were cumulative losses of \$30 million (net of \$8 million of taxes) and \$16 million (net of \$4 million of taxes), respectively.

The net periodic benefit cost reported in Other expenses in the Consolidated Statements of Operations for the years ended December 31, 2020, 2019 and 2018 was \$5 million, \$5 million and \$10 million, respectively.

The projected benefit obligation increased by \$44 million during 2020, driven primarily by \$21 million in foreign currency adjustments due to changes in the value of the Swiss Franc during the year. The projected benefit obligation also increased in 2020 due to an increase in new members and a decrease in the discount rate applied to the obligation. The increase in the projected benefit obligation was offset by an increase in the fair value of plan assets of \$27 million, due primarily to \$16 million in foreign currency adjustments and \$8 million in employer contributions. In 2019 the increase in the projected benefit obligation was driven by a decrease in the discount rate applied to the obligation. The increase in the projected benefit obligation was offset by an increase in the fair value of plan assets due primarily to the actual return on plan assets.

The investment strategy for the plan is to achieve a consistent long-term return, which will provide sufficient funding for future pension obligations while limiting risk. The expected long-term rate of return on plan assets is based on the expected asset allocation and assumptions concerning long-term interest rates, inflation rates and risk premiums for equities above the risk-free rates of return. These assumptions take into consideration historical long-term rates of return for the relevant asset categories. The investment strategy is reviewed regularly.

On January 1, 2019, the Zurich Plan moved from a fully insured scheme with a guaranteed level of return to a partially insured scheme, both under the same pension provider (AXA Winterthur), participating in a single investment pool. On the set-up of the new partially insured plan, a coverage ratio of approximately 111% was applied to the assets to reflect the change from the fully insured to the partially insured scheme. As at December 31, 2020 and 2019, the coverage ratio was 112% and 115%, respectively, based on the performance of the assets. The actual return on plan assets for the years ended December 31, 2020 and 2019 was \$3 million and \$18 million. For 2019, the actual return on plan assets included \$5 million recognized in net income and a \$13 million reduction of the unfunded pension obligation recorded within Accumulated other comprehensive loss in the Consolidated Balance Sheet primarily related to the one-time impact of transitioning to the new scheme.

The fair value of the Zurich Plan’s assets, comprised of an investment pool of funds and including cash, at December 31, 2020 and 2019 was \$180 million and \$153 million, respectively. The partially insured funds comprise the accumulated pension plan contributions and investment returns thereon. These funds meet the definition of Level 2 inputs of the fair value hierarchy as defined in Note 3(a).

A transition group of pensioners elected to remain under the previous pension arrangement. This resulted in a plan amendment of \$4 million which increased the unfunded pension obligation recorded within Accumulated other comprehensive loss in the Consolidated Balance Sheet as at December 31, 2019. This amount is amortized into net income over the remaining years of service of active participants.

The assumptions used to determine the Zurich Plan’s pension obligation and net periodic benefit cost for the years ended December 31, 2020, 2019 and 2018 were as follows:

	2020		2019		2018	
	Pension obligation	Net periodic benefit cost	Pension obligation	Net periodic benefit cost	Pension obligation	Net periodic benefit cost
Discount rate	0.10 %	0.25 %	0.25 %	1.00 %	1.00 %	0.75 %
Interest crediting rate	1.00 %	1.00 %	1.00 %	1.00 %	1.00 %	1.00 %
Expected long-term return on plan assets	—	3.50 %	—	3.50 %	—	0.75 %
Rate of compensation increase	2.00 %	2.00 %	2.00 %	2.00 %	2.25 %	2.25 %

At December 31, 2020, estimated employer contributions to be paid in 2021 related to the Zurich Plan were \$8 million and future benefit payments were estimated to be paid as follows (in thousands of U.S. dollars):

Year	Amount
2021	\$ 8,040
2022	\$ 7,478
2023	\$ 8,351
2024	\$ 8,727
2025	\$ 9,289
2026 to 2029	\$ 52,579

15. 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, 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 shareholders' equity. At December 31, 2020, the Company held fixed maturity investments in the Canadian government of \$776 million. At December 31, 2019, other than the U.S. government and government sponsored enterprises and the World Bank, 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 shareholders' equity. The investment in World Bank at December 31, 2019 totaled \$1,110 million and was categorized as a Non-U.S. sovereign government, supranational and government related within Fixed maturities on the Consolidated Balance Sheet. 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.

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, 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 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. As a result of the adoption and at December 31, 2020, the Company increased its allowance for credit losses by \$2 million to \$9 million, compared to the \$7 million allowance for its reinsurance balances receivable at December 31, 2019. 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 \$7 million on its funds held by reinsurance companies and \$2 million on its deposit assets. This compared to no 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) Lease Arrangements

The Company leases office space under operating leases expiring in various years through 2038. At the lease commencement, the Company determines the classification of each lease as either a finance lease or an operating lease. The Company currently only has leases classified as operating and the lease expense is recognized on a straight-line basis over the lease term. Operating lease right-of-use assets and operating lease liabilities are recognized at the commencement date of the lease based on the present value of lease payments over the lease term. Variable lease payments are excluded from these lease payments to the extent they are not based on consumer price index or a market index and are recognized in the period in which the obligation for those payments is incurred.

Many of the Company's lease terms include options to extend or terminate the lease at the discretion of the Company, and are reflected in the lease measurement only if the Company is reasonably certain of exercising those options. The Company's lease agreements do not contain any material residual value guarantees or material restrictive covenants.

The Company has lease agreements with lease and non-lease components, such as common-area maintenance costs. The Company has elected the practical expedient to account for lease components together with non-lease components as a single lease component for all real estate leases.

As most leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the lease commencement date in determining the present value of lease payments.

The following table summarizes the balances related to the Company's total lease expense and provides supplemental other information related to operating leases for the year ended December 31, 2020 and 2019 (in thousands of U.S. dollars):

	<u>2020</u>	<u>2019</u>
Operating lease costs	\$ 16,403	\$ 15,893
Variable lease costs	724	2,598
Sublease income	(1,194)	(1,515)
Total lease costs	\$ 15,933	\$ 16,976
Other information:		
Operating lease right-of-use assets ⁽¹⁾	\$ 64,746	\$ 75,774
Operating lease liabilities ⁽²⁾	\$ 75,463	\$ 85,777
Operating lease right-of-use assets obtained in exchange for lease obligations, non-cash ⁽³⁾	\$ 852	\$ 86,157
Operating cash outflows from operating leases	\$ 16,495	\$ 11,305
Weighted-average remaining lease term on operating leases ⁽⁴⁾	9.1 Yrs	9.2 Yrs
Weighted-average discount rate on operating leases ⁽⁵⁾	2.7 %	2.6 %

(1) Included in Other assets in the Consolidated Balance Sheets

(2) Included in Accounts payable, accrued expenses and other in the Consolidated Balance Sheets

(3) Includes transition amounts related to the adoption of the new lease guidance in 2019

(4) Weighted-average remaining lease term is calculated on the basis of the remaining lease term and the lease liability balance for each lease as of the reporting date

(5) Weighted-average discount rate is calculated on the basis of the discount rate for the lease that was used to calculate the lease liability balance for each lease as of the reporting date and the remaining balance of the lease payments for each lease as of the reporting date

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The following table shows the contractual maturities of the Company's operating lease liabilities at December 31, 2020 (in thousands of U.S. dollars):

Year	Expected cash flows
2021	\$ 13,211
2022	10,900
2023	10,264
2024	9,179
2025	8,621
2026 to 2038	32,905
Discount	(9,617)
Total discounted operating lease liabilities	\$ 75,463

The Company has additional lease commitments of \$30 million related to leases that will not commence until 2021, with contractual lease terms of up to 10 years. As these leases have not yet commenced, the commitments are not included in the maturity table above or in the Consolidated Balance Sheets at December 31, 2020.

(c) Other Agreements

The Company has entered into maintenance agreements and service agreements that provide for business and information technology support and computer equipment. Future payments under these contracts amount to \$38 million, with \$27 million and \$5 million to be paid during 2021 and 2022, respectively, and the remainder to be paid through 2028.

The Company has entered into certain investments, including investments in VIEs (see Note 4(e)), with unfunded capital commitments. As of December 31, 2020, the Company expects to fund capital commitments totaling \$793 million with \$318 million, \$303 million, \$147 million, and \$25 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.

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.

(d) Legal Proceedings

Litigation

The Company's reinsurance subsidiaries, 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 and disputes, the Company and its subsidiaries 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 contracts. 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 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 adverse effect on the financial condition, results of operations or liquidity of the Company. Refer to Note 19 for additional details related to litigation settled after December 31, 2020.

16. Credit Agreements

In the normal course of its operations, the Company enters into agreements with financial institutions to obtain unsecured and secured letter of credit facilities. At December 31, 2020, the total amount of such credit facilities available to the Company was approximately \$752 million, with the significant facilities as follows:

- \$400 million combined credit facility, with the first \$100 million being unsecured and any further utilization secured. This credit facility matures each year on November 14, and automatically extends for a further year, unless canceled by either counterparty
- \$250 million secured credit facility, that matures on December 31, 2022, and automatically extends for a further year unless canceled by either counterparty
- \$100 million secured credit facility, that matures on December 21, 2021, and automatically extends for a further year unless canceled by either counterparty.

Under the terms of certain reinsurance agreements, irrevocable letters of credit were issued for a total of \$102 million on an unsecured basis and \$508 million on a secured basis at December 31, 2020 in respect of losses and unearned premium reserves. The committed secured credit facilities maintained by the Company are used for the issuance of letters of credit which must be fully secured with either cash, government bonds and/or investment grade bonds.

The agreements include default covenants, which could require the Company to fully secure the outstanding letters of credit to the extent that the facility is not already fully secured and/or result in the Company not being allowed to issue any new letters of credit.

At December 31, 2020, no conditions of default existed under these facilities.

17. Related Party Transactions

During 2020 and 2019, the Company declared and paid to EXOR Nederland N.V. common share dividends totaling \$50 million and \$199 million, respectively.

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

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

- 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 during 2020 and 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.
- In 2017, the Company invested \$500 million in two Exor managed public 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, \$385 million, and \$12 million were recorded in the Consolidated Statements of Operations for the years ended December 31, 2020, 2019 and 2018, respectively.
- 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.

During the years ended December 31, 2020, 2019 and 2018, the Company was a party to various agreements with Exor whereby Exor provides services in exchange for fees as follows:

- advisory services related to certain real estate investments where the Company paid approximately \$310 thousand, \$221 thousand and \$45 thousand for services rendered in 2020, 2019 and 2018, respectively
- investment advisory services and use of certain office space, where the Company paid \$259 thousand, \$254 thousand and \$273 thousand related to services provided in 2020, 2019 and 2018, respectively
- certain advisory services for a fixed annual fee of \$500 thousand in 2020, 2019 and 2018.

Subsequent to year end, the Company entered into a consulting services agreement with Exor Capital LLP effective April 1, 2021 related to certain investments such as alternative fixed income, real estate, public equity and private equity funds as well as co-invest opportunities.

The transactions between related parties discussed above were entered into at arm's-length.

18. Segment Information

The Company monitors the performance of its operations in three segments: Property and Casualty (P&C), Specialty and Life and Health. The business in the P&C and Specialty segments is collectively referred to as Non-life business. P&C, Specialty and Life and Health each separately represent markets that are reasonably homogeneous in terms of client types, buying patterns, underlying risk patterns and approach to risk management.

The P&C segment is comprised of property and casualty business underwritten, including property catastrophe, facultative and U.S. health risks. The Specialty segment is comprised of specialty business underwritten, including treaty and facultative contracts. The Life and Health segment is comprised of mortality, morbidity and longevity business.

Management measures results for the P&C and Specialty segments on the basis of the loss ratio, acquisition ratio, technical ratio, other expense ratio and combined ratio (all defined below). Management measures results for the Life and Health segment on the basis of the allocated underwriting result, which includes underwriting result and net investment income allocated to life business.

The segment results for the years ended December 31, 2020, 2019 and 2018 are presented below (in millions of U.S. dollars, except ratios).

Segment Information
For the year ended December 31, 2020

	P&C segment	Specialty segment	Total Non-life	Life and Health segment	Corporate and Other	Total
Gross premiums written	\$ 3,442	\$ 1,935	\$ 5,377	\$ 1,499	\$ —	\$ 6,876
Net premiums written	\$ 3,044	\$ 1,782	\$ 4,826	\$ 1,475	\$ —	\$ 6,301
Decrease in unearned premiums	119	110	229	7	—	236
Net premiums earned	\$ 3,163	\$ 1,892	\$ 5,055	\$ 1,482	\$ —	\$ 6,537
Losses and loss expenses	(2,389)	(1,628)	(4,017)	(1,318)	—	(5,335)
Acquisition costs	(784)	(470)	(1,254)	(102)	—	(1,356)
Technical result	\$ (10)	\$ (206)	\$ (216)	\$ 62	\$ —	\$ (154)
Other (loss) income	(1)	—	(1)	13	1	13
Other expenses	(61)	(26)	(87)	(73)	(196)	(356)
Underwriting result	\$ (72)	\$ (232)	\$ (304)	\$ 2	n/a	\$ (497)
Net investment income				68	293	361
Allocated underwriting result				\$ 70	n/a	n/a
Net realized and unrealized investment gains					454	454
Interest expense					(39)	(39)
Amortization of intangible assets					(10)	(10)
Net foreign exchange losses					(52)	(52)
Income tax benefit					13	13
Interest in earnings of equity method investments					24	24
Net income					n/a	\$ 254
Loss ratio ⁽¹⁾	75.5 %	86.0 %	79.5 %			
Acquisition ratio ⁽²⁾	24.8	24.8	24.8			
Technical ratio ⁽³⁾	100.3 %	110.8 %	104.3 %			
Other expense ratio ⁽⁴⁾	1.9	1.4	1.7			
Combined ratio ⁽⁵⁾	102.2 %	112.2 %	106.0 %			

(1) Loss ratio is obtained by dividing losses and loss expenses by net premiums earned.

(2) Acquisition ratio is obtained by dividing acquisition costs by net premiums earned.

(3) Technical ratio is defined as the sum of the loss ratio and the acquisition ratio.

(4) Other expense ratio is obtained by dividing other expenses by net premiums earned.

(5) Combined ratio is defined as the sum of the technical ratio and the other expense ratio.

Segment Information
For the year ended December 31, 2019

	P&C segment	Specialty segment	Total Non-life	Life and Health segment	Corporate and Other	Total
Gross premiums written	\$ 3,579	\$ 2,213	\$ 5,792	\$ 1,493	\$ —	\$ 7,285
Net premiums written	\$ 3,302	\$ 2,137	\$ 5,439	\$ 1,470	\$ —	\$ 6,909
Increase in unearned premiums	(231)	(150)	(381)	(3)	—	(384)
Net premiums earned	\$ 3,071	\$ 1,987	\$ 5,058	\$ 1,467	\$ —	\$ 6,525
Losses and loss expenses	(2,167)	(1,496)	(3,663)	(1,263)	3	(4,923)
Acquisition costs	(783)	(523)	(1,306)	(149)	—	(1,455)
Technical result	\$ 121	\$ (32)	\$ 89	\$ 55	\$ 3	\$ 147
Other (loss) income	(1)	—	(1)	15	1	15
Other expenses	(80)	(28)	(108)	(69)	(193)	(370)
Underwriting result	\$ 40	\$ (60)	\$ (20)	\$ 1	n/a	\$ (208)
Net investment income				72	377	449
Allocated underwriting result				\$ 73	n/a	n/a
Net realized and unrealized investment gains					887	887
Interest expense					(40)	(40)
Loss on redemption of debt					(15)	(15)
Amortization of intangible assets					(12)	(12)
Net foreign exchange losses					(87)	(87)
Income tax expense					(53)	(53)
Interest in earnings of equity method investments					16	16
Net income					n/a	\$ 937
Loss ratio	70.6 %	75.3 %	72.4 %			
Acquisition ratio	25.5	26.3	25.8			
Technical ratio	96.1 %	101.6 %	98.2 %			
Other expense ratio	2.6	1.4	2.1			
Combined ratio	<u>98.7 %</u>	<u>103.0 %</u>	<u>100.3 %</u>			

Segment Information
For the year ended December 31, 2018

	P&C segment	Specialty segment	Total Non-life	Life and Health segment	Corporate and Other	Total
Gross premiums written	\$ 3,015	\$ 2,050	\$ 5,065	\$ 1,235	\$ —	\$ 6,300
Net premiums written	\$ 2,722	\$ 1,870	\$ 4,592	\$ 1,211	\$ —	\$ 5,803
(Increase) decrease in unearned premiums	(187)	(103)	(290)	1	—	(289)
Net premiums earned	\$ 2,535	\$ 1,767	\$ 4,302	\$ 1,212	\$ —	\$ 5,514
Losses and loss expenses	(2,073)	(1,096)	(3,169)	(1,025)	—	(4,194)
Acquisition costs	(606)	(502)	(1,108)	(129)	—	(1,237)
Technical result	\$ (144)	\$ 169	\$ 25	\$ 58	\$ —	\$ 83
Other income	30	—	30	13	7	50
Other expenses	(75)	(27)	(102)	(51)	(153)	(306)
Underwriting result	\$ (189)	\$ 142	\$ (47)	\$ 20	n/a	\$ (173)
Net investment income				66	350	416
Allocated underwriting result				\$ 86	n/a	n/a
Net realized and unrealized investment losses					(390)	(390)
Interest expense					(43)	(43)
Amortization of intangible assets					(35)	(35)
Net foreign exchange gains					119	119
Income tax benefit					9	9
Interest in earnings of equity method investments					11	11
Net loss					n/a	\$ (86)
Loss ratio	81.8 %	62.0 %	73.7 %			
Acquisition ratio	23.9	28.4	25.8			
Technical ratio	105.7 %	90.4 %	99.5 %			
Other expense ratio	3.0	1.5	2.4			
Combined ratio	108.7 %	91.9 %	101.9 %			

The following table provides the geographic distribution of gross premiums written by region for the years ended December 31, 2020, 2019 and 2018 (in millions of U.S. dollars, except percentages):

	2020		2019		2018	
North America	\$ 3,794	55 %	\$ 3,752	51 %	\$ 2,929	47 %
Europe	1,921	28	2,155	30	2,152	34
Asia, Australia and New Zealand	806	12	835	11	699	11
Latin America and the Caribbean	220	3	264	4	260	4
Middle East, Africa, Russia and the Commonwealth of Independent States (CIS)	135	2	279	4	260	4
Total	\$ 6,876	100 %	\$ 7,285	100 %	\$ 6,300	100 %

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The following table provides the gross premiums written by segment and line of business for the years ended December 31, 2020, 2019 and 2018 (in millions of U.S. dollars, except percentages):

	2020	2019	2018
P&C			
Casualty	\$ 1,430	\$ 1,394	\$ 1,052
Property	641	644	615
Catastrophe	545	537	478
U.S. health	379	391	405
Multiline and other	289	213	157
Motor	158	400	308
Total P&C	\$ 3,442	\$ 3,579	\$ 3,015
Specialty			
Financial risks	\$ 568	\$ 587	\$ 549
Agriculture	468	483	506
Aviation and space	219	286	228
Energy	192	183	79
Property	173	151	112
Multiline and other	152	276	307
Marine	142	132	103
Engineering	17	102	124
Casualty	4	13	42
Total Specialty	\$ 1,935	\$ 2,213	\$ 2,050
Life and Health	\$ 1,499	\$ 1,493	\$ 1,235
Total	\$ 6,876	\$ 7,285	\$ 6,300

The Company produces its business both through brokers and through direct relationships with insurance company clients. None of the Company's cedants individually accounted for more than 4% of total gross premiums written during each of the years ended December 31, 2020, 2019 and 2018.

The Company has two brokers that individually accounted for 10% or more of its gross premiums written during the years ended December 31, 2020, 2019 and 2018, as follows:

	2020	2019	2018
Marsh (including Guy Carpenter)	30 %	28 %	22 %
Aon Group (including the Benfield Group)	21 %	22 %	22 %

The following table summarizes the percentage of gross premiums written through these two brokers by segment for the years ended December 31, 2020, 2019 and 2018:

	2020	2019	2018
P&C	64 %	60 %	53 %
Specialty	64 %	62 %	52 %
Life and Health	6 %	8 %	11 %

19. 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 is currently assessing its potential claims, but information as of February 25, 2021 is not sufficient to arrive at a reasonable estimate.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of PartnerRe Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of PartnerRe Ltd. and subsidiaries (the Company) as of December 31, 2020 and 2019, the related consolidated statements of operations and comprehensive income (loss), shareholders' equity and cash flows for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Valuation of reserve for incurred but not reported - Non-Life reserves

Description of the Matter At December 31, 2020, the liability for incurred but not reported (IBNR) claim reserves, including additional case reserves (ACR) for the non-life segments (collectively referred to as IBNR claim reserves), represented \$6,748,688 thousand of the total \$11,395,321 thousand of non-life reserves. As disclosed in Notes 2 and 7 of the consolidated financial statements, the loss and loss adjustment expense reserves represent management's estimate of the ultimate liability for claims that have been reported, claims that have been incurred but not reported, and expenses associated with processing and settling claims. IBNR claim reserves include amounts for losses incurred but not yet reported to the Company and additional case reserves when the Company's loss estimate is higher than that reported by the cedants.

There is significant uncertainty inherent in determining management's estimate of the ultimate cost of all claims that have occurred which is used to determine the incurred but not reported reserves. Such ultimates 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 are determined based upon industry experience and management's judgment. The estimate is particularly sensitive to the preliminary nature of the information available, the magnitude and relative infrequency of the events, the expected duration of the respective claims development period, inadequacies in the data provided to the relevant date by industry participants and the potential for further reporting lags or insufficiencies; and in certain large events, significant uncertainty as to the form of the claims and legal issues under the relevant terms of insurance and reinsurance contracts.

Auditing management's estimate for IBNR claim reserves was complex and required the involvement of our actuarial specialists due to the high degree of subjectivity inherent in management's methods and assumptions used in the calculations which have a significant effect on the valuation of the reserves.

How We Addressed the Matter in Our Audit We obtained an understanding of the estimation process for IBNR claim reserves. This included, among others, understanding management's process over the actuarial methods and assumptions selected to determine their recorded estimate.

To test the IBNR claim reserves our audit procedures included, among others, utilizing the assistance of our actuarial specialists. Our actuarial specialists evaluated the selection of standard reserving methods applied, considering the methods used in prior periods and those applied in the broader reinsurance industry. To evaluate the significant assumptions used by management in their actuarial methods we compared the significant assumptions, including the severity of industry losses by event and development patterns, to current industry benchmarks such as incurred to ultimate loss ratios and industry loss levels, specifically for the catastrophe events. We developed a range of reasonable reserve estimates including performing independent projections for a significant portion of the Company's classes of business and compared the range of reserve estimates to the Company's recorded claims and claim expense reserves.

Valuation of life and health reserves

Description of the Matter At December 31, 2020, life and health reserves were \$2,704,229 thousand. As disclosed in Notes 2 and 7 of the consolidated financial statements, life and health reserves represent information reported by ceding companies, supplemented by management's actuarial estimates for life reserves including assumptions for mortality, morbidity, critical illness, persistency and future investment income and for health reserves including assumptions for the completion factors and loss ratio picks.

Auditing management's estimate for life and health reserves was complex and required the involvement of our actuarial specialists due to the high degree of subjectivity inherent in management's methods and assumptions used in the calculations which have a significant effect on the valuation of the reserves.

How We Addressed the Matter in Our Audit

We obtained an understanding over the process to estimate the life and health reserves. This included, among others, understanding management's process over the actuarial methods and assumptions selected to determine their recorded estimate for life and health reserves.

To test the life and health reserves, our audit procedures included, among others, utilizing the assistance of actuarial specialists. Our actuarial specialists evaluated the selection of standard reserving methods applied, considering the methods used in prior periods and those applied in the broader reinsurance industry. To assess the significant assumptions used by management, we compared the significant assumptions noted above to historical experience, observable market data or management's estimates of prospective changes in these assumptions and reviewed management's actual vs expected analysis. For the life business, we also independently recalculated the reserves for a sample of policies for certain lines of business, which we compared to the reserves calculated by management and reviewed the Company's loss recognition testing, including the assumptions used in the test, the calculation and the results. For the health business, we also performed a hindsight analysis on selected portfolios within the health reserves business.

/s/ Ernst & Young Ltd.

Ernst & Young Ltd.

We have served as the Company's auditor since 2016.

Hamilton, Bermuda
February 25, 2021

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of PartnerRe Ltd.

We have audited the consolidated financial statements of PartnerRe Ltd. and subsidiaries (the Company) as of December 31, 2020 and 2019, and for each of the three years in the period ended December 31, 2020, and have issued our report thereon dated February 25, 2021 (included elsewhere in this Annual Report on Form 20-F). Our audits of the consolidated financial statements included the financial statement schedules listed in Item 18 of this Form 20-F (the “schedules”). These schedules are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's schedules, based on our audits.

In our opinion, the schedules present fairly, in all material respects, the information set forth therein when considered in conjunction with the consolidated financial statements.

/S/ Ernst & Young Ltd.

Ernst & Young Ltd.

Hamilton, Bermuda

February 25, 2021

PartnerRe Ltd.
Consolidated Summary of Investments
Other Than Investments in Related Parties
at December 31, 2020
(Expressed in thousands of U.S. dollars)

Type of investment	Cost ⁽¹⁾	Fair Value	Amount at which shown in the balance sheet
Fixed maturities			
U.S. government and government sponsored enterprises	\$ 2,386,579	\$ 2,409,540	\$ 2,409,540
U.S. states, territories and municipalities	110,155	137,968	137,968
Non-U.S. sovereign government, supranational and government related	2,076,962	2,180,762	2,180,762
Corporate bonds	3,185,741	3,341,854	3,341,854
Asset-backed securities	17,537	17,528	17,528
Residential mortgage-backed securities	4,564,926	4,698,728	4,698,728
Other mortgage-backed securities	37	—	—
Fixed maturities	\$ 12,341,937	\$ 12,786,380	\$ 12,786,380
Equities			
Common stocks			
Banks, trust and insurance companies	\$ 2,727	\$ 3,646	\$ 3,646
Industrial, miscellaneous and all other	798,966	1,449,924	1,449,924
Nonredeemable preferred stocks	45,373	42,871	42,871
Equities	\$ 847,066	\$ 1,496,441	\$ 1,496,441
Short-term investments	\$ 416,059	\$ 416,350	\$ 416,350
Other invested assets ⁽²⁾		\$ 2,068,235	\$ 2,967,738
Investments in real estate ⁽³⁾		\$ —	\$ 67,980
Total		\$ 16,767,406	\$ 17,734,889

(1) Original cost of fixed maturities reduced by repayments and adjusted for amortization of premiums or accrual of discounts. Original cost of equity securities.

(2) Other invested assets shown in the Consolidated Balance Sheets in Item 18 also includes the Company's investments accounted for using the equity method of accounting of \$900 million.

(3) Investments in real estate are carried at original cost less any impairments.

PartnerRe Ltd.

Condensed Balance Sheets—Parent Company Only
(Expressed in thousands of U.S. dollars, except parenthetical share and per share data)

	December 31, 2020	December 31, 2019
Assets		
Fixed maturities, at fair value (amortized cost: 2020, \$517,294; 2019, \$56,096)	\$ 519,967	\$ 58,161
Short-term investments, at fair value (amortized cost: 2020, \$nil; 2019, \$3,993)	—	3,993
Cash and cash equivalents	10,020	4,512
Investments in subsidiaries	9,291,985	8,896,352
Intercompany loans and balances receivable	21,559	219,815
Other	11,443	4,422
Total assets	\$ 9,854,974	\$ 9,187,255
Liabilities		
Intercompany loans and balances payable ⁽¹⁾	\$ 2,490,500	\$ 1,884,499
Accounts payable, accrued expenses and other	37,477	32,587
Total liabilities	2,527,977	1,917,086
Shareholders' Equity		
Common shares (par value \$0.00000001; issued and outstanding: 100,000,000 shares)	—	—
Preferred shares (par value \$1.00; issued and outstanding: 2020, 25,489,636 shares; 2019, 28,169,062 shares; aggregate liquidation value: 2020, \$637,241; 2019, \$704,227)	25,490	28,169
Additional paid-in capital	2,334,564	2,396,530
Accumulated other comprehensive loss	(96,005)	(75,925)
Retained earnings	5,062,948	4,921,395
Total shareholders' equity	7,326,997	7,270,169
Total liabilities and shareholders' equity	\$ 9,854,974	\$ 9,187,255

(1) The parent has fully and unconditionally guaranteed on a subordinated basis all obligations of PartnerRe Finance II Inc. and PartnerRe Finance B, both indirect 100% owned finance subsidiaries of the parent, related to the remaining \$62 million aggregate principal amount of 6.440% Fixed-to-Floating Rate junior subordinated CENts and \$500 million aggregate principal amount of 4.500% Fixed-Rate Reset junior subordinated notes, respectively. The parent's obligations under these guarantees are unsecured and rank junior in priority of payments to the parent's senior notes.

The parent has fully and unconditionally guaranteed all obligations of PartnerRe Finance B and PartnerRe Finance Ireland DAC, direct 100% owned subsidiary of the parent, related to the issuance of the 3.700% senior notes and 1.250% senior notes, respectively. The parent's obligations under these guarantees are senior and unsecured and rank equally with all other senior unsecured indebtedness of the parent.

PartnerRe Ltd.

Condensed Statements of Operations and Comprehensive Income (Loss) —Parent Company Only
(Expressed in thousands of U.S. dollars)

	For the year ended		
	December 31, 2020	December 31, 2019	December 31, 2018
Revenues			
Net investment income	\$ 2,094	\$ 1,620	\$ 1,844
Interest income on intercompany loans	—	12,215	13,015
Net realized and unrealized investment gains (losses)	641	2,594	(1,632)
Other income (loss)	113	112	(6,778)
Total revenues	2,848	16,541	6,449
Expenses			
Other expenses	53,458	51,115	25,792
Interest expense on intercompany loans	17,188	14,757	15,041
Net foreign exchange losses (gains)	82,986	(26,885)	(50,276)
Total expenses	153,632	38,987	(9,443)
(Loss) income before equity in net income (loss) of subsidiaries	(150,784)	(22,446)	15,892
Equity in net income (loss) of subsidiaries	404,973	959,194	(101,886)
Net income (loss)	254,189	936,748	(85,994)
Preferred dividends	45,990	46,416	46,416
Loss on redemption of preferred shares	2,341	—	—
Net income (loss) attributable to common shareholder	\$ 205,858	\$ 890,332	\$ (132,410)
Comprehensive income (loss)			
Net income (loss)	\$ 254,189	\$ 936,748	\$ (85,994)
Other comprehensive (loss) income	(20,080)	62,709	(48,353)
Comprehensive income (loss)	\$ 234,109	\$ 999,457	\$ (134,347)

PartnerRe Ltd.
Condensed Statements of Cash Flows—Parent Company Only
(Expressed in thousands of U.S. dollars)

	For the year ended		
	December 31, 2020	December 31, 2019	December 31, 2018
Cash flows from operating activities			
Net income (loss)	\$ 254,189	\$ 936,748	\$ (85,994)
Adjustments to reconcile net income to net cash used in operating activities:			
Equity in net (income) loss of subsidiaries	(404,973)	(959,194)	101,886
Other, net	87,789	(17,167)	(29,283)
Net cash used in operating activities	(62,995)	(39,613)	(13,391)
Cash flows from investing activities			
Advances to/from subsidiaries, net ⁽¹⁾⁽²⁾⁽³⁾	73,738	(282,233)	(261,666)
Net issue of intercompany loans receivable and payable ⁽¹⁾⁽⁴⁾	458,489	276,332	299,279
Sales and redemptions of fixed maturities	32,230	72,724	65,025
Sales and redemptions of short-term investments	43,899	2,189	—
Purchases of fixed maturities	(496,139)	(18,621)	(124,932)
Purchases of short-term investments	(39,913)	(6,173)	—
Other, net	(3,987)	(29)	(680)
Net cash provided by (used in) investing activities	68,317	44,189	(22,974)
Net cash used in financing activities ⁽²⁾	—	—	—
Effect of foreign exchange rate changes on cash	186	(1,145)	10,765
Increase (decrease) in cash and cash equivalents	5,508	3,431	(25,600)
Cash and cash equivalents—beginning of year	4,512	1,081	26,681
Cash and cash equivalents—end of year	\$ 10,020	\$ 4,512	\$ 1,081

(1) During 2020, the parent recorded a non-cash exchange related to a reduction of intercompany loans and balances receivable of \$204 million and a corresponding reduction of intercompany loans and balances payable of \$204 million. This non-cash transaction has therefore been excluded from the Condensed Statements of Cash Flows—Parent Company Only.

(2) During 2020, 2019 and 2018, dividends paid to common and preferred shareholders of \$96 million, \$246 million and \$94 million, respectively, were paid by a Bermuda subsidiary on behalf of the parent, with a corresponding increase to intercompany balances payable. During 2020, the redemption of Series F preferred shares of \$67 million was also paid by a Bermuda subsidiary on behalf of the parent, with a corresponding increase to intercompany balances payable. These transactions have therefore been excluded from the Condensed Statements of Cash Flows—Parent Company Only.

(3) During 2020, the parent recorded a non-cash capital contribution to a subsidiary of \$25 million, with a corresponding change to the intercompany balances payable. During 2019, the Parent recorded non-cash dividends received from subsidiaries and non-cash capital contributions to subsidiaries of \$979 million and \$22 million, respectively, with corresponding changes to the intercompany balances receivable/payable. These non-cash transactions have therefore been excluded from the Condensed Statements of Cash Flows—Parent Company Only.

(4) During 2020, the Company recorded a \$458 million loan payable maturing in 2030 with a direct Bermuda subsidiary in exchange for shares of an indirectly owned subsidiary, which were subsequently transferred to another subsidiary in exchange for cash. The cash proceeds were primarily invested in fixed maturities.

PartnerRe Ltd.
Supplementary Insurance Information
For the years ended December 31, 2020, 2019 and 2018
(Expressed in thousands of U.S. dollars)

	Deferred Policy Acquisition Costs	Gross Reserves	Unearned Premiums	Other Benefits Payable	Premium Revenue	Net Investment Income ⁽¹⁾	Losses Incurred	Acquisition Costs	Other Expenses ⁽²⁾	Net Premiums Written
2020										
Non-life	\$ 543,416	\$11,395,321	\$ 2,257,441	\$ —	\$ 5,054,529	\$ N/A	\$ 4,016,704	\$ 1,254,067	\$ 87,163	\$ 4,825,919
Life and Health	276,555	—	7,773	2,704,229	1,482,297	68,259	1,318,196	102,051	73,105	1,474,939
Corporate and Other	—	—	—	—	—	292,409	—	—	195,379	—
Total	\$ 819,971	\$11,395,321	\$ 2,265,214	\$ 2,704,229	\$ 6,536,826	\$ 360,668	\$ 5,334,900	\$ 1,356,118	\$ 355,647	\$ 6,300,858
2019										
Non-life	\$ 640,442	\$10,357,981	\$ 2,420,009	\$ —	\$ 5,058,056	\$ N/A	\$ 3,662,891	\$ 1,306,388	\$ 107,414	\$ 5,438,807
Life and Health	234,166	—	13,851	2,417,044	1,467,162	71,756	1,263,016	149,074	69,191	1,470,251
Corporate and Other	—	5,402	—	—	—	376,782	(2,751)	—	193,364	—
Total	\$ 874,608	\$10,363,383	\$ 2,433,860	\$ 2,417,044	\$ 6,525,218	\$ 448,538	\$ 4,923,156	\$ 1,455,462	\$ 369,969	\$ 6,909,058
2018										
Non-life	\$ 553,535	\$ 9,885,913	\$ 2,062,736	\$ —	\$ 4,301,862	\$ N/A	\$ 3,168,647	\$ 1,107,760	\$ 102,397	\$ 4,592,282
Life and Health	189,511	—	10,217	2,198,080	1,211,948	65,567	1,024,608	129,704	51,055	1,211,082
Corporate and Other	—	9,463	—	—	—	350,354	—	—	152,116	—
Total	\$ 743,046	\$ 9,895,376	\$ 2,072,953	\$ 2,198,080	\$ 5,513,810	\$ 415,921	\$ 4,193,255	\$ 1,237,464	\$ 305,568	\$ 5,803,364

(1) Because the Company does not manage its assets by segment, net investment income is not allocated to the Non-life business of the reinsurance operations. However, because of the interest-sensitive nature of some of the Company's Life products, net investment income is considered in management's assessment of the profitability of the Life and Health segment.

(2) Other expenses are a component of underwriting result for the Non-life business and Life and Health segment as the Company allocates certain other expenses to its operating segments that vary with business written.

PartnerRe Ltd.
Reinsurance
For the years ended December 31, 2020, 2019 and 2018
(Expressed in thousands of U.S. dollars)

	Gross amount	Ceded to other companies	Assumed from other companies	Net amount	Percentage of amount assumed to net
2020					
Life reinsurance in force ⁽¹⁾	\$ —	\$ 18,764,660	\$ 398,443,383	\$ 379,678,723	105 %
Premiums earned					
Life	\$ —	\$ 23,522	\$ 1,483,298	\$ 1,459,776	102 %
Accident and health	—	—	22,521	22,521	100 %
P&C ⁽²⁾	269,691	516,672	5,301,510	5,054,529	105 %
Total premiums	\$ 269,691	\$ 540,194	\$ 6,807,329	\$ 6,536,826	104 %
2019					
Life reinsurance in force ⁽¹⁾	\$ —	\$ 17,632,050	\$ 359,376,352	\$ 341,744,302	105 %
Premiums earned					
Life	\$ —	\$ 22,559	\$ 1,427,723	\$ 1,405,164	102 %
Accident and health	—	—	61,998	61,998	100 %
P&C ⁽²⁾	275,923	375,301	5,157,434	5,058,056	102 %
Total premiums	\$ 275,923	\$ 397,860	\$ 6,647,155	\$ 6,525,218	102 %
2018					
Life reinsurance in force ⁽¹⁾	\$ —	\$ 16,349,433	\$ 349,064,323	\$ 332,714,890	105 %
Premiums earned					
Life	\$ —	\$ 24,025	\$ 1,184,604	\$ 1,160,579	102 %
Accident and health	—	—	51,369	51,369	100 %
P&C ⁽²⁾	248,501	450,096	4,503,457	4,301,862	105 %
Total premiums	\$ 248,501	\$ 474,121	\$ 5,739,430	\$ 5,513,810	104 %

(1) Life reinsurance in force excludes products that do not pass risk transfer.

(2) P&C includes Specialty and U.S. health premiums.

PartnerRe Ltd.
Supplemental Information
Concerning Property-Casualty Insurance Operations ⁽¹⁾
For the years ended December 31, 2020, 2019 and 2018
(Expressed in thousands of U.S. dollars)

Affiliation with Registrant	Deferred Policy Acquisition Costs	Liability for Unpaid Losses and Loss Expenses	Unearned Premiums	Premiums Earned	Losses and Loss Expenses Incurred Related to ⁽²⁾		Acquisition Costs	Paid Losses and Loss Expenses	Premiums Written
					Current year	Prior year			
Consolidated subsidiaries									
2020	\$ 543,416	\$ 11,395,321	\$ 2,257,441	\$ 5,054,529	\$ 3,945,248	\$ 71,456	\$ 1,254,067	\$ 3,232,604	\$ 4,825,919
2019	\$ 640,442	\$ 10,363,383	\$ 2,420,009	\$ 5,058,056	\$ 3,716,988	\$ (56,848)	\$ 1,306,388	\$ 3,090,670	\$ 5,438,807
2018	\$ 553,535	\$ 9,895,376	\$ 2,062,736	\$ 4,301,862	\$ 3,417,366	\$ (248,719)	\$ 1,107,760	\$ 2,921,987	\$ 4,592,282

(1) Includes the Company's P&C and Specialty segments.

(2) Net incurred losses include favorable loss development of \$3 million during the year ended December 31, 2019, which are allocated to Corporate and Other.

ITEM 19. EXHIBITS

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	Original Number	Date Filed	SEC File Reference Number	
1.1	Amended Memorandum of Association	F-3	3.1	June 20, 1997	333-7094	
1.2	Bye-laws of PartnerRe Ltd.	20-F	1.2	March 2, 2020	001-14536	
2.1	Certificate of Designation of 6.50% Series G Cumulative Redeemable Preferred Shares	8-K	4.1	May 3, 2016	001-14536	
2.2	Certificate of Designation of 7.25% Series H Cumulative Redeemable Preferred Shares	8-K	4.2	May 3, 2016	001-14536	
2.3	Certificate of Designation of 5.875% Series I Non-Cumulative Redeemable Preferred Shares	8-K	4.3	May 3, 2016	001-14536	
2.4	Certificate of Designation of Class B Common Shares	20-F	2.8	March 14, 2018	001-14536	
2.5.1	Junior Subordinated Indenture dated November 7, 2006 among PartnerRe Finance II Inc., PartnerRe Ltd. and The Bank of New York.	8-K	4.1	November 7, 2006	001-14536	
2.5.2	First Supplemental Junior Subordinated Indenture (including the form of the CENts) among PartnerRe Finance II Inc., PartnerRe Ltd. and The Bank of New York	8-K	4.2	November 7, 2006	001-14536 61194484	
2.6.1	Junior Subordinated Debt Securities Guarantee Agreement dated November 7, 2006 between PartnerRe Ltd. and The Bank of New York	8-K	4.3	November 7, 2006	001-14536	
2.6.2	First Supplemental Junior Subordinated Debt Securities Guarantee Agreement dated November 7, 2006 between PartnerRe Ltd. and The Bank of New York	8-K	4.4	November 7, 2006	001-14536	
2.7.1	Indenture dated March 15, 2010 among PartnerRe Finance B LLC, PartnerRe Ltd. and The Bank of New York Mellon	8-K	4.1	March 15, 2010	001-14536	
2.7.2	Second Supplemental Indenture, dated as of June 19, 2019, among PartnerRe Finance B LLC, PartnerRe Ltd. and The Bank of New York Mellon	6-K	4.1	June 19, 2019	001-14536	
2.8.1	Senior Debt Securities Guarantee Agreement dated March 15, 2010 between PartnerRe Ltd. and The Bank of New York Mellon	8-K	4.3	March 15, 2010	001-14536	
2.8.2	Second Supplemental Senior Debt Securities Guarantee Agreement, dated as of June 19, 2019, between PartnerRe Ltd. and The Bank of New York Mellon	6-K	4.2	June 19, 2019	001-14536	
2.9.1	Deed of covenant made on 15 September 2016 by PartnerRe Ireland Finance DAC in favour of the account holders or participants of Clearstream Banking S.A. and/or Euroclear Bank S.A./N.V.	20-F	2.10.1	March 2, 2020	001-14536	
2.9.2	Guarantee agreement by PartnerRe Ltd. of the obligations of PartnerRe Ireland Finance DAC under (i) the €750,000,000 1.25 per cent. Guaranteed Notes due 15 September 2026	20-F	2.10.2	March 2, 2020	001-14536	
2.9.3	Agency agreement dated 15 September 2016 between PartnerRe Ltd., PartnerRe Ireland Finance DAC and BNP Paribas Securities Services	20-F	2.10.3	March 2, 2020	001-14536	
2.10.1	Subordinated Debt Securities Indenture, dated as of September 22, 2020 among PartnerRe Finance B LLC, PartnerRe Ltd. and The Bank of New York Mellon	6-K	4.1	September 22, 2020	001-14536	

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Exhibit Number	Exhibit Description	Incorporated by Reference			SEC File Reference Number	Filed Herewith
		Form	Original Number	Date Filed		
2.10.2	First Supplemental Subordinated Debt Securities Indenture, dated as of September 22, 2020, among PartnerRe Finance B LLC, PartnerRe Ltd. and The Bank of New York Mellon	6-K	4.2	September 22, 2020	001-14536	
2.11.1	Subordinated Debt Securities Guarantee Agreement, dated as of September 22, 2020, between PartnerRe Ltd. and The Bank of New York	6-K	4.3	September 22, 2020	001-14536	
2.11.2	First Supplemental Subordinated Debt Securities Guarantee Agreement, dated as of September 22, 2020, between PartnerRe Ltd. and The Bank of New York	6-K	4.4	September 22, 2020	001-14536	
2.12	Description of Securities					X
4.1	Form of Indemnification Agreement between PartnerRe Ltd. and its directors	10-Q	10.16	November 4, 2009	001-14536	
8.1	Subsidiaries of the Company					X
11.1	Code of Business Conduct and Ethics					X
12.1	Certification of Jacques Bonneau, Chief Executive Officer, as required by Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934					X
12.2	Certification of Nicolas Burnet, Chief Financial Officer, as required by Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934					X
13.1	Certifications of Jacques Bonneau, Chief Executive Officer, and Nicolas Burnet, Chief Financial Officer, as required by Rule 13a-14(b) or 15d-14(b) of the Securities Exchange Act of 1934					X
15.1	Consent of Independent Registered Public Accounting Firm					X
101.1	The following financial information from PartnerRe Ltd.'s Annual Report on Form 20-F for the year ended December 31, 2020 formatted in Inline XBRL: (i) Consolidated Balance Sheets at December 31, 2020 and 2019; (ii) Consolidated Statements of Operations and Comprehensive Income for the years ended December 31, 2020, 2019 and 2018; (iii) Consolidated Statements of Shareholders' Equity for the years ended December 31, 2020, 2019 and 2018; (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2020, 2019 and 2018; (v) Notes to Consolidated Financial Statements and (vi) Financial Statements Schedules.					X
104.1	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)					X

