Sirius Bermuda Insurance Company Ltd.

Consolidated Financial Statements

For the years ended December 31, 2020, 2019, and 2018

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Report of Independent Auditors

To the Management and Board of Directors of Sirius Bermuda Insurance Company Ltd.

We have audited the accompanying consolidated financial statements of Sirius Bermuda Insurance Company Ltd. and its subsidiaries, which comprise the consolidated balance sheets as of December 31, 2020 and 2019, and the related consolidated statements of (loss) income, of comprehensive (loss), of shareholder's equity and of cash flows for each of the three years in the period ended December 31, 2020.

Management's Responsibility for the Consolidated Financial Statements

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

Auditors' Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Sirius Bermuda Insurance Company Ltd. and its subsidiaries as of December 31, 2020 and 2019, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2020 in accordance with accounting principles generally accepted in the United States of America.

Priceworterhouse Coopers LLP

New York, New York April 15, 2021

Sirius Bermuda Insurance Company Ltd. Consolidated Balance Sheets As at December 31, 2020 and 2019

(Expressed in millions of U.S. dollars, except share information)		2020		2019
Assets				
Fixed maturity investments, trading at fair value (Amortized cost 2020:	\$	1,820.8	\$	1,647.0
\$1,849.5; 2019: \$1,621.8)	Φ	1,820.8	φ	1,047.0
Short-term investments, at fair value (Amortized cost 2020: \$1,392.5; 2019:		1,368.5		1,076.6
\$1,082.2)		1,508.5		1,070.0
Equity securities, trading at fair value (Cost 2020: \$20.0; 2019: \$379.2)		10.7		405.1
Other long-term investments, at fair value (Cost 2020: \$316.3; 2019: \$315.4)		446.4		346.8
Cash		224.4		136.1
Restricted cash		17.7		14.3
Total investments and cash		3,888.5		3,625.9
Accrued investment income		8.2		10.9
Insurance and reinsurance premiums receivable		632.9		730.1
Reinsurance recoverable on unpaid losses		456.1		410.3
Reinsurance recoverable on anjata losses		51.5		73.9
Funds held by ceding companies		251.5		293.9
Ceded unearned insurance and reinsurance premiums		110.6		162.0
Deferred acquisition costs		140.4		148.2
Deferred tax asset		156.6		166.7
Accounts receivable on unsettled investment sales		18.4		6.7
Goodwill		400.8		400.8
Intangible assets		164.0		400.8 179.8
Other assets		129.1		179.8
	¢	-	¢	
Total assets	\$	6,408.6	\$	6,343.2
Liabilities				
Loss and loss adjustment expense reserves	\$	2,777.9	\$	2,331.5
Unearned insurance and reinsurance premiums		624.0		708.0
Ceded reinsurance payable		163.7		244.7
Funds held under reinsurance treaties		149.2		169.1
Deferred tax liability		231.4		205.9
Accounts payable on unsettled investment purchases		17.9		2.3
Other liabilities		158.3		168.2
		4,122.4		3,829.7
Commitments and contingencies (See Note 20)				
Common shareholder's equity				
Common shares (shares issued and outstanding: 12,000)		0.1		0.1
Additional paid-in surplus		2,054.3		2,054.3
Retained earnings		337.6		689.2
Accumulated other comprehensive (loss)		(106.1)		(232.5)
Total common shareholder's equity		2,285.9		2,511.1
Non-controlling interests		0.3		2,311.1
-		2,286.2		2,513.5
Total equity Total liabilities and equity	\$	<u>2,286.2</u> 6,408.6	\$	6,343.2
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Sirius Bermuda Insurance Company Ltd. Consolidated Statements of (Loss) Income For the years ended December 31, 2020, 2019, and 2018

(Expressed in millions of U.S. dollars)	2020	2019	2018
Revenues			
Net earned insurance and reinsurance premiums	\$ 1,542.5	\$ 1,441.6	\$ 1,262.3
Net investment income	34.8	83.1	70.5
Net realized investment gains	50.6	52.7	2.4
Net unrealized investment gains (losses)	2.2	81.2	(23.2)
Net foreign exchange (losses) gains	(8.9)	1.4	(11.6)
Revaluation of contingent consideration	(0.9)	(0.8)	3.5
Other revenue	42.8	74.1	71.3
Total revenues	1,663.1	1,733.3	1,375.2
Expenses			
Loss and loss adjustment expenses	1,289.7	1,170.3	900.0
Insurance and reinsurance acquisition expenses	305.1	288.7	255.4
Other underwriting expenses	158.0	138.2	146.2
General and administrative expenses	64.8	80.0	62.9
Intangible asset amortization expenses	15.8	15.8	15.8
Impairment of intangible assets	-	-	8.0
Total expenses	1,833.4	1,693.0	1,388.3
Pre-tax (loss) income	(170.3)	40.3	(13.1)
Income tax (expense)	(24.3)	(11.9)	(40.4)
Net (loss) income	(194.6)	28.4	(53.5)
Less: income attributable to non-controlling interests	(0.1)	(1.7)	(1.4)
Net (loss) income attributable to Sirius Bermuda's common shareholder	\$ (194.7)	\$ 26.7	\$ (54.9)

Sirius Bermuda Insurance Company Ltd. Consolidated Statements of Comprehensive (Loss) For the years ended December 31, 2020, 2019, and 2018

(Expressed in millions of U.S. dollars)	2020	2019	2018
Comprehensive (loss) income			
Net (loss) income	\$ (194.6)	\$ 28.4	\$ (53.5)
Other comprehensive income (loss), net of tax			
Change in foreign currency translation, net of tax	126.3	(35.1)	(61.9)
Total other comprehensive income (loss)	126.3	(35.1)	(61.9)
Comprehensive (loss)	(68.3)	(6.7)	(115.4)
Income attributable to non-controlling interests	(0.1)	(1.7)	(1.4)
Comprehensive (loss) attributable to Sirius Bermuda's common shareholder	\$ (68.4)	\$ (8.4)	\$ (116.8)

Sirius Bermuda Insurance Company Ltd. Consolidated Statements of Shareholder's Equity For the years ended December 31, 2020, 2019, and 2018

(Expressed in millions of U.S. dollars)	2020	2019	2018
Common shares			
Balance at beginning and end of period	\$ 0.1	\$ 0.1	\$ 0.1
Additional paid-in surplus			
Balance at beginning of period	2,054.3	2,054.3	1,920.8
Capital contributions		-	133.5
Balance at end of period	2,054.3	2,054.3	2,054.3
Retained earnings			
Balance at beginning of period	689.2	742.5	965.7
Cumulative effect of an accounting change	(6.8)	-	1.6
Balance at beginning of period, as adjusted	682.4	742.5	967.3
Net (loss) income	(194.6)	28.4	(53.5)
Income attributable to non-controlling interests	(0.1)	(1.7)	(1.4)
Dividends declared on common shares	(150.0)	(80.0)	(170.0)
Other, net	(0.1)	-	0.1
Balance at end of period	337.6	689.2	742.5
Accumulated other comprehensive (loss)			
Balance at beginning of period	(232.5)	(197.4)	(135.4)
Accumulated net foreign currency translation (losses)			
Balance at beginning of period	(232.5)	(197.4)	(135.4)
Net change in foreign currency translation	126.3	(35.1)	(62.0)
Other, net	0.1	-	-
Balance at the end of period	(106.1)	(232.5)	(197.4)
Total common shareholder's equity	\$ 2,285.9	\$ 2,511.1	\$ 2,599.5
Non-controlling interests	0.3	2.4	1.7
Total equity	\$ 2,286.2	\$ 2,513.5	\$ 2,601.2

Sirius Bermuda Insurance Company Ltd. Consolidated Statements of Cash Flows For the years ended December 31, 2020, 2019, and 2018

(Expressed in millions of U.S. dollars)

(Expressed in millions of 0.5. dollars)	2020	2019	2018
Cash flows provided from operations:	* (101.0)	* * *	
Net (loss) income	\$ (194.6)	\$ 28.4	\$ (53.5)
Adjustments to reconcile net income (loss) to net cash provided from (used for) operations:	(70.0)	(122.0)	• • •
Net realized and unrealized investment (gains) losses	(52.8)	(133.9)	20.8
Amortization of premium on fixed maturity investments	5.0	(5.7)	6.3
Amortization of intangible assets	15.8	15.8	15.8
Depreciation and other amortization	6.8	8.2	9.5
Revaluation of contingent consideration	0.9	0.8	(3.5)
Impairment of intangible assets	-	-	8.0
Other operating items:			
Net change in loss and loss adjustment expense reserves	258.0	357.8	203.7
Net change in reinsurance recoverable on paid and unpaid losses	63.3	(90.9)	(95.7)
Net change in funds held by ceding companies	60.8	(111.1)	(48.0)
Net change in unearned insurance and reinsurance premiums	(160.2)	89.1	195.5
Net change in ceded reinsurance payable	(121.7)	48.4	93.4
Net change in ceded unearned insurance and reinsurance premiums	79.5	(13.3)	(76.3)
Net change in insurance and reinsurance premiums receivable	181.6	(127.0)	(144.1)
Net change in deferred acquisition costs	19.4	(10.7)	(28.4)
Net change in funds held under reinsurance treaties	(33.2)	60.6	42.7
Net change in current and deferred income taxes, net	31.0	(5.5)	18.7
Net change in other assets and liabilities, net	(8.2)	52.3	2.0
Net cash provided from operations	151.6	163.3	166.9
Cash flows provided from (used for) investing activities:	10110	10010	1000
Net change in short-term investments	(192.3)	(360.8)	(120.1)
Sales of fixed maturities and convertible fixed maturity investments	595.4	472.3	1,285.3
Maturities, calls, and paydowns of fixed maturity and convertible fixed maturity investments	337.3	407.6	1,285.5
Sales of common equity securities	1,172.2	369.3	353.0
		74.6	72.4
Distributions and redemptions of other long-term investments	62.0	/4.0	/2.4
Sales of consolidated subsidiaries and unconsolidated affiliates, net of cash sold	11.2	-	-
Contributions to other long-term investments	(39.5)	(53.5)	(160.1)
Purchases of common equity securities	(788.3)	(336.9)	(505.7)
Purchases of fixed maturities and convertible fixed maturity investments	(1,064.8)	(607.9)	(1,231.3)
Purchases of loan participations	(13.5)	(20.0)	-
Purchases of consolidated subsidiaries, net of cash acquired	-	-	(7.9)
Net change in unsettled investment purchases and sales	3.7	(2.6)	(1.2)
Other, net	(2.3)	(0.6)	(4.8)
Net cash provided from (used for) investing activities	81.2	(58.5)	(217.7)
Cash flows (used for) financing activities:			
Dividends to common shareholder	(150.0)	(80.0)	(170.0)
Capital contribution from parent	-	-	133.5
Payment of contingent consideration	(10.0)	-	(0.9)
Cash dividends paid to non-controlling interests	(2.2)	(1.0)	-
Net cash (used for) financing activities	(162.2)	(81.0)	(37.4)
Effect of exchange rate changes on cash	21.2	(5.7)	(9.9)
Net increase (decrease) in cash during year	70.6	23.8	(88.2)
Cash and restricted cash balance at beginning of year	150.3	132.3	230.4
Cash and restricted cash balance at end of year	\$ 242.1	\$ 150.4	\$ 132.3
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Note 1. General

Sirius Bermuda Insurance Company Ltd. (the "Company" or "SBDA") is a Bermuda exempted company that provides multi-line insurance and reinsurance on a worldwide basis through its wholly owned subsidiaries (collectively with the Company, "Sirius Bermuda").

Note 2. Summary of significant accounting policies

Basis of presentation

The accompanying consolidated financial statements at December 31, 2020, have been prepared in accordance with generally accepted accounting principles in the United States of America ("GAAP"). The accompanying consolidated financial statements present the consolidated results of operations, financial condition, and cash flows of the Company and its subsidiaries and those entities in which the Company has control and a majority economic interest as well as those variable interest entities ("VIEs") that meet the requirements for consolidation. All significant intercompany transactions have been eliminated in consolidation.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Certain amounts in the prior period financial statements have been reclassified to conform to the current presentation. Tabular dollar amounts are in millions, with the exception of share and per share amounts. All amounts are reported in U.S. dollars, except where noted otherwise.

On February 26, 2019, Sirius International Insurance Group, Ltd. ("Sirius Ltd."), the Company's indirect parent, approved the contribution of Sirius Acquisitions Holding Company III ("SAHC3") to Sirius International UK Holdings II, Ltd. ("SIUK2"), a direct subsidiary of the Company. The contribution of SAHC3 to SIUK2 during 2019 qualifies as a common control transaction and SAHC3's financial position, results of operations, and cash flows for the year ended December 31, 2018 are included in Sirius Bermuda's consolidated financial statements.

On May 26, 2017, Sirius Ltd., the Company's indirect parent, acquired 100% ownership of IMG Acquisition, Inc. and its subsidiaries ("IMG"), through Sirius Acquisitions Holding Company II ("SAHC2"). On June 29, 2018, SAHC2 was contributed to the Company. The contribution of SAHC2 to the Company qualifies as a common control transaction and SAHC2's results of operations and cash flows for the year ended December 31, 2018 are included in the Company's consolidated financial statements.

Significant accounting policies

Investment securities

Sirius Bermuda's invested assets consist of securities and other investments held for general investment purposes. Sirius Bermuda's portfolio of fixed maturity investments and equity securities held for general investment purposes are classified as trading and are reported at fair value as of the balance sheet date. Changes in unrealized gains and losses are reported pre-tax in revenues. Realized investment gains and losses are accounted for using the first-in first-out method and are reported pre-tax in revenues. Premiums and discounts on all fixed maturity investments are amortized and/or accreted to income over the anticipated life of the investment and are reported in Net investment income.

Sirius Bermuda's invested assets that are measured at fair value include fixed maturity investments, common and preferred equity securities, and other long-term investments, such as interests in hedge funds and private equities. Fair value is defined as the price received to sell an asset in an orderly transaction between market participants at the measurement date reflecting the highest and best use valuation concepts. In determining its estimates of fair value, Sirius Bermuda uses a variety of valuation approaches and inputs. Whenever possible, Sirius Bermuda estimates fair value using valuation methods that maximize the use of quoted prices and other observable inputs.

Short-term investments

Short-term investments consist of money market funds, certificates of deposit and other securities which, at the time of purchase, mature or become available for use within one year. Short-term investments are carried at fair value.

Other long-term investments

Other long-term investments consist primarily of hedge funds, private equity funds, other investments in limited partnerships and other private equity securities. The fair value of other long-term investments is generally based upon Sirius Bermuda's proportionate interest in the underlying fund's net asset value, which is deemed to approximate fair value. In addition, due to a lag in reporting, some of the fund managers, fund administrators, or both, are unable to provide final fund valuations as of the Company's reporting date. In these circumstances, Sirius Bermuda estimates the return of the current period and uses all credible information available. This includes utilizing preliminary estimates reported by its fund managers and using information that is available to Sirius Bermuda with respect to the underlying investments, as necessary. The changes in fair value are reported in pre-tax revenues in Net unrealized investment gains (losses). Actual final fund valuations may differ from Sirius Bermuda's estimates and these differences are recorded in the period they become known as a change in estimate.

Other long-term investments also include certain investments that are eligible for the equity method where Sirius Bermuda has elected the fair value option under which the changes in fair value are reported in pre-tax revenues in Net unrealized investment gains (losses). (See Note 17.)

Loan participations

Loan participations that qualify for sale accounting under the Accounting Standards Codification ("ASC") Topic 860, "Transfers and Servicing of Financial Assets", are carried at fair value. The fair value of loan participations is estimated using discounted cash flow analysis. Sirius Bermuda includes Loan participations in Other assets in the Consolidated Balance Sheets.

Cash

Cash includes amounts on hand and demand deposits with banks and other financial institutions. Amounts presented in the statement of cash flows are shown net of balances acquired and sold in the purchase or sale of the Company's consolidated subsidiaries.

Restricted cash

Restricted cash represents cash and cash equivalents that Sirius Bermuda, through its managing general underwriting units ("MGUs") - IMG and Armada, is (a) holding for the benefit of a third party and is legally or contractually restricted as to withdrawal or usage for general corporate purposes; and (b) not replaceable by another type of asset other than cash or cash equivalents, under the terms of Sirius Bermuda's contractual arrangements with such third parties.

Insurance and reinsurance operations

Premiums written are recognized as revenues and are earned ratably over the term of the related policy or reinsurance treaty. Premiums written include amounts reported by brokers, managing general underwriters, and ceding companies, supplemented by the Company's own estimates of premiums where reports have not been received. The determination of premium estimates requires a review of the Company's experience with the ceding companies, managing general underwriters, familiarity with each market, the timing of the reported information, an analysis and understanding of the characteristics of each class of business, and management's judgment of the impact of various factors, including premium or loss trends, on the volume of business written and ceded to the Company. On an ongoing basis, the Company's underwriters review the amounts reported by these third parties for reasonableness based on their experience and knowledge of the subject class of business, taking into account the Company's historical experience with the brokers or ceding companies. Unearned premiums represent the portion of premiums written that are applicable to future insurance or reinsurance coverage provided by policies or treaties in force.

Deferred acquisition costs represent commissions, premium taxes, brokerage expenses, and other costs which are directly attributable to the successful acquisition or renewal of contracts and vary with the production of business. These costs are deferred and amortized over the period during which the premiums are earned. Amortization of Deferred acquisition costs are shown net of contractual commissions earned on reinsurance ceded within Insurance and reinsurance acquisition expenses. Deferred acquisition costs are limited to the amount expected to be recovered from future earned premiums and anticipated investment income. This limitation is referred to as a premium deficiency. A premium deficiency is recognized if the sum of expected loss and loss adjustment expenses ("LAE"), expected dividends to policyholders, unamortized acquisition costs, and maintenance costs exceeds related unearned premiums and anticipated investment income. A premium deficiency is recognized by charging any unamortized acquisition costs to expense to the extent required in order to eliminate the deficiency. If the premium deficiency exceeds unamortized acquisition costs, then a liability is accrued for the excess deficiency.

Other underwriting expenses consist primarily of personnel related expenses (including salaries, benefits, and variable compensation expense) and other general operating expenses related to the underwriting operations.

Losses and LAE are charged against income as incurred. Unpaid insurance loss and LAE reserves are based on estimates (generally determined by claims adjusters, legal counsel, and actuarial staff) of the ultimate costs of settling claims, including the effects of inflation and other societal and economic factors. Unpaid reinsurance loss and LAE reserves are based primarily on reports received from ceding companies and actuarial projections.

Unpaid loss and LAE reserves represent management's best estimate of ultimate losses and LAE, net of estimated salvage and subrogation recoveries, if applicable. Such estimates are regularly reviewed and updated and any resulting adjustments are reflected in current operations. The process of estimating loss and LAE reserves involves a considerable degree of judgment by management and the ultimate amount of expense to be incurred could be greater or less than the amounts currently reflected in the financial statements.

Sirius Bermuda enters into ceded reinsurance contracts to protect its businesses from losses due to concentration of risk, to manage its operating leverage ratios and to limit losses arising from catastrophic events. Such reinsurance contracts are executed through excess of loss treaties and catastrophe contracts under which the reinsurer indemnifies for a specified part or all of certain types of losses over stipulated amounts arising from any one occurrence or event. Sirius Bermuda has also entered into quota share treaties with reinsurers under which all risks meeting prescribed criteria are covered on a pro-rata basis. The amount of each risk ceded by Sirius Bermuda is subject to maximum limits which vary by line of business and type of coverage. Although these contracts protect Sirius Bermuda, these reinsurance arrangements do not relieve Sirius Bermuda from its primary obligations to insureds.

Amounts recoverable from reinsurers are estimated in a manner consistent with the claim liability associated with the reinsured policies. The collectability of reinsurance recoverables is subject to the solvency of the reinsurers. Sirius Bermuda is selective in regard to its reinsurers, principally placing reinsurance with those reinsurers with a strong financial condition, industry ratings, and underwriting ability. Management monitors the financial condition and ratings of its reinsurers on an ongoing basis.

Reinsurance premiums, commissions, expense reimbursements, and reserves related to reinsured business are accounted for on a basis consistent with those used in accounting for the original policies issued and the terms of the reinsurance contracts. Reinsurance premiums ceded are expensed over the period the reinsurance coverage is provided. Ceded unearned insurance and reinsurance premiums represent the portion of premiums ceded applicable to the unexpired term of policies in force. Funds held by ceding companies represent amounts due to Sirius Bermuda in connection with certain assumed reinsurance agreements in which the ceding company retains a portion of the premium to provide security against future loss payments. The funds held by ceding company and a contractually agreed interest amount is credited to Sirius Bermuda and recognized as investment income. Funds held under reinsurance treaties represent contractual payments due from Sirius Bermuda that have been retained to secure such obligations.

Accruals for contingent commission liabilities are established for reinsurance contracts that provide for the stated commission percentage to increase or decrease based on the loss experience of the contract. Changes in the estimated liability for contingent commission arrangements are recorded as Insurance and reinsurance acquisition expenses. Accruals for contingent commission liabilities are determined through the review of the contracts that have these adjustable features and are estimated based on expected loss and LAE.

Derivative financial instruments

Sirius Bermuda holds derivative financial instruments for both risk management and investment purposes. Sirius Bermuda recognizes all derivatives as either assets or liabilities, measured at fair value, in the Consolidated Balance Sheets. Changes in the fair value of derivative instruments are recognized in current period pre-tax income.

Deferred software costs

Sirius Bermuda capitalizes costs related to computer software developed for internal use during the application development stage of software development projects. These costs generally consist of certain external, payroll and payroll-related costs. Sirius Bermuda begins amortization of these costs once the project is completed and ready for its intended use. Amortization is on a straight-line basis and over a useful life of three to five years. As of December 31, 2020 and 2019, Sirius Bermuda had unamortized deferred software costs of \$8.5 million and \$6.8 million, respectively. For the years ended December 31, 2020, 2019, and 2018, Sirius Bermuda had amortization expenses of \$2.9 million, \$3.6 million and \$4.8 million, respectively, related to software developed for internal use.

Share-based compensation

Share-based compensation plans are accounted for in accordance with the ASC Topic 718 "Compensation - Stock Compensation" Sirius Bermuda recognizes the compensation expense for stock restricted share and performance share awards based on the fair value of the award on the date of grant over the requisite service period. Awards under the 2018 Omnibus Incentive Plan vest over two or three years. The Company has elected to recognize forfeitures as they occur rather than estimate service-based forfeitures over the requisite service period.

Defined benefit plans

Certain Sirius Bermuda employees in Europe participate in defined benefit plans. The liability for the defined benefit plans that is reported on the Consolidated Balance Sheets is the current value of the defined benefit obligation at the end of the period, reduced by the fair value of the plan's managed assets, with adjustments for actuarial gains and losses. The defined benefit pension plan obligation is calculated annually by independent actuaries. The current value of the defined benefit obligation is determined through discounting of expected future cash flows, using interest rates determined by current market interest rates. The service costs and actuarial gains and losses on the defined benefit obligation and the fair value on the plan assets are recognized in the Consolidated Statements of Income.

Commission and other revenue recognition

Sirius Bermuda recognizes agent commissions and other revenues when it has fulfilled all of its obligations necessary to earn the revenue and when it can both reliably estimate the amount of revenue, net of any amounts expected to be uncollectible, and any amounts associated with expected cancellations.

Federal and foreign income taxes

Certain of Sirius Bermuda's subsidiaries file consolidated tax returns in the United States. Sirius Bermuda has subsidiaries in various jurisdictions, including but not limited to Sweden, the United Kingdom, and Luxembourg, which are subject to applicable taxes in those jurisdictions.

Deferred tax assets and liabilities are recorded when a difference between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts for tax purposes exists, and for other temporary differences. The deferred tax asset or liability is recorded based on tax rates expected to be in effect when the difference reverses. The deferred tax asset is recognized when it is more likely than not that it will be realized.

The Tax Cuts and Jobs Act (the "TCJA") which was enacted into law in the U.S. in December 31, 2017 includes a new base erosion and anti-abuse tax ("BEAT"), which is essentially a minimum tax that is potentially applicable to certain otherwise deductible payments made by U.S. entities to non-U.S. affiliates, including cross-border interest payments and reinsurance premiums. The statutory BEAT rate is 10% in 2020-2025, and then rises to 12.5% in 2026 and thereafter. The TCJA also includes provisions for Global Intangible Low-Taxed Income ("GILTI") under which taxes on foreign income are imposed on the excess of a deemed return on tangible assets of certain foreign subsidiaries. Consistent with accounting guidance, Sirius Bermuda is treating BEAT as an in period tax charge when incurred in future periods for which no deferred taxes need to be provided and has made an accounting policy election to treat GILTI taxes in a similar manner.

Foreign currency exchange

The U.S. dollar is the functional currency for Sirius Bermuda's businesses except for Sirius International Insurance Corporation ("Sirius International"), Lloyd's Syndicate 1945 ("Syndicate 1945"), several subsidiaries of International Medical Group Acquisition, Inc. ("IMG"), and the Canadian reinsurance operations of Sirius America Insurance Company ("Sirius America"). Sirius Bermuda also invests in securities denominated in foreign currencies. Assets and liabilities recorded in these foreign currencies are translated into U.S. dollars at exchange rates in effect at the balance sheet date, and revenues and expenses are converted using the average exchange rates for the period. Net foreign exchange gains and losses arising from the translation of functional currencies are reported in shareholder's equity, in Accumulated other comprehensive (loss). As of December 31, 2020 and 2019, Sirius Bermuda had Net unrealized foreign currency translation losses of \$111.2 million and \$232.5 million, respectively, recorded in Accumulated other comprehensive (loss) on its Consolidated Balance Sheets.

Assets and liabilities relating to foreign operations are remeasured into the functional currency using current exchange rates; revenues and expenses are remeasured into the functional currency using the weighted average exchange rate for the period. The resulting exchange gains and losses are reported as a component of net income in the period in which they arise within Net realized investment gains (losses), Net unrealized investment gains (losses), and Net foreign exchange (losses) gains.

The following rates of exchange for the U.S. dollar have been used for translation of assets and liabilities for subsidiaries whose functional currency is not the U.S. dollar at December 31, 2020 and 2019:

	Closing	Closing
Currency	Rate 2020	Rate 2019
Swedish kronor	8.1676	9.3210
British pound	0.7322	0.7568
Euro	0.8151	0.8912
Canadian dollar	1.2725	1.3003

Goodwill and intangible assets

Goodwill represents the excess of the purchase price of an acquisition over the fair value of the identifiable net assets acquired and is assigned to the applicable reporting unit at acquisition. In the absence of any indications of potential impairment, the evaluation of goodwill is performed annually during the fourth quarter of each year. Sirius Bermuda initially evaluates goodwill using a qualitative approach to determine whether it is more likely than not that the fair value of goodwill is greater than its carrying value. If the results of the qualitative evaluation indicate that it is more likely than not that the carrying value of goodwill exceeds its fair value, Sirius Bermuda performs the quantitative test for impairment.

Indefinite-lived intangible assets are evaluated for impairment similar to goodwill. Finite-lived intangible are amortized on a straight-line basis over their estimated useful lives. The amortization periods approximate the period over which Sirius Bermuda expects to generate future net cash inflows from the use of these assets. All of these assets are subject to impairment testing for the impairment or disposal of long-lived assets when events or conditions indicate that the carrying value of an asset may not be fully recoverable from future cash flows.

If goodwill or intangible assets are impaired, such assets are written down to their fair values with the related expense recorded in Sirius Bermuda's results of operations. (See Note 10.)

Non-controlling interests

Non-controlling interests consist of the ownership interests of non-controlling shareholders in consolidated subsidiaries, and are presented separately on the balance sheet.

Variable interest entities

Sirius Bermuda consolidates a VIE when it has both the power to direct the activities of the VIE that most significantly impact its economic performance and either the obligation to absorb losses or the right to receive returns from the VIE that could potentially be significant to the VIE.

An entity in which Sirius Bermuda holds a variable interest is a VIE if any of the following conditions exist: (a) the total equity investment at risk is not sufficient to permit the entity to finance its activities without additional subordinated financial support, (b) as a Bermuda, the holders of equity investment at risk lack either the direct or indirect ability through voting rights or similar rights to make decisions about an entity's activities that most significantly impact the entity's economic performance or the obligation to absorb the expected losses or right to receive the expected residual returns, or (c) the voting rights of some investors are disproportionate to their obligation to absorb the expected losses of the entity, their rights to receive the expected residual returns of the entity, or both, and substantially all of the entity's activities either involve or are conducted on behalf of an investor with disproportionately few voting rights. The primary beneficiary is defined as the variable interest holder that is determined to have the controlling financial interest as a result of having both (a) the power to direct the activities of a VIE that most significantly impact the economic performance of the VIE and (b) the obligation to absorb losses or right to receive benefits from the VIE that could potentially be significant to the VIE. At inception of the VIE, as well as following an event that requires reassessment, Sirius Bermuda determines whether it is the primary beneficiary based on the facts and circumstances surrounding each entity. (See Note 18.)

Recently adopted changes in accounting principles

Credit losses

Effective January 1, 2020, Sirius Bermuda adopted Accounting Standards Update ("ASU") 2016-13, Measurement of Credit Losses on Financial Instruments (ASC 326), which establishes new guidance for the recognition of credit losses for financial assets measured at amortized cost ("current expected credit losses" or "CECL"). The guidance applies to financial assets that have the contractual right to receive cash, including reinsurance receivables and requires reporting entities to estimate the credit losses expected over the life of a credit exposure using historical information, current information and reasonable and supportable forecasts that affect the collectability of the financial asset. The expected credit losses and subsequent adjustments to such losses, are recorded through an allowance account that is deducted from the amortized cost basis of the financial asset, with the net carrying value of the financial asset presented on the consolidated balance sheet at the amount expected to be collected. Sirius Bermuda adopted the new guidance using a modified retrospective transition method through a cumulative-effect adjustment to retained earnings. As a result of the adoption of the new guidance, Sirius Bermuda estimated a total CECL allowance of \$14.9 million. The adoption of this guidance did not materially impact our results of operations or cash flows. Due to the adoption of the standard using the retrospective cumulative-effect adjustment method, the Company recorded a \$(6.8) million cumulative-effect adjustment net of taxes to its opening retained earnings as of January 1, 2020. (See Note 6.)

Fair Value Measurement Disclosures

Effective January 1, 2020, Sirius Bermuda adopted ASU 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement, which modifies the disclosure requirements of fair value measurements. The adoption of this guidance did not have any impact on the consolidated financial statements but expanded disclosure of the ranges and weighted averages of significant unobservable inputs used in Level 3 fair values. (See Note 9.)

Simplifying the Accounting for Income Taxes

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes ("ASU 2019-12"), which eliminates certain exceptions, and clarifies and simplifies certain aspects of accounting for income taxes. This guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020, with early adoption permitted. We adopted ASU 2019-12 effectively from January 1, 2020. Adoption of the standard did not have a material impact on the Consolidated Financial Statements.

Recent accounting pronouncements

In March 2020, the FASB issued ASU 2020-04, Facilitation of the Effects of Reference Rate Reform on Financial Reporting, which provides optional expedients and exceptions for applying GAAP to investments, derivatives, or 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 standard may be elected over time through December 31, 2022 as reference rate reform activities occur. This guidance is currently not expected to have a material impact on the Consolidated Financial Statements.

Note 3. Significant transactions

Empire Insurance Company

On July 7, 2020, Sirius Bermuda sold 100% of the common shares of Empire Insurance Company ("Empire") to Physicians' Reciprocal Insurers. Sirius Bermuda received \$11.4 million of proceeds and recognized a \$0.9 million gain on the sale of Empire.

Loss portfolio transfer

On January 23, 2020, Sirius Bermuda consummated a loss portfolio transfer with Pacific Re, Inc. Under the agreement, Sirius Bermuda received \$69.7 million in cash and assumed net undiscounted loss and loss adjustment expenses ("LAE") reserves with the same value. In addition, Sirius Bermuda recognized Gross written premium and Loss and loss adjustment expenses for \$69.7 million.

As part of closing on the loss portfolio transfer, an estimate of net paid losses was included. Sixty days after the closing, actual net paid losses were determined and Sirius Bermuda paid back \$0.4 million in cash to Pacific Re, Inc. and reduced assumed net undiscounted loss and LAE reserves by the same value. In addition, Sirius Bermuda adjusted Gross written premium and Loss and loss adjustment expenses by \$(0.4) million.

Cedar Insurance Company (formerly WRM America Indemnity Company, Inc.)

On August 16, 2018, Sirius Bermuda acquired 100% ownership of WRM America Indemnity Company, Inc. ("WRM America") from WRM America Indemnity Holding Company, LLC for \$16.9 million in cash. During 2019, WRM America changed its name to Cedar Insurance Company ("Cedar"). Cedar is a New York-domiciled insurer with a run-off book of business mainly comprised of general liability, educator's legal liability, automobile liability and physical damage, property and excess catastrophe liability. As part of the purchase of Cedar, Sirius Bermuda acquired \$3.1 million of indefinite-lived intangible assets related to insurance licenses.

The Phoenix Holdings Ltd.

On July 2, 2018, Sirius Bermuda terminated its share purchase agreement to acquire a controlling interest in The Phoenix Holdings Ltd. As a result of the termination, Sirius Bermuda recognized an income statement charge for the \$4.5 million call option it held during 2018.

Note 4. Reserves for unpaid losses and loss adjustment expenses

Sirius Bermuda establishes loss and LAE reserves that are estimates of future amounts needed to pay claims and related expenses for events that have already occurred. Sirius Bermuda also obtains reinsurance whereby another reinsurer contractually agrees to indemnify Sirius Bermuda for all or a portion of the reinsurance risks underwritten by Sirius Bermuda. Such arrangements, where one reinsurer provides reinsurance to another reinsurer, are usually referred to as "retrocessional reinsurance" arrangements. Sirius Bermuda establishes estimates of amounts recoverable from retrocessional reinsurance in a manner consistent with the loss and LAE liability associated with reinsurance contracts offered to its customers (the "ceding companies"), net of an allowance for uncollectible amounts. Net reinsurance loss reserves represent loss and LAE reserves reduced by retrocessional reinsurance recoverable on unpaid losses.

In addition to those factors which give rise to inherent uncertainties in establishing loss and LAE reserves, the inherent uncertainties of estimating such reserves are even greater for the reinsurer, due primarily to: (1) the claim-tail for reinsurers and insurers working through MGUs being further extended because claims are first reported to either the original primary insurance company or the MGU and then through one or more intermediaries to reinsurers, (2) the diversity of loss development patterns among different types of reinsurance treaties, facultative contracts or direct insurance contracts, (3) the necessary reliance on the ceding companies, intermediaries, and MGUs for information regarding reported claims and (4) the differing reserving practices among ceding companies and MGUs.

As with insurance reserves, the process of estimating reinsurance reserves involves a considerable degree of judgment by management and, as of any given date, is inherently uncertain. Based on the above, such uncertainty may be larger relative to the reserves for a company that principally writes reinsurance compared to an insurance company, and certainty may take a longer time to emerge.

Upon notification of a loss from an insured (typically a ceding company), Sirius Bermuda establishes case reserves, including LAE reserves, based upon Sirius Bermuda's share of the amount of reserves reported by the insured and Sirius Bermuda's independent evaluation of the loss. In cases where available information indicates that reserves reported by a ceding company are inadequate or excessive, Sirius Bermuda establishes case reserves or incurred but not reported ("IBNR") in excess of or below its share of the reserves reported by the ceding company. Also, in certain instances, Sirius Bermuda may decide not to establish case reserves or IBNR, when the information available indicates that reserves established by ceding companies are not adequately supported. In addition, specific claim information reported by insureds or obtained through claim audits can alert management to emerging trends such as changing legal interpretations of coverage and liability, claims from unexpected sources or classes of business, and significant changes in the frequency or severity of individual claims where customary. Generally, ceding company audits are not customary outside the United States. This information is often used to supplement estimates of IBNR.

Generally, initial actuarial estimates of IBNR reserves not related to a specific event are based on the loss ratio method applied to each class of business. Sirius Bermuda regularly reviews the adequacy of its recorded reserves by using a variety of generally accepted actuarial methods, including historical incurred and paid loss development methods. Estimates of the initial expected ultimate losses involve management judgment and are based on historical information for that class of business, which includes loss ratios, market conditions, changes in pricing and conditions, underwriting changes, changes in claims emergence, and other factors that may influence expected ultimate losses. If actual loss activity differs substantially from expectations, an adjustment to recorded reserves may be warranted. As time passes, loss reserve estimates for a given year will rely more on actual loss activity and historical patterns than on initial loss ratio assumptions.

The actuarial methods are used to calculate a point estimate of loss and LAE reserves for each company within Sirius Bermuda. These point estimates are then aggregated to produce an actuarial point estimate for Sirius Bermuda. Once a point estimate is established, Sirius Bermuda's actuaries estimate loss reserve ranges to measure the sensitivity of the actuarial assumptions used to set the point estimates. These ranges are calculated from historical variations in loss ratios, payment, and reporting patterns by class and type of business. Management then establishes an estimate for the carried loss and LAE reserves shown in the financial statement. The management selection is within the range of loss reserve estimates provided by Sirius Bermuda's actuaries.

Loss and Loss Adjustment Expense Reserve Summary

The following table summarizes the loss and LAE reserve activities of Sirius Bermuda for the years ended December 31, 2020, 2019, and 2018:

(Millions)	2020	2019	2018
Gross beginning balance	\$2,331.5	\$ 2,016.7	\$ 1,898.5
Less beginning reinsurance recoverable on unpaid losses	(410.3)	(350.2)	(319.7)
Net loss and LAE reserve balance	1,921.2	1,666.5	1,578.8
Loss and LAE reserves acquired (1)	-	-	0.2
Losses and LAE incurred relating to:			
Current year losses	1,273.0	1,066.5	907.3
Prior years losses	16.7	103.8	(7.3)
Total net incurred losses and LAE	1,289.7	1,170.3	900.0
Accretion of fair value adjustment to net loss and LAE reserves	0.1	0.1	0.1
Foreign currency translation adjustment to net loss and LAE reserves	44.4	(4.4)	(20.9)
Loss and LAE paid relating to:			
Current year losses	251.3	251.3	251.4
Prior years losses	682.3	660.0	540.3
Total loss and LAE payments	933.6	911.3	791.7
Net ending balance	2,321.8	1,921.2	1,666.5
Plus ending reinsurance recoverable on unpaid losses	456.1	410.3	350.2
Gross ending balance	\$2,777.9	\$ 2,331.5	\$ 2,016.7

⁽¹⁾ Loss and LAE reserves acquired in 2018 relate to Sirius Bermuda's purchase of Cedar (See Note 3)

Loss and LAE development - 2020

During the year ended December 31, 2020, Sirius Bermuda had net unfavorable prior year loss reserve development of \$16.7 million. Increases in loss reserve estimates recorded in Global Reinsurance (\$30.3 million) were partially offset by favorable loss reserve development in Global A&H (\$10.3 million), U.S. Specialty (\$2.4 million), and Runoff & Other (\$0.9 million). Within Global Reinsurance, unfavorable loss reserve development in Aviation & Space (\$21.2 million), Casualty Reinsurance (\$17.2 million) and Other Property (\$16.4 million) was partially offset by favorable loss reserve development in other lines of business, primarily Property Catastrophe Excess Reinsurance (\$17.5 million). The reduction in Property Catastrophe Excess Reinsurance was due to reductions in reserve estimates for prior year catastrophe events, mainly Typhoon Faxai and Hurricane Dorian. The net favorable loss reserve development in Global A&H was due to lower than expected claims activity.

Loss and LAE development - 2019

During the year ended December 31, 2019, Sirius Bermuda had unfavorable prior year loss reserve development of \$103.8 million. Increases in loss reserve estimates were recorded in Global Reinsurance (\$103.6 million) primarily attributable to prior year catastrophe events, including Typhoon Jebi and Hurricanes Michael, Florence, and Irma and unfavorable loss reserve development in Casualty Reinsurance (\$13.4 million) due to early reporting of large claims coupled with steady reporting of less severe claims.

Loss and LAE development - 2018

During the year ended December 31, 2018, Sirius Bermuda had net favorable prior year loss reserve development of (\$7.3 million). During 2018, Sirius Bermuda strengthened its Global Reinsurance loss reserves by \$25.3 million in Other Property (\$34.9 million) and Property Catastrophe Excess (\$13.2 million), resulting from higher than expected loss reporting from recent accident years, including \$21.4 million from Hurricanes Harvey, Irma, and Maria partially offset by favorable loss reserve development in Aviation & Space (\$7.9 million) and Marine (\$6.8 million). The net favorable prior year loss reserve development of \$17.6 million for Runoff & Other included reductions in World Trade Center claims in response to revised information received by the Company and runoff Casualty reserves. Global A&H recorded (\$15.0 million) of net favorable loss reserve development due to lower than expected claims activity.

Fair value adjustment to loss and LAE reserves

In connection with purchase accounting for acquisitions, Sirius Bermuda is required to adjust loss and LAE reserves and the related reinsurance recoverables to fair value on their respective acquired balance sheets. The net reduction to loss and LAE reserves is being recognized through an income statement charge ratably with and over the period the claims are settled and is recorded within General and administrative expenses. Sirius Bermuda recognized \$0.1 million of such charges during the years ended December 31, 2020, 2019, and 2018, respectively. As of December 31, 2020, the pre-tax un-accreted adjustment was \$0.6 million.

Asbestos and Environmental Loss and Loss Adjustment Expense Reserve Activity

In Runoff & Other segment, Sirius Bermuda's reserves include provisions made for claims that assert damages from asbestos and environmental ("A&E") related exposures primarily at Sirius America. Asbestos claims relate primarily to injuries asserted by those who came in contact with asbestos or products containing asbestos. Environmental claims relate primarily to pollution and related clean-up cost obligations, particularly as mandated by U.S. federal and state environmental protection agencies. In addition to the factors described above regarding the reserving process, Sirius Bermuda estimates its A&E reserves based upon, among other factors, facts surrounding reported cases and exposures to claims, such as policy limits and deductibles, current law, past and projected claim activity, and past settlement values for similar claims, as well as analysis of industry studies and events, such as recent settlements and asbestos-related bankruptcies. The cost of administering A&E claims, which is an important factor in estimating loss reserves, tends to be higher than in the case of non-A&E claims due to the higher legal costs typically associated with A&E claims.

Sirius Bermuda's A&E exposure is primarily from reinsurance contracts written between 1974 through 1985 by acquired companies. The exposures are mostly higher layer excess of loss treaty and facultative coverages with relatively low limits exposed for each claim.

The acquisition of companies having modest portfolios of A&E exposure has been typical of several prior Sirius Global Solutions transactions and is likely to be an element of at least some future acquisitions. However, the acquisition of new A&E liabilities is undertaken only after careful due diligence and utilizing conservative reserving assumptions in relation to industry benchmarks. In the case of portfolios acquired previously by Sirius Global Solutions, the exposures arise almost entirely from old assumed reinsurance contracts having small limits of liability.

During 2020 and 2018, Sirius Bermuda recorded a decrease of \$1.1 million and \$6.9 million, respectively, of asbestos-related incurred losses and LAE. Sirius Bermuda did not record any asbestos-related incurred losses and LAE on its asbestos reserves in 2019. The 2018 decrease was driven by favorable loss reserve development primarily due to benign claims activity on the Sirius Global Solutions portfolio.

Sirius Bermuda recorded \$0.6 million, \$0.7 million, and \$4.0 million of environmental losses in 2020, 2019, and 2018, respectively, on its already existing reserves.

Sirius Bermuda's net reserves for A&E losses were \$176.9 million and \$187.3 million as of December 31, 2020 and 2019, respectively. Sirius Bermuda's asbestos three-year net paid survival ratio was approximately 15.5 years and 11.5 years as of December 31, 2020 and 2019. Sirius Bermuda's environmental three-year net paid survival ratio was approximately 4.2 years and 4.0 years as of December 31, 2020 and 2019, respectively.

Sirius Bermuda's reserves for A&E losses as of December 31, 2020 represent management's best estimate of its ultimate liability based on information currently available. However, as case law expands, medical and clean-up costs increase, and industry settlement practices change, Sirius Bermuda may be subject to asbestos and environmental losses beyond currently estimated amounts. Sirius Bermuda cannot reasonably estimate at the present time loss reserve additions arising from any such future adverse developments and cannot be sure that allocated loss reserves will be sufficient to cover additional liability arising from any such adverse developments.

The following table summarizes reported A&E loss and LAE reserve activities (gross and net of reinsurance) for the years ended December 31, 2020, 2019, and 2018:

	2020		2019		2018			
(Millions)	Gross	Net	Gross	Net	Gross	Net		
Asbestos:								
Beginning balance	\$224.7	\$ 173.3	\$ 236.8	\$ 184.4	\$ 259.2	\$ 204.6		
Incurred losses and LAE	(1.1)	(1.1)	0.1	-	(6.9)	(6.9)		
Paid losses and LAE	(8.2)	(7.4)	(12.2)	(11.1)	(15.5)	(13.3)		
Ending balance	215.4	164.8	224.7	173.3	236.8	184.4		
Environmental:								
Beginning balance	14.5	14.0	16.7	15.9	16.7	16.0		
Incurred losses and LAE	0.6	0.2	0.7	0.7	4.0	4.0		
Paid losses and LAE	(2.5)	(2.1)	(2.9)	(2.6)	(4.0)	(4.1)		
Ending balance	12.6	12.1	14.5	14.0	16.7	15.9		
Total asbestos and environmental:								
Beginning balance	239.2	187.3	253.4	200.3	275.9	220.6		
Incurred losses and LAE	(0.4)	(0.9)	0.8	0.7	(3.0)	(2.9)		
Paid losses and LAE	(10.8)	(9.5)	(15.0)	(13.7)	(19.5)	(17.4)		
Ending balance	\$ 228.0	\$ 176.9	\$ 239.2	\$ 187.3	\$ 253.4	\$ 200.3		

Net loss reserves by type

The following tables present Sirius Bermuda's loss and LAE reserves, net of reinsurance, by type as of December 31, 2020 and 2019:

(Millions)	2020	 2019
Case Reserve	\$ 1,049.5	\$ 1,030.6
IBNR Reserve	1,272.3	890.6
Loss and loss adjustment expense reserves, net of reinsurance	\$ 2,321.8	\$ 1,921.2

Reconciliation of liabilities for unpaid loss and LAE

The following table summarizes the ending liabilities for unpaid loss and LAE, net of reinsurance for each of Sirius Bermuda's segments as of December 31, 2020:

<i>(Millions)</i> Liabilities for unpaid loss and LAE, net of reinsurance	As of December 31, 2020
Unpaid and allocated LAE reserves, net of reinsurance	December 51, 2020
Other Property	\$ 569.5
Property Catastrophe Excess Reinsurance	309.3
Agriculture Reinsurance	42.7
Global Accident & Health	42.7 254.2
Aviation & Space	126.3
Casualty Reinsurance	309.8
Contingency	43.7
Environmental	7.3
Marine & Energy	52.5
Surety	2.1
Trade Credit	51.2
Workers' Compensation	52.1
Runoff & Other	446.0
Total unpaid and allocated LAE reserves, net of reinsurance	2,266.5
Unallocated LAE	55.3
Total unpaid loss and LAE reserves, net of reinsurance	2,321.8
Reinsurance recoverable on unpaid losses	
Other Property	118.6
Property Catastrophe Excess Reinsurance	87.2
Agriculture Reinsurance	0.4
Global Accident & Health	64.6
Aviation & Space	36.5
Contingency	23.3
Environmental	7.2
Marine & Energy	10.6
Trade Credit	9.3
Workers' Compensation	1.2
Runoff & Other	97.2
Total reinsurance recoverable on unpaid losses	456.1
Total unpaid loss and LAE reserves	\$ 2,777.9

The following table groupings, reflecting the Other Property, Property Catastrophe Excess Reinsurance, Agriculture Reinsurance, Global Accident & Health, Aviation & Space, Casualty Reinsurance, Contingency, Environmental, Marine & Energy, Surety, Trade Credit, Workers' Compensation and Runoff & Other lines of business include three sections.

The first table (top section of grouping) presents, for each of the previous 10 accident years (1) cumulative total undiscounted incurred loss and allocated LAE, net of reinsurance, as of each of the previous 10 year-end evaluations, (2) total IBNR plus expected development on reported claims as of December 31, 2020 and (3) the cumulative number of reported claims as of December 31, 2020. The net loss reserves for losses and loss expenses related to the acquisitions described in Note 3 have been incorporated within the ten year short duration tables on a prospective basis. Sirius Bermuda provides treaty reinsurance for a significant portion and across all lines of its business. Sirius Bermuda does not receive and as such does not maintain claims count information associated with many of its reinsurance contracts, especially proportional covers. As such, Sirius Bermuda has determined that it is impracticable to provide this information.

The second table (middle section grouping) presents cumulative paid loss and allocated LAE, net of reinsurance for each of the previous 10 accident years, as of each of the previous 10 year-end evaluations. Also included in this table is a calculation of the liability for loss and allocated LAE as of December 31, 2020, which is then included in the reconciliation to the consolidated balance sheet presented above. The liability as of December 31, 2020 is calculated as the cumulative incurred loss and allocated LAE from the first table less the cumulative paid loss and allocated from the second table, plus any outstanding liabilities from accident years prior to 2011.

The third table (bottom section of grouping) is supplementary information about the average historical claims duration as of December 31, 2020. It shows the weighted average annual percentage payout of incurred loss and allocated LAE by accident year as of each age. For example, the first column is calculated as the incremental paid loss and allocated LAE in the first calendar year for each given accident year (e.g. calendar year 2011 for accident year 2012) divided by the cumulative incurred loss and allocated LAE as of December 31, 2020 for that accident year. The resulting ratios are weighted together using cumulative incurred loss and allocated LAE as of December 31, 2020.

Other Property (Millions)

			Incurred lo	sses and allo	ocated loss ad	ljustment ex	penses, net o	f reinsurance	5			
	Year ended December 31,										December 3	1, 2020
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019		Total IBNR liabilities plus expected	Cumulative
Year	Unaudited U	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020	development on reported claims	number of reported claims
2011	164.2	151.7	142.1	134.1	132.0	132.7	132.8	131.5	131.6	131.2	0.3	NA
2012		167.2	153.3	148.1	143.5	138.6	136.6	136.5	135.9	136.2	1.0	NA
2013			136.1	132.2	120.9	117.1	117.0	116.6	116.2	116.6	0.7	NA
2014				119.6	121.9	118.9	119.4	117.1	116.2	115.6	1.0	NA
2015					146.2	137.3	139.5	139.2	138.8	138.0	1.6	NA
2016						200.2	219.5	224.4	225.0	223.1	0.1	NA
2017							337.8	373.7	392.4	397.5	14.2	NA
2018								278.8	334.5	339.3	15.6	NA
2019									250.3	258.5	45.9	NA
2020									_	287.4	155.4	NA
									Total	2,143.3		

Other Property

(Millions)

	Year ended December 31,												
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019				
Year	Unaudite d	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020			
2011	23.5	81.5	105.1	118.5	124.7	127.3	130.0	132.1	132.7	132.9			
2012		20.6	86.9	110.2	118.6	122.0	127.7	128.5	129.8	130.3			
2013			28.5	74.4	99.7	106.5	110.0	110.7	111.3	112.1			
2014				19.3	71.7	98.7	107.3	109.9	111.0	111.2			
2015					31.5	95.6	118.4	128.4	132.3	133.5			
2016						32.7	132.0	186.6	204.0	212.8			
2017							60.0	227.7	305.0	347.0			
2018								55.4	181.7	248.4			
2019									47.2	131.3			
2020										32.8			
									Total	1,592.4			
					А	ll outstanding	g liabilities be	fore 2011, net	t of reinsurance	18.6			
				Liabilitie	es for loss an	d allocated lo	ss adjustment	expenses, net	t of reinsurance	569.5			

Other Property

	Aver	age annual	percentage	payout of i	ncurred losse	s and allocat	ted LAE by age, n	et of reinsu	rance	
Years	1	2	3	4	5	6	7	8	9	10
	16.4%	41.2%	20.1%	8.5%	3.3%	1.8%	0.9%	1.1%	0.4%	0.2%

Property Catastrophe Excess Reinsurance

		l	ncurred loss	ses and alloc	ated loss adj	ustment exp	enses, net of	reinsurance				
					Year end	led Decembe	er 31,				December 3	1, 2020
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019		Total IBNR liabilities plus expected	Cumulative
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020	development on reported claims	number of reported claims
2011	158.3	148.4	147.4	125.4	121.6	120.8	120.7	120.8	120.8	120.8	0.2	NA
2012		59.0	58.9	52.3	50.3	50.8	45.9	46.1	47.6	48.1	1.1	NA
2013			75.5	82.8	79.8	79.2	78.4	78.0	77.6	77.4	_	NA
2014				55.9	57.4	54.8	55.1	55.1	55.6	55.2	0.6	
2015					26.7	28.4	26.0	25.1	24.2	24.4	0.6	
2016						52.1	49.3	43.9	42.7	42.3	2.4	
2017							107.6	125.7	119.5	119.2	6.3	NA
2018								168.1	187.4	185.4	3.5	
2019									180.9	167.1	9.9	NA
2020									_	161.8	113.0	NA
									Total	1,001.7		

Property Catastrophe Excess

(Millions)

(Millions)

					Year er	ded Decemb	er 31,			
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020
2011	15.9	54.7	97.5	117.2	117.6	118.1	119.0	119.1	119.7	119.7
2012		2.8	26.7	36.5	41.3	42.2	44.0	45.3	47.4	47.5
2013			11.9	52.7	66.1	71.4	72.8	74.0	74.9	75.3
2014				9.2	36.6	42.7	48.3	50.0	52.4	52.5
2015					1.8	9.4	16.7	20.1	22.5	22.8
2016						10.4	26.3	32.7	38.3	39.8
2017							13.3	68.0	87.6	103.2
2018								2.8	122.6	148.5
2019									3.4	86.6
2020										8.3
									Total	704.3
					All	outstanding li	abilities befo	re 2011, net c	of reinsurance	11.
			Lia	bilities for l	loss and allo	cated loss ad	justment exp	penses, net of	reinsurance	309.

Property Catastrophe Excess

	Averag	ge annual pe	rcentage pa	yout of incu	rred losses a	and allocate	d LAE by a	ge, net of re	insurance	
Years	1	2	3	4	5	6	7	8	9	10
	8.0%	49.0%	19.5%	12.3%	2.3%	1.9%	1.1%	1.1%	0.4%	0.0%

Agriculture Reinsurance

(Millions)

		Inc	urred losses	and allocat	ed loss adju	stment expe	nses, net of	reinsurance				
					Year end	led Decemb	er 31,				December 3	1, 2020
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019		Total IBNR liabilities plus expected	Cumulative
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020	development on reported claims	number of reported claims
2011	21.6	21.6	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	_	NA
2012		41.1	45.9	45.9	45.8	47.1	47.1	47.1	47.0	47.0	_	N
2013			9.2	11.0	13.1	13.2	13.0	13.0	13.1	13.1	_	N
2014				9.8	8.3	8.5	9.0	9.0	9.0	9.0	_	N
2015					7.2	9.3	9.7	9.6	9.7	9.7	_	N
2016						34.6	31.9	30.9	31.0	31.0	0.2	N
2017							52.0	48.4	47.6	47.7	(0.5)	N
2018								40.1	42.1	42.2	0.6	N
2019									73.1	67.3	4.4	N
2020										42.6	29.4	N
									Total	331.3		

Agriculture Reinsurance

(Millions)

			er 31,	led Decemb	Year en					
2020	2019 Unaudited	2018 Unaudited	2017 Unaudited	2016 Unaudited	2015 Unaudited	2014 Unaudited	2013 Unaudited	2012 Unaudited	2011 Unaudited	Accident Year
21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.4	1.1	2011
47.0	47.0	47.0	47.0	47.0	45.6	45.7	45.4	19.0		2012
13.0	13.0	13.0	13.0	13.2	12.9	10.8	7.1			2013
9.0	9.0	9.0	8.8	8.8	8.1	6.5				2014
9.3	9.7	9.7	9.4	8.2	1.5					2015
31.0	30.9	30.6	29.2	10.4						2016
47.9	47.6	44.8	9.7							2017
40.8	36.7	2.6								2018
57.3	9.6									2019
10.8	-									2020
288.1	Total									
(0.4	of reinsurance	ore 2011, net	abilities befo	utstanding li	All o					
42.	of reinsurance	expenses, net	adjustment e	located loss	r loss and al	Liabilities fo	1			

Agriculture

	Averag	ge annual pe	rcentage pa	yout of incu	rred losses a	and allocate	d LAE by a	ge, net of re	einsurance	
Years	1	2	3	4	5	6	7	8	9	10
	23.7%	67.3%	5.8%	0.6%	1.1%	0.1%	0.1%	-%	-%	-%

Global Accident & Health

(Millions)

			Incurred lo	sses and allo	ocated loss ad	ljustment exp	enses, net of	reinsurance				
					Year er	nded Decembe	er 31,				December 31, 2	020
Acciden	t 2011	2012	2013	2014	2015	2016	2017	2018	2019		Total IBNR liabilities plus expected	Cumulative
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020	development on reported claims nu	mber of reported claims
2011	161.7	177.6	173.2	172.6	172.5	172.5	172.4	172.3	172.4	172.2	0.1	NA
2012		164.6	161.4	149.0	148.3	148.0	147.9	147.8	147.7	147.7	(0.1)	NA
2013			126.7	124.5	120.0	119.5	118.8	118.0	117.9	117.7	_	NA
2014				131.9	132.9	131.3	131.2	130.3	130.3	130.2	0.1	NA
2015					154.8	150.5	147.0	145.7	145.3	145.4	0.3	NA
2016						176.9	190.4	186.2	184.7	184.5	2.3	NA
2017							179.3	175.6	168.9	166.6	(0.4)	NA
2018								201.4	208.6	206.4	0.6	NA
2019									275.6	270.5	21.2	NA
2020										311.8	136.6	NA
									Total	1,852.8		

Global Accident & Health

(Millions)

					Year e	ended Decem	ıber 31,			
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020
	71.4							······································		
2011		139.7	166.6	171.7	172.0	172.2	172.2	172.2	172.3	172.3
2012		72.6	137.2	147.3	147.7	147.8	147.8	147.8	147.8	147.9
2013			54.8	104.7	115.3	116.7	118.0	117.4	117.4	117.4
2014				59.6	111.9	125.4	127.2	127.2	127.9	128.0
2015					76.2	131.0	142.6	144.3	144.6	144.7
2016						99.7	167.3	179.2	181.1	181.6
2017							58.8	153.3	165.8	166.5
2018								86.1	188.8	204.9
2019									125.8	236.5
2019										102.3
									Total	1,602.0
					Α	All outstanding	g liabilities b	efore 2010, ne	t of reinsurance	3.4
				Liabiliti	ies for loss an	d allocated lo	oss adjustmen	t expenses, ne	t of reinsurance	254.2

Global	Accident	&	Health	
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	Avera	ge annual pe	rcentage pa	yout of incu	irred losses	and allocate	ed LAE by a	ge, net of re	einsurance	
Years	1	2	3	4	5	6	7	8	9	10
	43.6%	43.2%	8.9%	1.2%	0.3%	0.1%	-%	-%	0.1%	-9

Aviation & Space (Millions)

				einsurance	ises, net of r	ustment expe	ited loss adj	s and alloca	urred losse	Inc		
, 2020	December 3				r 31,	ded Decembe	Year en					
Cumulative number of reported claims	Total IBNR liabilities plus expected development on reported claims	2020	2019 Unaudited	2018 Unaudited	2017 Unaudited	2016 Unaudited	2015 Unauditad	2014 Unaudited	2013 Unoudited	2012		Accident Year
•	development on reported claims	2020	Ullauditeu	Unauunteu	Unauunteu	Unaudited	Ullaudited	Ullaudited	Unauunteu	Unaudited		rear
NA	(0.2)	35.4	35.5	35.3	36.0	34.8	34.9	36.2	38.2	42.6	47.0	2011
NA	(0.3)	29.0	28.7	29.7	29.7	28.6	28.4	30.3	34.5	35.7		2012
NA	(0.4)	33.0	33.3	33.3	33.2	32.3	33.6	36.7	40.8			2013
NA	(1.7)	36.0	34.4	36.6	36.4	37.2	40.4	37.9				2014
NA	(1.0)	37.1	37.0	37.5	38.5	34.4	38.1					2015
NA	(0.3)	35.8	36.2	33.9	32.9	32.4						2016
NA	0.6	46.3	44.8	43.5	34.2							2017
NA	5.4	58.9	50.9	48.2								2018
NA	28.9	73.0	61.4									2019
NA	21.1	40.0										2020
		424.7	Total									

Aviation & Space

(Millions)

			ber 31,	ided Decem	Year er					
	2019	2018	2017	2016	2015	2014	2013	2012	2011	Accident
2020	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited V	Year
36.0	35.9	34.9	35.1	34.3	33.0	31.7	28.8	22.9	10.2	2011
28.9	28.5	28.9	28.4	27.4	24.7	22.7	18.5	7.6		2012
30.9	30.8	29.4	28.7	26.9	24.2	20.1	13.7			2013
30.7	29.2	28.5	26.5	23.9	18.1	8.1				2014
36.3	35.4	33.8	27.4	21.4	10.7					2015
32.9	29.5	27.1	19.9	7.9						2016
36.2	32.9	24.0	9.1							2017
37.2	27.7	14.4								2018
23.1	8.6									2019
10.9	_									2020
303.1	Total									

Liabilities for loss and allocated loss adjustment expenses, net of reinsurance 126.3

Aviation & Space

	Averag	ge annual pe	rcentage pa	yout of incu	rred losses a	and allocate	d LAE by a	ge, net of re	insurance	
Years	1	2	3	4	5	6	7	8	9	10
·	23.8%	27.4%	16.6%	8.8%	6.2%	2.7%	3.1%	(0.4)%	2.1%	0.2%

Trade credit (Millions)

				reinsurance	nses, net of	stment expe	ted loss adju	and allocat	urred losses	Inc		
r 31, 2020	December 3				er 31,	led Decemb	Year end					
Cumulative	Total IBNR liabilities plus expected		2019	2018	2017	2016	2015	2014	2013	2012	2011	Accident
s number of reported clain	development on reported claims	2020	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Year
	(0.3)	27.6	27.7	27.9	28.1	28.1	28.8	28.8	29.0	30.9	31.0	2011
	(0.2)	33.8	34.0	34.4	34.8	34.8	35.2	35.0	36.9	36.6		2012
	0.5	28.7	28.7	28.4	29.0	28.3	28.6	29.6	31.3			2013
	(2.3)	22.1	22.2	22.4	22.7	24.8	24.0	24.1				2014
_	_	18.1	18.2	19.1	20.0	20.6	21.4					2015
2)	(0.2)	12.5	12.1	13.0	13.9	16.4						2016
5	4.5	18.7	19.5	20.7	20.1							2017
3	1.3	24.9	26.1	26.2								2018
9	3.9	30.0	32.4									2019
6	18.6	35.8	_									2020
		252.2	Total									

Trade credit

(Millions)

					Year ei	nded Decem	ber 31,			
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020
2011	6.9	18.3	24.7	26.0	26.9	27.3	27.0	27.1	27.1	27.1
2012		15.6	28.1	32.5	33.3	33.7	33.5	33.5	33.4	33.3
2013			12.2	20.9	24.1	25.2	25.7	25.8	25.9	25.8
2014				8.2	14.4	18.6	20.1	20.6	20.7	20.6
2015					4.8	12.8	16.5	17.4	17.3	17.3
2016						4.8	9.3	11.1	11.6	12.1
2017							3.1	9.1	13.0	13.9
2018								7.8	16.6	21.0
2019									9.2	20.0
2019										12.3
									Total	203.5
					All c	outstanding l	iabilities bef	ore 2010, net	of reinsurance	2.6

All outstanding habilities before 2010, net of reinsurance 2.0 Liabilities for loss and allocated loss adjustment expenses, net of reinsurance 51.2

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Trade credit

	Averag	ge annual pe	rcentage pa	yout of incu	rred losses a	and allocate	d LAE by a	ge, net of re	insurance	
Years	1	2	3	4	5	6	7	8	9	10
	33.7%	35.6%	17.1%	4.4%	1.8%	0.2%	(0.2)%	-%	(0.2)%	(0.1)%

Environmental

(Millions)												
		Incu	irred losses	and allocate	d loss adju	ıstment expe	nses, net of	reinsurance	9			
					Year en	ded Decemb	er 31,				December 3	1, 2020
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019		Total IBNR liabilities plus expected	Cumulative
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	l Unaudited	Unaudited	Unaudited	Unaudited	2020	development on reported claims	number of reported claims
2011	-	-	-	-			-	-	-	-		NA
2012		-	-	-			-	-	-	-	_	NA
2013			-	-			-	-	-	-	—	NA
2014				-			-	-	-	-	—	NA
2015							-	-	-	-	—	NA
2016						-	-	-	-	-	—	NA
2017							-	-	-	-	—	NA
2018								0.4	0.1	0.1	—	NA
2019									4.5	4.6	0.5	NA
2020										3.6	3.4	NA
									Total	8.3		

Environmental

(Millions)

					Year en	ded Decem	ber 31,			
Accident Year	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019 Unaudited	2020
2011				-					-	
2011		-	-	-	-	-	-	-	-	
2012			-	-	-	-	-	-	-	
2014				-	-	-	-	-	-	
2015					-	-	-	-	-	
2016						-	-	-	-	
2017							-	-	-	
2018								-	-	0.
2019									-	0.9
2020										
									Total	1.0
					All o	utstanding li	abilities bef	ore 2010, net	of reinsurance	
			Liabi	lities for los	s and alloca	ted loss ad	justment ex	penses, net o	of reinsurance	7.

Environmental

	Averag	ge annual pe	rcentage pa	yout of incu	rred losses :	and allocate	d LAE by a	ge, net of re	insurance	
Years	1	2	3	4	5	6	7	8	9	10
	0.9%	18.9%	72.1%	-%	-%	-%	-%	-%	-%	-%

Marine & Energy

		Inc	urred losses	and allocat	ed loss adju	stment expe	nses, net of	reinsurance	e			
					Year end	led Decembe	er 31,				December 3	1, 2020
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019		Total IBNR liabilities plus	Cumulative
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020	expected development on reported claims	number of reported claims
2011	37.8	33.8	31.4	31.9	32.9	32.3	32.4	32.2	33.0	33.8	(0.3)	N
2012		28.1	34.2	36.7	38.2	38.6	37.5	37.0	36.9	36.4	1.2	N
2013			24.3	21.5	20.2	19.2	18.9	18.9	18.9	19.0	0.5	N
2014				24.1	22.3	20.3	18.9	18.5	19.2	19.1	(0.2)	N
2015					30.7	33.1	30.7	30.2	30.2	30.7	0.2	N
2016						29.0	29.9	29.1	29.0	29.6	0.5	N
2017							38.5	36.0	35.7	37.2	1.6	N
2018								24.1	26.6	26.9	1.5	N
2019									19.4	19.9	2.6	N
2020										17.9	9.9	N
									Total	270.4		

Marine & Energy

	Year ended December 31,												
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019				
Year	Unaudited U	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020			
2011	4.6	14.9	22.4	25.8	28.6	29.5	29.9	30.4	31.0	31.6			
2012		5.4	15.2	24.8	27.6	29.8	31.7	33.3	34.5	34.7			
2013			3.0	9.8	13.2	14.8	15.2	15.7	15.9	16.0			
2014				4.3	10.7	14.3	15.7	16.4	16.5	17.5			
2015					4.5	12.2	22.7	27.6	28.7	29.4			
2016						_	17.9	21.9	24.8	26.9			
2017							7.5	18.8	27.0	31.4			
2018									14.5	19.5			
2019									3.9	10.8			
2020									_	2.3			
									Total	220.1			
					All o	utstanding li	abilities befo	ore 2010, net	of reinsurance	2.			
			Liab	oilities for lo	ss and alloc	ated loss ad	justment ex	penses, net o	of reinsurance	52.			

Marine										
	Averag	ge annual pe	rcentage pa	yout of incu	rred losses a	and allocate	d LAE by a	ge, net of re	insurance	
Years	1	2	3	4	5	6	7	8	9	10
	17.8%	31.3%	22.2%	10.4%	5.5%	2.9%	3.1%	2.1%	1.1%	1.8%

Surety (Millions)

	Incurred losses and allocated loss adjustment expenses, net of reinsurance														
					Year end	led Decemb	er 31,					December 31, 2020			
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019			Total IBNR liabilities plus expected	Cumulative		
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	1 20	020	development on reported claims	number of reported claims		
2011		-	-	-	-	-			-	-	-	-	NA		
2012		-		-	-	-			-	-	-	-	NA		
2013				-	-	-			-	-	-	-	NA		
2014					-	-			-	-	-	-	NA		
2015						-			-	-	-	-	NA		
2016									-	-	-	-	NA		
2017									-	-	-	-	NA		
2018								0.4	0.4	4	0.4	0.4	NA		
2019									0.9)	0.9	0.9	NA		
2020											0.8	0.8	NA		
									Tota	1	2.1				

Surety

(Millions)

	Year ended December 31,											
2020	2019 Unaudited	2018 Unaudited	2017 Unaudited	2016 Unaudited	2015 Unaudited	2014 Unaudited	2013 Unaudited	2012 Unaudited	2011 Unaudited	Accident Year		
	-									2011		
	-									2012		
	-									2013		
	-		- ·							2014		
	-		- ·		-					2015		
	-									2016		
	-									2017		
	-	-								2018		
	-									2019		
										2020		
	Total											
	of reinsurance	re 2010, net c	abilities befo	outstanding li	All							
	f reinsurance	oenses, net of	justment exp	cated loss adj	loss and allo	abilities for	Lia					

Surety

	Avera	ge annual pe	rcentage pa	yout of incu	irred losses	and allocate	d LAE by a	ge, net of r	einsurance	
Years	1	2	3	4	5	6	7	8	9	10
·	-%	-%	-%	-%	-%	-%	-%	-%	-%	-%

Contingency (Millions)

		Incu	irred losses :	and allocat								
					Year end	led Decemb	er 31,				December 3	51, 2020
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total IBNR liabilities plus expected	Cumulative
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020	development on reported claims	number of reported claims
2011	8.1	7.5	7.0	6.9	6.9	7.0	7.0	7.0	7.0	6.9	_	NA
2012		9.9	9.0	9.0	8.8	8.6	8.4	8.4	8.4	8.4	_	NA
2013			5.7	4.4	3.8	3.7	3.8	3.7	3.7	3.7	0.1	NA
2014				4.3	7.1	5.3	4.8	4.8	4.8	4.8	0.1	NA
2015					10.1	9.8	9.2	9.0	9.0	8.9	_	NA
2016						19.1	19.4	18.3	18.7	18.7	_	NA
2017							10.0	10.9	11.6	11.5	0.3	NA
2018								9.8	9.3	9.4	0.5	NA
2019									3.3	3.3	0.5	NA
2020										58.2	24.3	NA
. = *									Total	133.9		

Contingency

(Millions)

	Year ended December 31,												
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019				
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited Unaudited		Unaudited	2020			
2011	2.2	6.0	6.8	6.8	6.8	6.9	6.9	6.9	6.9	7.0			
2012		5.6	7.5	8.8	8.8	8.6	8.4	8.4	8.4	8.4			
2013			1.9	3.2	3.4	3.4	3.5	3.5	3.5	3.5			
2014				1.7	3.7	4.5	4.6	4.6	4.6	4.6			
2015					2.9	7.3	7.9	8.0	8.9	8.9			
2016						12.9	16.6	17.4	18.1	18.4			
2017							3.2	7.2	9.7	10.7			
2018								2.0	6.4	8.3			
2019									0.3	2.3			
2020									_	16.8			
									Total	88.9			
					All	outstanding li	abilities befo	ore 2010, net	of reinsurance	(1.3			

Liabilities for loss and allocated loss adjustment expenses, net of reinsurance 43.7

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Contingency

	Averag	ge annual pe	rcentage pa	yout of incu	irred losses	and allocate	d LAE by a	ge, net of r	einsurance	
Years	1	2	3	4	5	6	7	8	9	10
	36.8%	36.6%	12.3%	3.1%	2.1%	(0.4)%	0.2%	0.3%	-%	0.4%

Casualty Reinsurance (Millions)

			ę	einsurance	nses, net of	stment expe	ed loss adju	and allocat	irred losses a	Incu		
er 31, 2020	December 3				r 31,	led Decembe	Year end					
Cumulative	expected			2018	2017	2016	2015	2014	2013	2012	2011	Accident
number of reported claims	development on reported claims	2020	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Year
N.	_	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	2011
N.	_	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.2	0.2		2012
N.	_	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4			2013
N.	_	0.5	0.6	0.5	0.5	0.5	0.4	0.4				2014
N.	_	0.5	0.6	0.5	0.6	0.8	0.5					2015
N.	_	0.2	0.1	0.3	0.3	0.2						2016
5.2 NA	6.2	13.8	12.5	9.7	9.7							2017
8.3 NA	33.3	68.2	62.0	51.9								2018
5.8 NA	85.8	132.4	123.2									2019
0.0 NA	130.0	146.1										2020
		363.0	Total									

Casualty Reinsurance

(Millions)

	Year ended December 31,												
Accident Year	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019 Unaudited	2020			
2011	-	-	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2			
2012		-	_	0.1	0.2	0.1	0.2	0.2	0.3	0.3			
2013			0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5			
2014				0.1	0.2	0.4	0.4	0.4	0.5	0.5			
2015					0.2	0.4	0.4	0.4	0.4	0.4			
2016						_	0.1	0.1	0.2	0.2			
2017							_	0.6	1.6	3.4			
2018								2.0	7.9	18.7			
2019									9.3	25.5			
2020									_	8.3			
									Total	58.1			
					All out	standing lia	bilities befor	re 2010, net o	of reinsurance	43			

All outstanding liabilities before 2010, net of reinsurance 43.9 Liabilities for loss and allocated loss adjustment expenses, net of reinsurance **309.8** -____

C	0.01	 4.

Averag	ge annual pe	rcentage pa	yout of incu	rred losses a	and allocate	d LAE by a	ge, net of re	insurance	
1	2	3	4	5	6	7	8	9	10
5.5%	10.8%	14.4%	12.7%	6.4%	1.9%	4.4%	13.3%	5.2%	12.8%
	1	1 2	1 2 3	<u>1 2 3 4</u>		<u>1</u> <u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>6</u>	1 <u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>6</u> <u>7</u>	<u>1</u> <u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>6</u> <u>7</u> <u>8</u>	

Runoff & Other (Millions)

			Incurred	losses and all	ocated loss a	djustment ex	penses, net of	reinsurance				
					Year e	nded Deceml	oer 31,				December 31, 2	020
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019		Total IBNR liabilities plus expected	Cumulative
Year	Unaudited U	Jnaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020	development on reported claims nu	mber of reported claims
2011	222.3	223.6	224.7	225.3	225.9	226.7	226.2	225.8	224.8	223.7	1.1	NA
2012		4.3	4.7	4.9	4.9	4.8	4.8	4.6	4.4	3.8	0.3	NA
2013			2.0	0.9	0.9	0.9	0.9	0.9	1.1	1.0	(0.1)	NA
2014				0.9	0.9	1.1	1.1	1.2	1.3	1.1	(0.2)	NA
2015					10.2	16.4	18.2	18.7	18.7	18.7	_	NA
2016						12.6	12.8	12.5	12.4	12.6	0.1	NA
2017							1.4	1.4	1.4	1.4	_	NA
2018								31.0	29.3	27.3	2.5	NA
2019									1.0	1.0	0.1	NA
2020										61.5	29.6	NA
									Total	352.2		

Runoff & Other

(Millions)

					Year o	ended Decem	ber 31,			
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020
2011	206.9	209.0	211.2	213.0	214.7	216.7	218.2	218.8	219.3	220.9
2012		0.3	1.3	1.8	2.2	2.4	2.4	2.5	2.7	3.0
2013			0.7	0.1	0.1	0.1	0.1	0.1	0.2	0.2
2014				_	0.1	0.1	0.2	0.3	0.5	0.5
2015					5.2	10.0	15.3	16.6	17.3	17.6
2016						6.2	10.1	11.0	11.3	11.5
2017							0.4	0.5	0.6	0.6
2018								7.9	12.6	13.0
2019									_	0.1
2020									_	12.0
									Total	279.4
						All outstandir	ng liabilities be	fore 2010, net	of reinsurance	373.2

Liabilities for loss and allocated loss adjustment expenses, net of reinsurance 446.0

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Runoff & Other

Average annual percentage payout of incurred losses and allocated LAE by age, net of reinsurance										
Years	1	2	3	4	5	6	7	8	9	10
	68.0%	5.6%	3.2%	1.6%	1.1%	1.0%	0.7%	0.3%	0.4%	0.7%

Sirius International Group, Ltd. Notes to Consolidated Financial Statements For the years ended December 31, 2020, 2019, and 2018

Workers' Compensation (Millions)

(Incurred	losses and al	located loss a	djustment ex	penses, net of	f reinsurance				
					Year e	nded Decem	oer 31,				December 31, 2	020
Accident	2011	2012	2013	2014	2015	2016	2017	2018	2019		Total IBNR liabilities plus expected	Cumulative
Year	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	Unaudited	2020	development on reported claims nu	mber of reported claim
2011	-	-	-	-	-	-	-	-	-	-	-	NA
2012		-	-	-	-	-	-	-	-	-	-	N
2013			-	-	-	-	-	-	-	-	-	N
2014				-	-	-	-	-	-	-	-	N
2015					-	-	-	-	-	-	-	N
2016						-	-	-	-	-	-	N
2017							-	-	-	-	-	N
2018								1.5	5 1.5	1.1	0.4	NA
2019									18.6	16.6	4.8	NA
2020										45.8	34.1	NA
									Total	63.5	-	

Workers' Compensation

⁽Millions)

	Year ended December 31,											
Accident Year	2011 Unaudited U	2012 naudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019 Unaudited	2020		
2011	-	-	-	-	-	-	-	-	-	-		
2012		-	-	-	-	-	-	-	-	-		
2013			-	-	-	-	-	-	-	-		
2014				-	-	-	-	-	-	-		
2015					-	-	-	-	-	-		
2016						-	-	-	-	-		
2017							-	-	-	-		
2018								-	0.2	0.3		
2019									1.3	6.8		
2020										4.2		
									Total	11.4		
					А	ll outstanding	; liabilities bef	ore 2010, net	of reinsurance			
				Liabilities fo	r loss and a	located loss a	adjustment er	penses, net o	f reinsurance	52.1		

Workers' Compensation

	Average annual percentage payout of incurred losses and allocated LAE by age, net of reinsurance									
Years	1	2	3	4	5	6	7	8	9	10
	8.8%	32.1%	9.7%	-%	-%	-%	-%	-%	-%	-%

Note 5. Third party reinsurance

In the normal course of business, Sirius Bermuda seeks to protect its businesses from losses due to concentration of risk and losses arising from catastrophic events by reinsuring with third-party reinsurers. Sirius Bermuda remains liable for risks reinsured in the event that the reinsurer does not honor its obligations under reinsurance contracts. The effects of reinsurance on Sirius Bermuda's written and earned premiums and on losses and LAE were as follows:

(Millions)	2020	2019	2018
Written premiums:			
Direct	\$ 510.9	\$ 511.2	\$ 454.5
Assumed	1,239.9	1,391.5	1,366.5
Gross written premiums	1,750.8	1,902.7	1,821.0
Ceded	(246.0)	(400.1)	(463.9)
Net written premiums	\$ 1,504.8	\$ 1,502.6	\$ 1,357.1
Earned premiums:			
Direct	\$ 533.5	\$ 481.0	\$ 432.6
Assumed	1,308.7	1,357.7	1,236.2
Gross earned premiums	1,842.2	1,838.7	1,668.8
Ceded	(299.7)	(397.1)	(406.5)
Net earned premiums	\$ 1,542.5	\$ 1,441.6	\$ 1,262.3
Losses and LAE:			
Direct	\$ 389.0	\$ 316.3	\$ 260.5
Assumed	1,135.7	1,111.4	819.1
Gross losses and LAE	1,524.7	1,427.7	1,079.6
Ceded	(235.0)	(257.4)	(179.6)
Net losses and LAE	\$ 1,289.7	\$ 1,170.3	\$ 900.0

Sirius Bermuda's reinsurance protection primarily consists of pro-rata and excess of loss protections that protect all of its reportable segments. Attachment points and coverage limits vary by region around the world. Protections by reportable segment are listed below.

Global Reinsurance

Sirius Bermuda's core proportional property reinsurance programs provide protection for parts of the non proportional treaty accounts written in Europe, the Americas, Caribbean, Asia, the Middle East, and Australia. These reinsurance protections are designed to increase underwriting capacity where appropriate, and to reduce exposure both to large catastrophe losses and to a frequency of smaller loss events.

As of January 1, 2021, Sirius Bermuda has in place excess of loss retrocessional coverage for its non-peak areas/perils related property exposures. This coverage was placed for one year at January 1, 2021 providing 100% of \$50.0 million of retrocession protection in excess Sirius Group's retention of \$35.0 million.

Sirius Bermuda has in place excess of loss retrocessional coverage for its worldwide earthquake related exposures. This coverage was renewed for one year at June 1, 2020, providing 100% of \$40.0 million of reinsurance protection in excess of Sirius Bermuda's retention of \$35.0 million and a further 100% of \$35.0 million of coverage in excess of \$75.0 million.

Sirius Bermuda periodically purchases industry loss warranties ("ILW") contracts to augment its overall retrocessional program. The following ILW contracts are currently in force:

Scope	Limit	Trigger	Expiration Date
United States, Named Windstorm & Earthquake	\$10.0 million	\$10.0 billion excess of \$45.0 billion	December 31, 2021
United States, Named Windstorm & Earthquake	\$10.0 million	\$10.0 billion excess of \$60.0 billion	May 7, 2021
United States, Named Windstorm & Earthquake	\$10.0 million	\$10.0 billion excess of \$40.0 billion	May 31, 2021
United States, Named Windstorm & Earthquake	\$10.0 million	\$10.0 billion excess of \$40.0 billion	May 31, 2021
United States excluding North East, all natural perils	\$ 5.0 million	\$40.0 billion	July 5, 2021

Sirius Bermuda also purchases excess of loss reinsurance protection for its facultative and primary insurance property books. Almost all of Sirius Group's excess of loss reinsurance protections, excluding ILWs which tend to only cover one loss event, include provisions that reinstate coverage at a cost of 100% or more of the original reinsurance premium.

The Aviation & Space reinsurance program is intended to reduce exposure to a frequency of small losses, a single large loss or a combination of both. For the proportional and facultative aviation book, reinsurance protection purchased is geared to cover losses from events that cause a market loss in excess of \$150.0 million up to a full policy limit of \$2.0 billion. This program is in place through October 2021. For the non-proportional book, reinsurance protection includes a 12.5% quota share treaty. In addition, the non-proportional book is protected by ILWs totaling limits of \$26.5 million. The ILWs attach at industry loss levels between \$400.0 million and \$800.0 million.

Other lines of business within the Global Reinsurance segment are protected through various quota share and excess of loss protections.

Global A&H

Sirius Bermuda has excess of loss protection covering its personal accident and life accounts written in the Stockholm, Hamburg, Liege, and Singapore branches. For primary insurance, there are account specific quota share and stop loss reinsurance protections in place of various percentages for the medical benefits and student health business. In addition to these primary insurance protections, there is an excess of loss protection of unlimited dollars in excess of \$1.5 million (per person) is in place.

U.S. Specialty

The Workers' Compensation, Environmental, and Surety lines of business within the U.S. Specialty segment are protected through various quota share and excess of loss protections. Our Workers' Compensation line of business is protected by excess of loss protection on a per occurrence basis up to \$30.0 million with a retention of \$1.7 million.

Runoff & Other

Within the Runoff & Other segment, there are multiple reinsurance protections in place, primarily excess of loss protections.

Reinsurance recoverables by rating

At December 31, 2020, Sirius Bermuda had reinsurance recoverables on paid losses of \$51.5 million and reinsurance recoverables of \$456.1 million on unpaid losses. At December 31, 2019, Sirius Bermuda had reinsurance recoverables on paid losses of \$73.9 million and reinsurance recoverables of \$410.3 million on unpaid losses. Because retrocessional reinsurance contracts do not relieve Sirius Bermuda of its obligation to its insureds, the collectability of balances due from Sirius Bermuda's reinsurers is important to its financial strength. Sirius Bermuda monitors the financial strength and ratings of retrocessionaires on an ongoing basis. Uncollectible amounts historically have not been significant.

The following tables provide a listing of Sirius Bermuda's gross and net recoverable amounts by the reinsurer's Standard & Poor's Financial Services LLC ("Standard & Poor's") rating and the percentage of total recoverables as of December 31, 2020 and 2019. With certain reinsurers if Standard & Poor's rating was not available, an A.M. Best rating was used.

		December 31, 2020		
Rating ⁽¹⁾	Gross	Collateral	Net	% of Net Total
AAA	\$ 0.3	\$ -	\$ 0.3	0%
AA	101.0	6.2	94.8	34%
Α	187.5	53.2	134.3	49%
BBB or lower	122.2	117.6	4.6	2%
Not rated	96.6	55.3	41.3	15%
Total	\$ 507.6	\$ 232.3	\$ 275.3	100%

⁽¹⁾Standard & Poor's ratings as detailed above are: "AAA" (Extremely Strong), "AA" (Very strong), "A" (Strong), and "BBB+" and "BBB" (Adequate).

		December 31, 2019		
Rating ⁽¹⁾	Gross	Collateral	Net	% of Net Total
AAA	\$ 3.4	\$ -	\$ 3.4	1%
AA	117.2	14.3	102.9	42%
А	301.8	195.6	106.2	43%
BBB or lower	14.9	13.7	1.2	1%
Not rated	46.9	13.4	33.5	13%
Total	\$ 484.2	\$ 237.0	\$ 247.2	100%

⁽¹⁾Standard & Poor's ratings as detailed above are: "AAA" (Extremely Strong), "AA" (Very strong), "A" (Strong), and "BBB+" and "BBB" (Adequate).

The following tables provide a listing of the five highest gross recoverable amounts by reinsurer, along with percentage of total recoverable amount, the reinsurer's Standard & Poor's reinsurer rating, and the percentage that the recoverable is collateralized as of December 31, 2020 and 2019:

		December	31, 2020	
(Millions)	Balance	% of Total	S&P rating	% Collateralized
Reinsurer:				
General Insurance Corporation of India ⁽¹⁾	\$ 98.1	19%	BBB	100%
Swiss Reinsurance Company Ltd.	35.2	7%	AA-	-%
Berkshire Hathaway, Inc.	30.0	6%	AA+	1%
Alleghany Corp.	26.7	5%	A+	3%
Argo Capital Group Ltd.	26.5	5%	Not Rated	100%

(1)Reflects an A.M. Best rating of "B++" (Good).

	December 31, 2019									
(Millions)	Balance	% of Total	S&P rating	% Collateralized						
Reinsurer:										
General Insurance Corporation of India ⁽¹⁾	\$ 143.0	30%	A-	98%						
Swiss Reinsurance Company Ltd.	44.7	9%	AA-	5%						
Berkshire Hathaway, Inc.	34.0	7%	AA+	3%						
Argo Capital Group Ltd.	27.0	6%	Not Rated	30%						
Lloyd's of London	19.1	4%	A-	89%						

⁽¹⁾Reflects an A.M. Best rating of "A-" (Excellent).

Note 6. Allowance for expected credit losses

Sirius Bermuda is exposed to credit losses primarily through sales of its insurance and reinsurance products and services. The financial assets in scope of the current expected credit losses impairment model primarily include Sirius Bermuda premium receivables and reinsurance recoverables. Sirius Bermuda pools the premium receivables and reinsurance recoverables by counterparty credit rating and applies a credit default rate that is determined based on the studies published by the rating agencies (e.g., A.M. Best, Standard & Poor's ("S&P")). In circumstances where ratings are unavailable, Sirius Bermuda applies an internally developed default rate based on historical experience, reference data including research publications and other relevant inputs.

To estimate the allowance for expected credit losses, Sirius Bermuda considered the current and expected future economic and market conditions surrounding the COVID-19 pandemic. To the extent the current environment continues beyond our expectations or deteriorates further, we may experience further increases to our allowance for credit losses related to COVID-19.

As of December 31, 2020, Sirius Bermuda 's allowance for expected credit losses is as follows:

(in millions)	Gross 2	Assets in Scope	Allowance for Expected Credit Losses		
Premiums receivable & Funds held by ceding companies	\$	884.4	\$	11.3	
Reinsurance recoverable on unpaid and paid loss		507.6		4.5	
MGU Trade receivables ⁽¹⁾		17.3		0.4	
Total as of December 31, 2020	\$	1,409.3	\$	16.2	

⁽¹⁾Included as part of Other assets on the Consolidated Balance Sheet

During the year ended December 31, 2020, Sirius Bermuda recorded \$1.3 million increase to the allowance for expected credit losses.

Sirius Bermuda monitors counterparty credit ratings and macroeconomic conditions, and considers the most current A.M. Best and S&P credit ratings to determine the allowance each quarter. Of the total gross assets in scope as of December 31, 2020, approximately 64% were balances with counterparties rated by either A.M. Best or S&P. Of the total rated, 66% were rated A- or better.

Note 7. Deferred acquisition costs

The following table presents a rollforward of Deferred acquisition costs for the years ended December 31, 2019, 2018, and 2017:

(Millions)	2020	2019	2018
Deferred acquisition costs - balance, beginning of the year	\$ 148.2	\$ 141.6	\$ 120.9
Acquisition costs deferred	232.4	221.6	202.6
Amortization expense	(240.6)	(214.4)	(180.4)
Other, including foreign exchange	0.4	(0.6)	(1.5)
Deferred acquisition costs – balance, end of the year	\$ 140.4	\$ 148.2	\$ 141.6

Note 8. Investment securities

Net Investment Income

Sirius Bermuda's net investment income is comprised primarily of interest income along with associated amortization of premium and accretion of discount on Sirius Bermuda's fixed maturity investments, dividend income from its equity investments, and interest income from its short-term investments.

Net investment income for the years ended December 31, 2020, 2019, and 2018 consisted of the following:

(Millions)	2020	2019	2018
Fixed maturity investments	\$ 41.3	\$ 50.6	\$ 52.3
Short-term investments	5.2	15.6	5.0
Equity securities	6.0	15.2	16.5
Other long-term investments	7.1	14.2	8.3
Interest on funds held under reinsurance treaties	(7.4)	-	(0.5)
Total investment income	52.2	95.6	81.6
Investment expenses	(17.4)	(12.5)	(11.2)
Net investment income	\$ 34.8	\$ 83.1	\$ 70.4

Net Realized and Unrealized Investment Gains (Losses)

Net realized and unrealized investment gains (losses) for the years ended December 31, 2020, 2019, and 2018 consisted of the following:

(Millions)	2020	2019	2018
Gross realized gains	\$ 234.9	\$ 95.6	\$ 42.3
Gross realized (losses)	 (184.3)	(42.9)	(39.9)
Net realized gains (losses) on investments ⁽¹⁾	50.6	52.7	2.4
Net unrealized gains (losses) on investments ⁽²⁾	2.2	81.3	(23.1)
Net realized and unrealized investment gains (losses) on investments	\$ 52.8	\$ 134.0	\$ (20.7)

⁽¹⁾Includes \$(22.8), \$46.7, and \$17.3 of realized gains (losses) due to foreign currency during 2020, 2019, and 2018, respectively.

⁽²⁾Includes \$(97.9), \$(5.7), and \$35.7 of unrealized gains (losses) due to foreign currency during 2020, 2019, and 2018, respectively.

Net realized investment gains (losses)

Net realized investment gains (losses) for the years ended December 31, 2020, 2019, and 2018 consisted of the following:

(Millions)			2019		2018		
Fixed maturity investments	\$	29.6	\$	33.4	\$	3.7	
Equity securities		20.1		9.4		(6.4)	
Short-term investments		(27.2)		11.1		-	
Derivative instruments		9.9		(2.5)		-	
Other long-term investments		18.2		1.3		5.1	
Net realized investment gains (losses)	\$	50.6	\$	52.7	\$	2.4	

Net unrealized investment gains (losses)

The following table summarizes the net unrealized investment gains (losses) and changes in fair value for the years ended December 31, 2020, 2019, and 2018:

(Millions)	2020	2019	2018
Fixed maturity investments	\$ (53.7)	\$ 24.8	\$ 14.1
Equity securities	(31.0)	51.4	(51.0)
Short-term investments	(12.9)	(5.2)	-
Derivative instruments	1.4	(0.5)	-
Other long-term investments	98.4	10.8	13.8
Net unrealized investment gains (losses)	\$ 2.2	\$ 81.3	\$ (23.1)

The following table summarizes the amount of total gains (losses) included in earnings attributable to unrealized investment gains (losses) for Level 3 investments for the years ended December 31, 2020, 2019, and 2018:

(Millions)	2020		2019	2018	
Fixed maturity investments	\$ 0.5	\$	-	\$ (6.1)	
Equity securities	-		-	-	
Other long-term investments	82.8		15.9	 4.0	
Total unrealized investment gains (losses) - Level 3 investments	\$ 83.3	\$	15.9	\$ (2.1)	

Investment Holdings

Fixed maturity investments

The cost or amortized cost, gross unrealized investment gains (losses), net foreign currency gains (losses), and fair value of Sirius Bermuda's fixed maturity investments as of December 31, 2020 and 2019, were as follows:

				202	0			
(Millions)	Cost or zed cost	unr	Gross ealized gains	unrealize	Gross d losses	et foreign ncy gains (losses)	Fa	ir value
Asset-backed securities	\$ 618.6	\$	11.3	\$	(7.5)	\$ (21.8)	\$	600.6
Corporate debt securities	532.7		10.5		(0.2)	(22.6)		520.4
Residential mortgage-backed securities	355.8		14.0		(0.9)	(3.6)		365.3
U.S. government and government agency	147.0		0.5		-	(9.5)		138.0
Commercial mortgage-backed securities	121.5		3.3		(1.3)	0.3		123.2
Non-U.S. government and government agency	69.3		0.3		(0.1)	(2.0)		67.5
Preferred stocks	3.4		1.2		-	-		4.6
U.S. States, municipalities and political subdivision	1.2		-		-	-		1.2
Total fixed maturity investments	\$ 1,849.5	\$	41.1	\$	(10.0)	\$ (59.8)	\$	1,820.8

	2019									
(Millions)	amort	Cost or ized cost		Gross unrealized gains	unrealize	Gross d losses		t foreign Icy gains (losses)	Fair	value
Asset-backed securities	\$	455.2	\$	1.2	\$	(2.9)	\$	(0.1)	\$	453.4
Corporate debt securities		458.6		5.2		(1.2)		11.5		474.1
Residential mortgage-backed securities		425.6		10.5		(1.4)		3.6		438.3
U.S. government and government agency		111.5		0.7		(0.4)		(1.3)		110.5
Commercial mortgage-backed securities		88.5		0.9		(0.6)		0.2		89.0
Non-U.S. government and government agency		63.7		-		(0.7)		-		63.0
Preferred stocks		17.0		-		-		-		17.0
U.S. States, municipalities and political subdivision		1.7		-		-		-		1.7
Total fixed maturity investments	\$	1,621.8		\$ 18.5	\$	(7.2)	\$	13.9	\$	1,647.0

The weighted average duration of Sirius Bermuda's fixed income portfolio as of December 31, 2020 was approximately 1.0 years, including short-term investments, and approximately 1.7 years excluding short-term investments.

The cost or amortized cost and fair value of Sirius Bermuda's fixed maturity investments as of December 31, 2020 and 2019 are presented below by contractual maturity. Actual maturities could differ from contractual maturities because borrowers may have the right to call or prepay certain obligations with or without call or prepayment penalties.

	2020				2019				
	Cost or a	mortized			Cost or an	nortized			
(Millions)	cost		Fair value		cost		Fair valu		
Due in one year or less	\$	180.2	\$	179.6	\$	85.0	\$	88.4	
Due after one year through five years		467.6		443.9		479.1		490.3	
Due after five years through ten years		87.9		89.2		46.3		46.0	
Due after ten years		14.5		14.4		25.1		24.6	
Mortgage-backed and asset-backed securities		1,095.9		1,089.1		969.3		980.7	
Preferred stocks		3.4		4.6		17.0		17.0	
Total	\$	1,849.5	\$	1,820.8	\$	1,621.8	\$	1,647.0	

The following table summarizes the ratings and fair value of fixed maturity investments held in Sirius Bermuda's investment portfolio as of December 31, 2020 and 2019:

(Millions)	2020	2019
AAA	\$ 719.7	\$ 541.8
AA	659.3	710.8
A	220.2	219.0
BBB	127.0	93.3
Other	94.6	82.1
Total fixed maturity investments ⁽¹⁾	\$ 1,820.8	\$ 1,647.0

⁽¹⁾Credit ratings are assigned based on the following hierarchy: 1) Standard & Poor's and 2) Moody's Investor Service.

As of December 31, 2020, the above totals included \$24.3 million of sub-prime securities. Of this total, \$6.9 million was rated AAA, \$14.2 million rated AA, \$3.2 million rated A, and \$0.0 million classified as other. As of December 31, 2019, the above included \$43.3 million of sub-prime securities. Of this total, \$21.7 million was rated AAA, \$18.3 million rated AA, \$3.1 million rated A, and \$0.2 million classified as other.

Equity securities and Other long-term investments

The cost or amortized cost, gross unrealized investment gains and losses, net foreign currency gains and losses, and fair values of Sirius Bermuda's equity securities and other long-term investments as of December 31, 2020 and 2019, were as follows:

			2020		
	Cost or amortized	Gross unrealized	Gross unrealized	Net foreign currency	
(Millions)	cost	gains	losses	gains	Fair value
Equity securities	\$ 20.0	\$ 1.0	\$ (10.0)	\$ (0.3)	\$ 10.7
Other long-term investments	\$ 316.3	\$ 147.9	\$ (22.9)	\$ 5.1	\$ 446.4

					2019					
	Cost or am	ortized	Gross unre	ealized	Gross un	realized	Net foreign cu	irrency		
(Millions)		cost		gains		losses	-	gains	Fai	ir value
Equity securities	\$	379.2	\$	55.6	\$	(37.3)	\$	7.7	\$	405.2
Other long-term investments	\$	315.4	\$	49.9	\$	(29.3)	\$	10.8	\$	346.8

Equity securities at fair value consisted of the following as of December 31, 2020 and 2019:

(Millions)	2020	2019
Fixed income mutual funds	\$ 1.9	\$ 175.3
Common stocks	8.8	228.1
Other equity securities	-	1.8
Total other long-term investments	\$ 10.7	\$ 405.2

Other long-term investments at fair value consist of the following as of December 31, 2020 and 2019:

(Millions)	2020	2019
Hedge funds and private equity funds	\$ 275.6	\$ 269.0
Limited liability companies and private equity securities	170.8	77.8
Total other long-term investments	\$ 446.4	\$ 346.8

Hedge Funds and Private Equity Funds

Sirius Bermuda holds investments in hedge funds and private equity funds, which are included in other long-term investments. The fair value of these investments has been estimated using the net asset value of the funds. As of December 31, 2020, Sirius Bermuda held investments in 8 hedge funds and 20 private equity funds. The largest investment in a single fund was \$67.6 million as of December 31, 2020 and \$51.6 million as of December 31, 2019.

The following table summarizes investments in hedge funds and private equity interests by investment objective and sector as of December 31, 2020 and 2019:
2020 2019

	2020		2019			
(Millions)	Fair value	Unfunded commitments	Fair value	Unfunded commitments		
Hedge funds:						
Long/short multi-sector	\$ 30.9	\$ -	\$ 53.0	\$ -		
Distressed mortgage credit	67.6	-	51.6	-		
Private credit	22.8	-	21.5	-		
Other	1.2	-	1.4	-		
Total hedge funds	122.5	-	127.5	-		
Private equity funds:						
Energy infrastructure & services	59.7	28.2	53.6	34.6		
Multi-sector	14.2	6.5	8.7	7.8		
Healthcare	30.1	5.6	25.9	10.4		
Life settlement	20.1	-	23.9	-		
Manufacturing/Industrial	24.8	-	27.6	3.9		
Private equity secondaries	0.6	0.7	0.6	0.8		
Real estate	-	-	-	-		
Other	3.6	1.3	1.2	2.6		
Total private equity funds	153.1	42.3	141.5	60.1		
Total hedge and private equity funds included in other long-term investments	\$ 275.6	\$ 42.3	\$ 269.0	\$ 60.1		

Redemption of investments in certain hedge funds is subject to restrictions including lock-up periods where no redemptions or withdrawals are allowed, restrictions on redemption frequency, and advance notice periods for redemptions. Amounts requested for redemptions remain subject to market fluctuations until the redemption effective date, which generally falls at the end of the defined redemption period.

The following summarizes the December 31, 2020 fair value of hedge funds subject to restrictions on redemption frequency and advance notice period requirements for investments in active hedge funds:

					Notice Per	iod			
Redemption Frequency (Millions)	30-59 days 1	otice	60-89 days not	ice	90-119 days	notice	120+ days 1	notice	Total
Monthly	\$	-	\$	-	\$	-	\$	-	\$, -
Quarterly		0.6		30.9		67.6		-	99.1
Semi-annual		-		0.3		-		-	0.3
Annual		-		-		0.3		22.8	23.1
Total	\$	0.6	\$	31.2	\$	67.9	\$	22.8	\$ 122.5

Certain of the hedge fund and private equity fund investments in which Sirius Bermuda is invested are no longer active and are in the process of disposing of their underlying investments. Distributions from such funds are remitted to investors as the fund's underlying investments are liquidated. As of December 31, 2020, \$6.3 million in distributions were outstanding from these investments.

Investments in private equity funds are generally subject to a "lock-up" period during which investors may not request a redemption. Distributions prior to the expected termination date of the fund may be limited to dividends or proceeds arising from the liquidation of the fund's underlying investments. In addition, certain private equity funds provide an option to extend the lock-up period at either the sole discretion of the fund manager or upon agreement between the fund and the investors.

As of December 31, 2020, investments in private equity funds were subject to lock-up periods as follows:

(Millions)	1 - 3 years	3 – 5 years	5 – 10 years	Total
Private Equity Funds – expected lock up period remaining	\$ 56.4	\$ 18.9	\$ 77.8	\$ 153.1

Investments Held on Deposit or as Collateral

As of December 31, 2020 and 2019, the fair value of investments that were required to be maintained in relation to various reinsurance agreements and deposits with certain insurance and regulatory agencies in order to maintain their insurance licenses was \$1,362.4 million and \$1,315.5 million, respectively. Of these amounts, the fair value of deposits with certain insurance and regulatory agencies totaled \$132.8 million and \$121.5 million as of December 31, 2020 and 2019, respectively.

As of December 31, 2020, Sirius Bermuda held \$0.1 million of collateral in the form short-term investments associated with Interest Rate Cap agreements. (See Note 13.)

Unsettled investment purchases and sales

As of December 31, 2020 and 2019, Sirius Bermuda reported \$17.9 million and \$2.3 million, respectively, in Accounts payable on unsettled investment purchases.

As of December 31, 2020 and 2019, Sirius Bermuda reported \$18.4 million and \$6.7 million, respectively, in Accounts receivable on unsettled investment sales.

Note 9. Fair value measurements

Fair value measurements

Fair value measurements are categorized into a hierarchy that distinguishes between inputs based on market data from independent sources ("observable inputs") and a reporting entity's internal assumptions based upon the best information available when external market data is limited or unavailable ("unobservable inputs"). Quoted prices in active markets for identical assets or liabilities have the highest priority ("Level 1"), followed by observable inputs other than quoted prices, including prices for similar but not identical assets or liabilities ("Level 2"), and unobservable inputs, including the reporting entity's estimates of the assumptions that market participants would use, having the lowest priority ("Level 3").

The availability of observable inputs can vary from financial instrument to financial instrument and is affected by a wide variety factors including, for example, the type of financial instrument, whether the financial instrument is new and not yet established in the marketplace, and other characteristics particular to the instrument. To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires significantly more judgment.

Accordingly, the degree of judgment exercised by management in determining fair value is greatest for instruments categorized in Level 3. In periods of market dislocation, the observability of prices and inputs may be reduced for many instruments. This may lead the Company to change the selection of the valuation technique (for example, from market to cash flow approach) or to use multiple valuation techniques to estimate the fair value of a financial instrument. These circumstances could cause an instrument to be reclassified between levels within fair value hierarchy. Investments valued using Level 1 inputs include fixed maturity investments, primarily investments in U.S. Treasuries Bills and Notes, equity securities, and short-term investments valued using Level 2 inputs are primarily comprised of fixed maturity investments, which have been disaggregated into classes, including U.S. government and government agency, corporate debt securities, mortgage-backed and asset-backed securities, non-U.S. government agency, U.S. state and municipalities and political sub division and preferred stocks. Investments valued using Level 2 inputs also include certain ETFs that track U.S. stock indices such as the S&P 500 but are traded on foreign exchanges. Fair value estimates for investments that trade infrequently and have few or no observable market prices are classified as Level 3 measurements. Sirius Bermuda determines when transfers between levels have occurred as of the beginning of the period.

Valuation techniques

Sirius Bermuda uses outside pricing services to assist in determining fair values for its investments. For investments in active markets, Sirius Bermuda uses the quoted market prices provided by outside pricing services to determine fair value. The outside pricing services Sirius Bermuda uses have indicated that they will only provide prices where observable inputs are available. In circumstances where quoted market prices are unavailable or are not considered reasonable, Sirius Bermuda estimates the fair value using industry standard pricing models and observable inputs such as benchmark yields, reported trades, broker-dealer quotes, issuer spreads, benchmark securities, bids, offers, prepayment speeds, reference data including research publications, and other relevant inputs. Given that many fixed maturity investments do not trade on a daily basis, the outside pricing services evaluate a wide range of fixed maturity investments by regularly drawing parallels from recent trades and quotes of comparable securities with similar features. The characteristics used to identify comparable fixed maturity investments vary by asset type and take into account market convention.

The valuation process above is generally applicable to all of Sirius Bermuda's fixed maturity investments. The techniques and inputs specific to asset classes within Sirius Bermuda's fixed maturity investments for Level 2 securities that use observable inputs are as follows:

U.S. government and government agency

U.S. government and government agency securities consist primarily of debt securities issued by the U.S. Treasury and mortgage pass-through agencies such as the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation and the Government National Mortgage Association. Fixed maturity investments included in U.S. government and government agency securities are primarily priced by pricing services. When evaluating these securities, the pricing services gather information from market sources and integrate other observations from markets and sector news. Evaluations are updated by obtaining broker dealer quotes and other market information including actual trade volumes, when available. The fair value of each security is individually computed using analytical models which incorporate option adjusted spreads and other daily interest rate data.

Non-U.S. government and government agency

Non-U.S. government and government agency securities consist of debt securities issued by non-U.S. governments and their agencies along with supranational organizations (also known as sovereign debt securities). Securities held in these sectors are primarily priced by pricing services who employ proprietary discounted cash flow models to value the securities. Key quantitative inputs for these models are daily observed benchmark curves for treasury, swap, and high issuance credits. The pricing services then apply a credit spread for each security which is developed by in-depth and real time market analysis. For securities in which trade volume is low, the pricing services utilize data from more frequently traded securities with similar attributes. These models may also be supplemented by daily market and credit research for international markets.

Corporate debt securities

Corporate debt securities consist primarily of investment-grade debt of a wide variety of U.S. and non-U.S. corporate issuers and industries. The corporate fixed maturity investments are primarily priced by pricing services. When evaluating these securities, the pricing services gather information from market sources regarding the issuer of the security and obtain credit data, as well as other observations, from markets and sector news. Evaluations are updated by obtaining broker dealer quotes and other market information including actual trade volumes, when available. The pricing services also consider the specific terms and conditions of the securities, including any specific features which may influence risk.

Mortgage-backed and asset-backed securities

The fair value of mortgage and asset-backed securities is primarily priced by pricing services using a pricing model that uses information from market sources and leveraging similar securities. Key inputs include benchmark yields, reported trades, underlying tranche cash flow data, collateral performance, plus new issue data, as well as broker-dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data including issuer, vintage, loan type, collateral attributes, prepayment speeds, default rates, recovery rates, cash flow stress testing, credit quality ratings, and market research publications.

U.S. states, municipalities, and political subdivisions

The U.S. states, municipalities, and political subdivisions portfolio contains debt securities issued by U.S. domiciled state and municipal entities. These securities are generally priced by independent pricing services using the techniques for U.S. government and government agency securities.

Preferred stocks

The fair value of preferred stocks is generally priced by independent pricing services using an evaluated pricing model that calculates the appropriate spread over a comparable security for each issue. Key inputs include exchange prices (underlying and common stock of same issuer), benchmark yields, reported trades, broker-dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data including sector, coupon, credit quality ratings, duration, credit enhancements, early redemption features, and market research publications.

Level 3 Investments

Level 3 valuations are generated from techniques that use assumptions not observable in the market. These unobservable assumptions reflect Sirius Bermuda's assumptions, that market participants would use in valuing the investment. Generally, certain securities may start out as Level 3 when they are originally issued but as observable inputs become available in the market, they may be reclassified to Level 2.

Sirius Bermuda employs a number of procedures to assess the reasonableness of the fair value measurements for its other long-term investments, including obtaining and reviewing the audited annual financial statements of hedge funds and private equity funds and periodically discussing each fund's pricing with the fund manager. However, since the fund managers do not provide sufficient information to evaluate the pricing inputs and methods for each underlying investment, the inputs are considered to be unobservable.

The fair values of Sirius Bermuda's investments in private equity securities and private debt instruments have been classified as Level 3 measurements. They are carried at fair value and are initially valued based on transaction price and their valuation is subsequently estimated based on available evidence such as a market transaction in similar instruments and other financial information for the issuer.

Investments measured using Net Asset Value

The fair value of Sirius Bermuda's investments in hedge funds and private equity funds has been determined using net asset value. The hedge fund's administrator provides quarterly updates of fair value in the form of Sirius Bermuda's proportional interest in the underlying fund's net asset value (collectively "NAV"), which is deemed to approximate fair value, generally with a three month delay in valuation. The fair value of investment in hedge funds is measured using the NAV practical expedient and therefore has been not categorized within the fair value hierarchy. The private equity funds provide quarterly or semi-annual partnership capital statements with a three or six month delay which are used as a basis for valuation. These private equity investments vary in investment strategies and are not actively traded in any open markets.

The fair value of these investments are measured using NAV practical expedient and therefore have not been categorized with the fair value hierarchy. Due to a lag in reporting, some of the fund managers, fund administrators, or both, are unable to provide final fund valuations as of the Company's reporting date. In these circumstances, Sirius Bermuda estimates the return of the current period and uses all credible information available. This includes utilizing preliminary estimates reported by its fund managers and using other information that is available to Sirius Bermuda with respect to the underlying investments, as necessary.

Fair Value Measurements by Level

The following tables summarize Sirius Bermuda's financial assets and liabilities measured at fair value as of December 31, 2020 and 2019 by level:

				2020				
(Millions)	F	air value	Leve	l 1 inputs	Leve	l 2 inputs	Level 3	inputs
Assets measured at fair value								
Fixed maturity investments:								
U.S. Government and government agency	\$	138.0	\$	130.9	\$	7.1	\$	-
Corporate debt securities		520.4		-		520.4		-
Asset-backed securities		600.6		-		600.6		-
Residential mortgage-backed securities		365.3		-		365.3		-
Commercial mortgage-backed securities		123.2		-		123.2		-
Non-U.S. government and government agency		67.5		27.5		40.0		-
Preferred stocks		4.6		-		1.8		2.8
U.S. States, municipalities, and political subdivision		1.2		-		1.2		-
Total fixed maturity investments		1,820.8		158.4		1,659.6		2.8
Equity securities:		2				,		
Fixed income mutual funds		1.9		1.9		-		-
Common stocks		8.8		8.8		-		-
Other equity securities		-		-		-		-
Total equity securities		10.7		10.7		-		-
Short-term investments		1,368.5		1,306.6		61.9		-
Other long-term investments ⁽¹⁾		170.8		-		-		170.8
Total investments	\$	3,370.8	\$	1,475.7	\$	1,721.5	\$	173.6
Loan participation		32.4		-		-		32.4
Derivative instruments		4.5		3.9		-		0.6
Total assets measured at fair value	\$	3,407.7	\$	1,479.6	\$	1,721.5	\$	206.6
Liabilities measured at fair value								
Contingent consideration liabilities	\$	0.7	\$	-	\$	-	\$	0.7
Derivative instruments		-		-		-		-
Total liabilities measured at fair value	\$	0.7	\$	-	\$	-	\$	0.7

⁽¹⁾ Excludes fair value of \$275.6 associated with hedge funds and private equity funds which fair value is measured at net asset value using the practical expedient.

	2019								
(Millions)	F	air value	Leve	l 1 inputs	Level 2 inputs		Level 3 inpu		
Assets measured at fair value									
Fixed maturity investments:									
U.S. Government and government agency	\$	110.5	\$	109.1	\$	1.4	\$		
Corporate debt securities		474.1		-		474.1			
Asset-backed securities		453.4		-		453.4			
Residential mortgage-backed securities		438.3		-		438.3			
Commercial mortgage-backed securities		89.0		-		89.0			
Non-U.S. government and government agency		63.0		31.7		31.3			
Preferred stocks		17.0		-		-		17.0	
U.S. States, municipalities, and political subdivision		1.7		-		1.7			
Total fixed maturity investments		1,647.0		140.8		1,489.2		17.0	
Equity securities:		-				-			
Fixed income mutual funds		175.3		175.3		-			
Common stocks		228.1		228.1		-			
Other equity securities		1.8		-		1.8			
Total equity securities		405.2		403.4		1.8			
Short-term investments		1,076.6		1,065.1		11.5			
Other long-term investments ⁽¹⁾		77.8		-		-		77.8	
Total investments	\$	3,206.6	\$	1,609.3	\$	1,502.5	\$	94.8	
Loan participation		20.0		-		-		20.0	
Derivative instruments		8.7		1.3		-		7.4	
Total assets measured at fair value	\$	3,234.9	\$	1,610.6	\$	1,502.5	\$	121.8	
Liabilities measured at fair value									
Contingent consideration liabilities	\$	9.7	\$	-	\$	-	\$	9.3	
Derivative instruments		0.2		0.2		-			
Total liabilities measured at fair value	\$	9.9	\$	0.2	\$	-	\$	9.1	

⁽¹⁾ Excludes fair value of \$269.0 associated with hedge funds and private equity funds which fair value is measured at net asset value using the practical expedient.

Rollforward of Level 3 Fair Value Measurements

The following tables present changes in Level 3 for financial instruments measured at fair value for the years ended December 31, 2020 and 2019:

							2020		
(Millions)	Fixed ma	aturities	Other ng-term tments ⁽¹⁾	partici	Loan pation	instrument	rivative s assets bilities)	consid	tingent eration pilities)
Balance at January 1, 2020	\$	17.0	\$ 77.8	\$	20.0	\$	7.4	\$	(9.7)
Total realized and unrealized gains		2.8	82.8		0.4		(22.4)		(0.9)
Foreign currency losses through									
Other Comprehensive Income		-	1.7		-		-		-
Purchases		-	9.0		13.4		-		-
Sales/settlements		(17.0)	(0.5)		(1.4)		15.6		9.9
Balance at December 31, 2020	\$	2.8	\$ 170.8	\$	32.4	\$	0.6	\$	(0.7)

⁽¹⁾ Excludes fair value of \$275.6 associated with hedge funds and private equity funds which fair value is measured at net asset value using the practical expedient.

							2019		
(Millions)	Fixed mat	urities	Other g-term nents ⁽¹⁾	particip	Loan ation	instrument	rivative s assets bilities)	conside	ingent ration ilities)
Balance at January 1, 2019	\$	5.4	\$ 63.6	\$	-	\$	3.9	\$	(8.9)
Total realized and unrealized gains		-	7.3		-		(0.7)		(0.8)
Foreign currency losses through									
Other Comprehensive Income		-	(0.6)		-		-		-
Purchases		17.0	15.7		20.0		-		-
Sales/settlements		(5.4)	(8.2)		-		4.2		-
Balance at December 31, 2019	\$	17.0	\$ 77.8	\$	20.0	\$	7.4	\$	(9.7)

⁽¹⁾ Excludes fair value of \$269.0 associated with hedge funds and private equity funds which fair value is measured at net asset value using the practical expedient.

Fair Value Measurements – transfers between levels

There were no transfers between Level 3 and Level 2 measurements for the years ended December 31, 2020 or December 31, 2019.

Significant Unobservable Inputs

The table below presents information about the significant unobservable inputs used for recurring fair value measurements for certain Level 3 instruments as of December 31, 2020 and 2019, and includes only those instruments for which information about the inputs is reasonably available to Sirius Bermuda, such as data from independent third-party valuation service providers and from internal valuation models.

(Millions)	2020			
Description	Valuation technique(s)	Fair value		Unobservable input
Preferred stock ⁽¹⁾	Subject company transaction approach	\$79.5	Share price range	\$14.99-\$16.09
Private equity securities ⁽¹⁾	Share price of recent transaction	\$40.6	Purchase share price	\$50.79
Private equity security ⁽¹⁾	Subject company transaction approach	\$25.0	Share price range	\$14.99-\$15.93
Loan participation ⁽¹⁾	Share price of recent transaction	\$18.7	Comparable yields	Range – 4.91%-7.82%
				Median - 5.92%
Private equity securities ⁽¹⁾	Multiple of GAAP book value	\$15.0	Book value multiple	Range - 0.73x-0.91x
		\$13.0		Median – 5.92x
Loan participation ⁽¹⁾	Share price of recent transaction	\$13.7	Comparable yields	Range – 4.91%-7.82%
				Median - 5.92%
Private debt instrument ⁽¹⁾	Discounted cash flow	\$6.5	Discount yield	Range – 6.55%-7.03%
				Median - 6.73%
Private convertible debt instrument ⁽¹⁾	Subject company transaction approach	\$3.9	Unit price range	\$14.99-\$16.09
Preferred stock ⁽¹⁾	Share price of recent transaction	\$2.0	Share price	\$2.0
Preferred stock ⁽¹⁾	Share price of recent transaction	\$0.8	Share price	\$0.8
Equity warrants ⁽²⁾	Option pricing model	\$0.6	Strike price	\$0.2
Private equity securities ⁽¹⁾	Purchase price of recent transaction	\$0.3	Purchase price	\$0.3
Contingent consideration	External valuation model	\$(0.7)	Discounted future payments	\$(0.7)

⁽¹⁾ As of December 31, 2020, each asset type consists of one security.

⁽²⁾ See Note 13 for discussion of derivative instruments

(Millions)	2019			
Description	Valuation technique(s)	Fair value	Unobservable in	put
Private equity securities ⁽¹⁾	Share price of recent transaction	\$32.5	Purchase share price	\$40.6
Loan participation ⁽¹⁾	Purchase price of recent transaction	\$20.0	Purchase price	\$20.0
Preferred stock ⁽¹⁾	Share price of recent transaction	\$17.5	Purchase price	\$7.74
Private equity securities ⁽¹⁾	Multiple of GAAP book value	\$14.2	Book value multiple	0.9X
Preferred stock ⁽¹⁾	Purchase price of recent transaction	\$12.2	Purchase price	\$12.2
Private debt instrument ⁽¹⁾	Purchase price of recent transaction	\$7.2	Purchase price	\$9.0
Weather derivatives ⁽²⁾	Third party appraisal	\$7.0	Broker quote	\$7.0
Private equity securities ⁽¹⁾	Purchase price of recent transaction	\$5.1	Purchase price	\$7.74
Preferred stock ⁽¹⁾	Purchase price of recent transaction	\$4.8	Purchase price	\$4.80
Private equity securities ⁽¹⁾	Purchase price of recent transaction	\$1.0	Purchase price	\$10.0
Equity warrants ⁽²⁾	Option pricing model	\$0.4	Strike price	\$0.2
Private equity securities ⁽¹⁾	Purchase price of recent transaction	\$0.3	Purchase price	\$0.3
Contingent consideration	External valuation model	\$(9.7)	Discounted future payments	\$(9.7)

⁽¹⁾ As of December 31, 2019, each asset type consists of one security.

⁽²⁾ See Note 13 for discussion of derivative instruments.

Financial instruments disclosed, but not carried at fair value

Sirius Bermuda uses various financial instruments in the normal course of its business. The carrying values of Cash, Accrued investment income, certain other assets, Accounts payable on unsettled investment purchases, certain other liabilities, and other financial instruments approximated their fair values as of December 31, 2020 and 2019, due to their respective short maturities. As these financial instruments are not actively traded, their respective fair values are classified within Level 3.

Fair Value Measurements on a Non-Recurring Basis

Sirius Bermuda measures the fair value of certain assets on a non-recurring basis, generally quarterly, annually, or when events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. These include goodwill, indefinite-lived intangible assets, and long-lived assets. Sirius Bermuda uses a variety of techniques to measure the fair value of these assets when appropriate, as described below:

Goodwill and Indefinite-Lived Intangible Assets: The preliminary fair value of the goodwill and indefinite-lived intangible asset acquired as part of the acquisitions of both IMG and Armada was determined using the income valuation and market valuation methodologies. The income approach determines value for an asset based on the present value of cash flows projected to be generated over the remaining economic life of the asset being measured. The net cash flows are discounted to present value using a discount rate that reflects the relative risk of achieving the cash flow. The market approach is a valuation technique that uses prices and other relevant information generated by market transactions involving identical or comparable assets or Bermuda of assets.

Determining the fair value goodwill and indefinite-lived intangible assets acquired requires the exercise of significant judgment, including the amount and timing of expected future cash flows, which are derived from expected revenue growth rates and profitability margins, and the discount rate. The cash flows employed in the valuation are based on Sirius Bermuda's best estimates of future cash flows after considering factors such as general market conditions, changes in working capital, long term business plans, and recent operating performance. Use of different estimates and judgments could yield different results.

Sirius Bermuda tests goodwill and indefinite-lived intangible assets for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable. When Sirius Bermuda determines goodwill and indefinite-lived intangible assets may be impaired, Sirius Bermuda uses techniques, including discounted expected future cash flows, to measure fair value using Level 3 inputs. Sirius Bermuda recorded no impairment of goodwill or indefinite-lived intangible asset during 2020 or 2019 and recorded an impairment of its Trade Name indefinite-lived intangible of \$8.0 million in 2018, that was recorded in Impairment of Intangible Assets in the Consolidated Statements of (Loss). (See Note 9).

Long-Lived Assets: Sirius Bermuda tests its long-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of a long-lived asset may not be recoverable.

Note 10. Goodwill and intangible assets

Goodwill represents the excess of the amount paid to acquire subsidiaries over the fair value of identifiable net assets at the date of acquisition. Intangible assets consist primarily of distribution relationships, trade names, customer relationships, technology, and insurance licenses. Finite-life intangible assets are measured at their acquisition date fair values, amortized over their economic lives, and presented net of accumulated amortization on the balance sheet.

Goodwill is not amortized, but rather is evaluated for impairment on an annual basis, or whenever indications of potential impairment exist. In the absence of any indications of potential impairment, the evaluation of goodwill is performed during the fourth quarter of each year. Sirius Bermuda uses widely accepted valuation techniques to determine the fair value of the reporting units used in its annual goodwill impairment analysis. Sirius Bermuda's valuation is primarily based on qualitative and quantitative assessments regarding the fair value of the reporting unit relative to its carrying value. Management calculates a range of fair values using the income approach and market approach and compares the concluded fair values to the carrying value of the reporting unit. During the years ended December 31, 2020, 2019 and 2018, Sirius Group determined that the Global A&H operating segment was an appropriate reporting unit for the purposes of testing goodwill for impairment.

Intangible assets with indefinite lives are evaluated for impairment at least annually and when events or changes in circumstances indicate that it is more likely than not that the asset is impaired.

The following table shows the change in goodwill, intangible assets with an indefinite life, and intangible assets with a finite life during the years ended December 31, 2020 and 2019:

(Millions)	Goodwill	assets	angible with an nite life	ass	ntangible ets with a finite life	Total
Net balance at December 31, 2018	400.6		22.1		173.5	596.2
Foreign currency translation ⁽¹⁾	0.2		-		-	0.2
Amortization ⁽²⁾	-		-		(15.8)	(15.8)
Net balance at December 31, 2019	\$ 400.8	\$	22.1	\$	157.7	\$ 580.6
Foreign currency translation	-		-		-	-
Amortization	-		-		(15.8)	(15.8)
Net balance at December 31, 2020	\$ 400.8	\$	22.1	\$	141.9	\$ 564.8

⁽¹⁾Foreign currency translation and amortization in 2019 relates to IMG and is allocated to the Global A&H segment.

For the year ended December 31, 2020 and 2019, Sirius Bermuda did not recognize any impairments on Intangible assets with an indefinite life. For the year ended December 31, 2018, Sirius Bermuda recognized an impairment of Intangible assets with an indefinite life that related to a trade name intangible asset acquired as part of the acquisition of IMG. The impairment resulted from lower than anticipated growth when comparing the forecasted results against a reforecast of results at year end. A quantitative impairment review of the IMG trade name intangible asset was performed by applying the royalty replacement method to determine the asset's fair value as of December 31, 2020, 2019 and 2018, respectively. Under the royalty replacement method, the fair value of IMG's trade name intangible asset was determined based on a market participant's view of the royalty that would be paid to license the right to use the trade name. This quantitative analysis incorporated several assumptions including forecasted future revenues and cash flows, estimated royalty rate, based on similar licensing transactions and market royalty rates, and discount rate, which incorporates assumptions such as weighted-average cost of capital and risk premium. As a result of the impairment testing, the carrying value of IMG's trade name intangible asset exceeded its estimated fair value as December 31, 2018 and an impairment of \$8.0 million was recorded as Impairment of intangible assets on the Consolidated Statements of (Loss).

The following tables presents the components of goodwill and intangible assets as of December 31, 2020 and 2019:

					2020				
(Millions)	Gross	balance		cumulated ortization	Impairments	Foreign cur trans	•	Not	balance
	01035		¢ alli			ti ans		<u>ф</u>	
Customer relationships – finite life ⁽¹⁾	\$	17.0	\$	(4.9)	\$-	\$	-	\$	12.1
Distribution relationships – finite life ⁽¹⁾		151.0		(35.2)	-		-		115.8
Goodwill – indefinite life ⁽¹⁾		400.7		-	-		0.1		400.8
Insurance licenses – indefinite life ⁽²⁾		8.1		-	-		-		8.1
Technology – finite life ⁽¹⁾		15.5		(9.5)	-		-		6.0
Trade names – finite life ⁽¹⁾		16.0		(8.0)	-		-		8.0
Trade names – indefinite life ⁽¹⁾		27.0		-	(13.0)		-		14.0
Net balance at December 31, 2020	\$	635.3	\$	(57.6) \$	(13.0)	\$	0.1	\$	564.8

⁽¹⁾Allocated to the Global A&H segment.

⁽²⁾Allocated to the Runoff & Other segment.

					201	9				
			Acc	umulated			Foreign cu	rrency		
(Millions)	Gross	balance	am	ortization	Imj	pairments	tran	slation	Net	t balance
Customer relationships – finite life ⁽¹⁾	\$	17.0	\$	(3.5)	\$	-	\$	-	\$	13.5
Distribution relationships – finite life ⁽¹⁾		151.0		(25.5)		-		-		125.5
Goodwill – indefinite life ⁽¹⁾		400.7		-		-		0.1		400.8
Insurance licenses – indefinite life ⁽²⁾		8.1		-		-		-		8.1
Technology – finite life ⁽¹⁾		15.5		(6.9)		-		-		8.6
Trade names – finite life ^{(1)}		16.0		(5.9)		-		-		10.1
Trade names –indefinite life ⁽¹⁾		27.0		-		(13.0)		-		14.0
Net balance at December 31, 2019	\$	635.3	\$	(41.8)	\$	(13.0)	\$	0.1	\$	580.6

⁽¹⁾Allocated to the Global A&H segment.

⁽²⁾*Allocated to the Runoff & Other segment.*

The amortization of intangibles assets for the years ended December 31, 2020, 2019 and 2018 was \$15.8 million in each of the years.

The estimated remaining amortization expense for Sirius Bermuda's intangible assets with finite lives is as follows:

(Millions)	
2021	\$ 15.8
2022 2023	14.6
2023	13.8
2024	13.2
2025	11.6
2026 and thereafter	72.9
Total remaining amortization expense	\$ 141.9

The estimated remaining useful lives of these intangible assets range from 1.3 years to 18.9 years.

Note 11. Debt and standby letters of credit facilities

Standby Letter of Credit Facilities

On November 6, 2020, Sirius International agreed to renew two standby letter of credit facility agreements totaling \$105 million to provide capital support for Lloyd's Syndicate 1945. The first letter of credit is a \$80 million facility with Nordea Bank Abp, London Branch, which is issued on an unsecured basis. The second letter of credit is a \$25 million facility with DNB Bank ASA, Sweden Branch, \$15.0 million of which is issued on an unsecured basis. Each facility is renewable annually. The above referenced facilities are subject to various affirmative, negative and financial covenants that the Company considers to be customary for such borrowings, including certain minimum net worth and maximum debt to capitalization standards.

Sirius Bermuda, Sirius International and Sirius America have other secured letter of credit and trust arrangements with various financial institutions to support insurance operations. As of December 31, 2020 and 2019, respectively, Sirius Bermuda Insurance Company's ("Sirius Bermuda") trust arrangements were collateralized by pledged assets and assets in trust of \$590.6 million and \$784.0 million, respectively. As of December 31, 2020 and 2019, Sirius International's secured letter of credit and trust arrangements were collateralized by pledged assets in trust of \$580.6 million and \$784.0 million, respectively. As of December 31, 2020 and 2019, Sirius International's secured letter of credit and trust arrangements were collateralized by pledged assets in trust of \$EK 4.4 billion and SEK 3.4 billion, or \$542.0 million and \$363.3 million, respectively (based on the December 31, 2020 and December 31, 2019 SEK to USD exchange rates). As of December 31, 2020 and 2019, Sirius America's trust arrangements were collateralized by pledged assets and assets in trust of \$97.0 million and \$57.7 million, respectively.

Standby Letter of Credit Facility Covenants

As of December 31, 2020, Sirius Bermuda was in compliance with all of the covenants under its standby letter of credit facility agreements.

Interest

Sirius Bermuda did not incur any interest expense for its indebtedness in 2020, 2019, and 2018.

Note 12. Income taxes

The Company and its Bermuda domiciled subsidiaries are not subject to Bermuda income tax under current Bermuda law. In the event there is a change in the current law such that taxes are imposed, the Company and its Bermuda domiciled subsidiaries would be exempt from such tax until March 31, 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 jurisdictions in which the Company's subsidiaries and branches are subject to tax are Australia, Belgium, Canada, Denmark, Germany, Gibraltar, Hong Kong (China), Ireland, Luxembourg, Malaysia, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States.

Sirius Bermuda's net (loss) income before income taxes for the years ended December 31, 2020, 2019, and 2018 was generated in the following domestic and foreign jurisdictions:

(Millions)	2020	2019	2018
Domestic:			
Bermuda	\$ (78.0)	\$ 41.2	\$ 25.9
Foreign:			
U.S.	123.7	(5.4)	(10.1)
U.K.	(85.3)	(29.1)	(14.9
Sweden	(108.3)	(22.4)	(74.2
Luxembourg	(24.9)	56.0	60.3
Netherlands	-	-	(0.1)
Other	2.5	-	-
Total (loss) income before income taxes	\$ (170.3)	\$ 40.3	\$ (13.1)

The total income tax (expense) benefit for the years ended December 31, 2020, 2019, and 2018 consisted of the following:

(Millions)	2020	2019	2018
Current tax (expense):			
U.S. Federal	\$ (0.8)	\$ (1.6)	\$ (7.0)
State	(1.7)	(2.0)	(2.2)
Non-U.S.	(2.3)	(1.5)	(19.8)
Total current tax (expense)	(3.2)	(5.1)	(29.0)
Deferred tax (expense) benefit:			
U.S. Federal	(22.4)	(8.8)	14.3
State	0.4	0.9	0.2
Non-U.S.	0.9	1.1	(25.9)
Total deferred tax (expense) benefit	(21.1)	(6.8)	(11.4)
Total income tax (expense) benefit	\$ (24.3)	\$ (11.9)	\$ (40.4)

Effective Rate Reconciliation

A reconciliation of taxes calculated using the 21.4% Swedish statutory rate (the rate at which the majority of Sirius Bermuda's worldwide operations are taxed) to the income tax (expense) benefit on pre-tax income follows:

(Millions)	2020		2019	2018
Tax benefit (expense) at the statutory rate	\$ 63	1 5	5 7.2	\$ (5.2)
Differences in taxes resulting from:				
Non-Sweden earnings	(47.6)	(19.6)	2.3
Change in valuation allowance	(43.6)	(20.7)	2.3
Tax rate change—other	8.2		(1.6)	0.1
Tax reserve adjustments	1.3		13.9	(42.0)
State taxes expense	(1.3)	(1.7)	(2.9)
Foreign tax credits	(1.2)	12.2	10.8
Tax rate change enacted in Sweden	(0.8)	(0.2)	15.4
Results from Internal Restructuring	(0.7)	7.4	(9.1)
Tax on Safety Reserve	(0.4)	(0.6)	(15.3)
Withholding taxes	(0.4)	(1.7)	(1.9)
Tax rate change enacted in Luxembourg		-	(5.8)	-
Section 197 Intangible as result of internal restructuring		-	-	6.9
Other, net	(0.9)	(0.7)	(1.8)
Total income tax (expense) on pre-tax earnings	\$ (24.3) \$	(11.9)	\$ (40.4)

The non-Sweden component of pre-tax (loss) income was \$(62.0) million, 62.7 million and \$61.1 million for the years ended December 31, 2020, 2019, and 2018, respectively.

The TCJA includes a new BEAT provision, which is essentially a minimum tax that is potentially applicable to certain otherwise deductible payments made by U.S. entities to non-U.S. affiliates, including cross-border interest payments and reinsurance premiums. The statutory BEAT rate is 10% in 2020-2025 and then rises to 12.5% in 2026 and thereafter. The TCJA also includes provisions for GILTI under which taxes on foreign income are imposed on the excess of a deemed return on tangible assets of certain foreign subsidiaries. Consistent with accounting guidance, Sirius Bermuda will treat BEAT as an in period tax charge when incurred in future periods for which no deferred taxes need to be provided and has made an accounting policy election to treat GILTI taxes in a similar manner. No provision for income taxes related to BEAT or GILTI was recorded as of December 31, 2020 or December 31, 2019.

Sirius Bermuda has capital and liquidity in many of its subsidiaries, some of which may reflect undistributed earnings. If such capital or liquidity were to be paid or distributed to the Company or Sirius Bermuda's subsidiaries, as dividends or otherwise, they may be subject to income or withholding taxes. Sirius Bermuda generally intends to operate and manage its capital and liquidity, in a tax-efficient manner. However, the applicable tax laws in relevant countries are still evolving, including in response to guidance from the Organisation for Economic Cooperation and Development ("OECD"). Accordingly, such payments or earnings may be subject to income or withholding tax in jurisdictions where they are not currently taxed or at higher rates of tax than currently taxed, and the applicable tax authorities could attempt to apply income or withholding tax to past earnings or payments.

Tax Payments and Receipts

Net income tax payments to (refunds from) national, state, and local governments totaled \$(0.8) million, \$9.3 million, and \$19.1 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Deferred Tax Inventory

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts for tax purposes. An outline of the significant components of Sirius Bermuda's deferred tax assets and liabilities follows:

(Millions)	2020	2019
Deferred income tax assets related to:		
Non-U.S. net operating loss carry forwards	\$ 281.7	\$ 211.1
Tax credit carry forwards	41.8	41.6
U.S. federal net operating loss and capital carry forwards	33.6	40.2
Loss reserve discount	7.9	6.6
Unearned premiums	6.5	4.3
Investment basis differences	5.3	3.6
Foreign currency translation on investments and other assets	2.4	3.4
Incentive compensation and benefit accruals	2.5	2.8
Deferred interest	1.2	2.6
Allowance for doubtful accounts	-	1.5
Other items	5.9	3.9
Total gross deferred income tax assets	388.8	321.6
Valuation allowance	(134.8)	(79.8)
Total adjusted deferred tax asset	254.0	241.8
Deferred income tax liabilities related to:		
Safety reserve (See Note 16)	259.2	239.4
Intangible assets	25.3	25.7
Deferred acquisition costs	18.1	4.6
Net unrealized investment gains	9.6	3.7
Purchase accounting	9.3	3.6
Investment basis differences	3.6	-
Other items	3.7	4.0
Total deferred income tax liabilities	328.8	281.0
Net deferred tax (liability) asset	\$ (74.8)	\$ (39.2)

Sirius Bermuda's deferred tax assets are net of U.S. federal and non-U.S. valuation allowances and, to the extent they relate to non-U.S. jurisdictions, they are shown at year-end exchange rates.

Of the \$74.8 million net deferred tax liability as of December 31, 2020, \$1.4 million relates to net deferred tax assets in U.S. subsidiaries, \$155.3 million relates to net deferred tax assets in Luxembourg subsidiaries, and \$231.5 million relates to net deferred tax liabilities in Sweden subsidiaries.

Net Operating Loss and Capital Loss Carryforwards

Net operating loss and capital loss carryforwards as of December 31, 2020, the expiration dates, and the deferred tax assets thereon are as follows:

(Millions)		2020			
	United States	Luxembourg	Sweden	U.K.	Total
2021-2025	\$ 6.5	\$ -	\$ -	\$ -	\$ 6.5
2026-2040	135.3	48.0	-	-	183.3
No expiration date	21.2	857.8	349.1	176.8	1,404.9
Total	163.0	905.8	349.1	176.8	1,594.7
Gross deferred tax asset	33.6	225.9	22.2	33.6	315.3
Valuation allowance	-	(69.9)	-	(33.6)	(103.5)
Net deferred tax asset	\$ 33.6	\$ 156.0	\$ 22.2	\$ -	\$ 211.8

Sirius Bermuda expects to utilize net operating loss carryforwards in Luxembourg of \$633.1 million but does not expect to utilize the remainder as they belong to companies that are not expected to have sufficient taxable income in the future. Included in the U.S. net operating loss carryforwards are losses of \$76.0 million subject to an annual limitation on utilization under Internal Revenue Code Section 382 and \$11.0 million are subject to separately return limitation year ("SRLY") provisions of the consolidated return regulations. Of the Section 382 limited loss carryforwards, \$6.3 million will expire between 2022 and 2025 and \$69.7 million will expire between 2030 and 2032. The SRLY limited losses will expire between 2036 and 2037. Sirius Bermuda expects to utilize all of the U.S. net operating loss carryforwards.

Foreign Tax Credits

As of December 31, 2020, there are U.S. foreign tax credits carryforwards available of \$17.9 million, of which an insignificant amount expires in 2021, and the remaining will begin to expire in 2022. As of December 31, 2020, there are alternative minimum tax credit carryforwards of \$0.1 million which do not expire and are expected to become fully refundable beginning in the 2023 tax year under the TCJA. Further, there are Swedish foreign tax credits carryforwards available of \$23.8 million and will expire between 2021 and 2025.

Valuation Allowance

Sirius Bermuda records a valuation allowance against deferred tax assets if it becomes more likely than not that all or a portion of a deferred tax asset will not be realized. Changes in valuation allowances from period to period are included in income tax expense in the period of change. In determining whether or not a valuation allowance, or change therein, is warranted, Sirius Bermuda considers factors such as prior earnings history, expected future earnings, carryback and carryforward periods and strategies that if executed would result in the realization of a deferred tax asset. It is possible that certain planning strategies or projected earnings in certain subsidiaries may not be feasible to utilize the entire deferred tax asset, which could result in material changes to Sirius Bermuda's deferred tax assets and tax expense.

Of the \$134.8 million valuation allowance as of December 31, 2020, \$69.9 million relates to net operating loss carryforwards in Luxembourg subsidiaries, \$35.0 million relates primarily to net operating loss carryforward in the United Kingdom, \$14.1 million relates to foreign tax credits in the United States and \$15.8 million relates to foreign tax credits in Sweden subsidiaries.

Uncertain Tax Positions

Recognition of the benefit of a given tax position is based upon whether a company determines that it is more likely than not that a tax position will be sustained upon examination based upon the technical merits of the position. In evaluating the more likely than not recognition threshold, Sirius Bermuda must presume that the tax position will be subject to examination by a taxing authority with full knowledge of all relevant information. If the recognition threshold is met, then the tax position is measured at the largest amount of benefit that is more than 50% likely of being realized upon ultimate settlement.

(Millions) Permanent Temporary Interest and differences⁽²⁾ differences⁽¹⁾ penalties⁽³⁾ Total Balance at January 1, 2018 \$ 27.4 \$ 1.8 \$ 0.1 \$ 29.3 Changes in prior year tax positions 1.4 0.1 1.5 Tax positions taken during the current year 36.2 34.5 (1.7)Lapse in statute of limitations Settlements with tax authorities (0.1)(0.1)Balance at December 31, 2018 S 64.9 S 0.1 S 0.2 \$ 65.2 Changes in prior year tax positions (17.1)(17.1)0.1 Tax positions taken during the current year (0.5)(0.5)Lapse in statute of limitations (0.1)_ (0.1)_ Settlements with tax authorities Balance at December 31, 2019 47.2 0.1 0.2 47.5 S S S S Changes in prior year tax positions (1.3)(1.3)Tax positions taken during the current year 6.1 6.1 Lapse in statute of limitations (0.1)(0.1)_ Settlements with tax authorities Balance at December 31, 2020 52.0 0.1 S S \$ 0.1 S 52.2

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

⁽¹⁾ Represents the amount of unrecognized tax benefits that, if recognized, would impact the effective tax rate.

⁽²⁾ Represents the amount of unrecognized tax benefits that, if recognized, would create a temporary difference between the reported amount of an item in the Consolidated Balance Sheets and its tax basis.

⁽³⁾ Net of tax benefit.

If Sirius Bermuda determines in the future that its reserves for unrecognized tax benefits on permanent differences and interest and penalties are not needed, the reversal of \$52.0 million of such reserves as of December 31, 2020 would be recorded as an income tax benefit and would impact the effective tax rate. If Sirius Bermuda determines in the future that its reserves for unrecognized tax benefits on temporary differences are not needed, the reversal of \$0.1 million of such reserves as of December 31, 2020 would not impact the effective tax rate due to deferred tax accounting but would accelerate the payment of cash to the taxing authority. Most of Sirius Bermuda's reserves for unrecognized tax benefits on permanent differences relate to interest deductions denied by the Swedish Tax Authority ("STA"), as described further below.

Sirius Bermuda classifies all interest and penalties on unrecognized tax benefits as part of income tax expense. During the years ended December 31, 2020, 2019 and 2018, Sirius Bermuda recognized \$(0.1) million, \$0.0 million, and \$0.1 million in interest income (expense), respectively, net of any tax benefit. The balance of accrued interest as of December 31, 2020 and 2019 is \$0.1 million and \$0.2 million, respectively, net of any tax benefit.

Tax Examinations

The STA has denied deductions claimed by two of the Company's Swedish subsidiaries in certain tax years for interest paid on intra-group debt instruments. Sirius Bermuda has challenged the STA's denial in court based on the technical merits. In October 2018, one of the Swedish subsidiaries received an adverse decision from Sweden's Administrative Court, which Sirius Bermuda has appealed. Sirius Bermuda has taken into account this and other relevant developments in applicable Swedish tax law and has established a reserve for this uncertain tax position. As of December 31, 2020, the total amount of such reserve was \$51.3 million.

In connection with this matter, Sirius Bermuda has also taken into account the Stock Purchase Agreement ("SPA") by which Sirius Bermuda was sold to CMIG International Holding Pte. Ltd. ("CMIG International") in 2016 and has recorded an indemnification asset. Pursuant to the SPA, the seller agreed to indemnify the buyer and Sirius Bermuda, among other things, (1) any additional tax liability in excess of Sirius Bermuda's accounting for uncertain tax positions for tax periods prior to the sale of Sirius Bermuda to CMIG International, and (2) an impairment in Sirius Bermuda's net deferred tax assets resulting from a final determination by a tax authority. CMIG International has informed Sirius Group of their view that CMIG International, rather than Sirius Group, should be entitled to all of the proceeds of such an indemnification claim, while Sirius is of the view that it should be entitled to the proceeds of such an indemnification claim to the extent of the book value of the relevant deferred tax assets, and therefore, Sirius Group continues to carry the related indemnification asset on the balance sheet. While Sirius Group intends to continue challenging the STA's denial based on the technical merits (including appealing the adverse court decision received in October 2018), the ultimate resolution of these tax disputes is uncertain and no assurance can be given that there will be no material changes to Sirius Bermuda's operating results or balance sheet in connection with these uncertain tax positions or the related indemnification. In January 2021, the European Court of Justice published a decision in favor of an unrelated Swedish corporation (and against the STA) in connection with very similar tax issues. Sirius Bermuda is evaluating the potential impact of this decision for purposes of its own reporting positions.

With few exceptions, Sirius Bermuda is no longer subject to U.S. federal, state or non-U.S. income tax examinations by tax authorities for years before 2016.

Note 13. Derivatives

Weather Derivatives

Sirius Bermuda holds assets and assumes liabilities related to weather and weather contingent risk management products. Weather and weather contingent derivative contracts are entered into with the objective of generating profits in normal climatic conditions. Accordingly, Sirius Bermuda's weather and weather contingent derivatives are not designed to meet the criteria for hedge accounting under GAAP. Sirius Bermuda receives payment of premium at the contract inception in exchange for bearing the risk of variations in a quantifiable weather index. Changes in fair value are recognized as unrealized gains or losses and are presented within Other revenue. Management uses available market data and internal pricing models based upon consistent statistical methodologies to estimate the fair value. Because of the significance of the unobservable inputs used to estimate the fair value of Sirius Bermuda's weather risk contracts, the fair value measurements of the contracts are deemed to be Level 3 measurements in the fair value hierarchy as of December 31, 2020 and 2019. Sirius Bermuda does not provide or hold any collateral associated with the weather derivatives.

Equity Futures Contracts

Sirius Bermuda holds restricted equity warrants as part of its investment strategy. The equity warrants are not designated or accounted for under hedge accounting. Changes in fair value are presented within Net unrealized investment gains (losses). The fair value of the equity warrants is estimated using a single broker quote and accordingly, classified as a Level 3 measurement. Sirius Bermuda did not provide or hold any collateral associated with the equity warrants.

Equity Put Options

Sirius Bermuda sells equity put options as part of its investment strategy. The equity put options were not designated or accounted for under hedge accounting. Changes in fair value are presented within Net unrealized investment (losses) gains. The fair value of the equity put options is widely available and have quoted prices in active markets and accordingly, were classified as a Level 1 measurement.

Foreign Currency Call Options

Sirius Bermuda executes foreign currency call options to manage foreign currency exposure. The foreign currency call options have not been designated or accounted for under hedge accounting. Changes in fair value are recognized as unrealized gains or losses and are presented within Net foreign exchange gains. The fair value of the foreign currency call options is widely available and have quoted prices in active markets and accordingly, have been classified as a Level 1 measurement as of December 31, 2020 and 2019. Sirius Bermuda does not provide or hold any collateral associated with the options.

Foreign Currency Futures

Sirius Bermuda executes foreign currency futures to manage foreign currency exposure. The foreign currency futures have not been designated or accounted for under hedge accounting. Changes in fair value are recognized as unrealized gains or losses and are presented within Net foreign exchange gains. The fair value of the foreign currency futures is widely available and have quoted prices in active markets and accordingly, have been classified as a Level 1 measurement as of December 31, 2020 and 2019. Sirius Bermuda does not provide or hold any collateral associated with the futures.

The following tables summarize information on the classification and amount of the fair value of derivatives not designated as hedging instruments within the Company's Consolidated Balance Sheets as of December 31, 2020 and 2019:

(Millions)			2	020					201	9		
Derivatives not designated as hedging instruments	Notiona	l value	Asset deriv at fair va		Lia derivat fair va		Notiona	al value	Asset deriv at fair va		deriva	ability tive at alue ⁽²⁾
Weather derivatives	\$	34.3	\$	-	\$	-	\$	110.7	\$	7.0	\$	-
Equity futures contracts	\$	-	\$	-	\$	-	\$	34.5	\$	-	\$	-
Equity warrants	\$	0.6	\$	0.6	\$	-	\$	0.4	\$	0.4	\$	-
Equity put options	\$	-	\$	-	\$	-	\$	31.0	\$	1.3	\$	0.2
Foreign currency call options	\$	50.6	\$	3.9	\$	-	\$	-	\$	-	\$	-
Foreign currency futures contracts	\$	73.1	\$	-	\$	-	\$	-	\$	-	\$	-

⁽¹⁾Asset derivatives are classified within Other assets within the Company's Consolidated Balance Sheets as of December 31, 2020 and 2019. ⁽²⁾Liability derivatives are classified within Other liabilities within the Company's Consolidated Balance Sheets as of December 31, 2020 and 2019.

The following table summarizes information on the classification and net impact on earnings, recognized in the Company's Consolidated Statements of (Loss) Income relating to derivatives during the years ended December 31, 2020, 2019 and 2018:

Derivatives not designated as hedging instruments	Classification of gains (losses) recognized in earnings	2020	2	2019	2018
Weather derivatives	Other revenues	\$ (22.6)	\$	(1.1)	\$ 5.2
Equity futures contracts	Net realized investment gains (losses)	\$ 2.5	\$	(1.7)	\$ 1.7
Equity futures contracts	Net unrealized investment gains (losses)	\$ 0.4	\$	-	\$ -
Equity warrants	Net unrealized investment gains (losses)	\$ 0.1	\$	0.4	\$ -
Equity put options	Net realized investment gains (losses)	\$ 7.4	\$	(0.8)	\$ -
Equity put options	Net unrealized investment gains (losses)	\$ 0.8	\$	(0.8)	\$ -
Foreign currency call options	Net foreign exchange gains (losses)	\$ 2.5	\$	-	\$ -
Foreign currency futures contracts	Net foreign exchange gains (losses)	\$ 5.8	\$	-	\$ -

Note 14. Employee benefit plans and compensation plans

Employee Benefit Plans

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Sirius Bermuda operates several retirement plans in accordance with the local regulations and practices. These plans cover substantially all Sirius Bermuda employees and provide benefits to employees in event of death, disability, or retirement.

Defined benefit plans

Swedish and German employees of Sirius International can participate in defined benefit plans which are based on the employees' pension entitlements and length of employment. In Sweden, where a defined benefit pension plan is mandated by the government, Sirius International's employees participate in collective agreements funded by Sirius International. These collective agreements are managed by third party trustees who calculate the pension obligation, invoice Sirius International for additional funding, and invest the funds. All employees in Germany are covered by defined benefit pension plans sponsored by Sirius International called Sirius Rückversicherungs Service GmbH Pension Plan. Paid pension premiums are invested with Skandia Liv for employees in Sweden and with Allianz for employees in Germany. Skanda Liv held 94% of total plan assets in both 2020 and 2019. Allianz held 6% of total plan assets in both 2020 and 2019. Skandia manages the portfolio to be able to pay a guaranteed amount and a favorable return over time with the goal of getting the highest possible return along with well-balanced risk. The average return for the period 2018 through 2020 was 5.9%. The investment directive is decided by the Skandia Liv board of directors. To achieve the goals the portfolio is diversified with the asset allocation shown below.

The breakdown of the investment of plan assets for the years ended December 31, 2020 and 2019 are as follows:

	2020	2019
International equities	13.7 %	13.0%
Swedish equities	11.3 %	8.9%
Swedish nominal bonds	37.3 %	40.7%
Real estate	9.6%	10.2%
Private equity	9.9 %	9.4%
Other	18.2 %	17.8%

The assumptions used to determine Swedish benefit obligations for the years ended December 31, 2020 and 2019 are as follows:

	2020	2019
Discount rate	1.4%	2.3%
Increase in compensation levels rate	3.1%	3.3%
Turnover rate	3.0%	3.0%

The Swedish actuaries follow the Swedish industry DUS14 mortality rate. The discount rate used to calculate the Swedish benefit obligation was derived from the expected return of an investment in Swedish covered mortgage bonds with a duration in accordance with the duration of the pension obligation. The duration of the Swedish pension liability is approximately 20 years.

The assumptions used to determine German benefit obligations for the years ended December 31, 2020 and 2019 are as follows:

	2020	2019
Discount rate	0.9%	1.9%
Increase in compensation levels rate	2.0%	2.0%

The German actuaries follow the Germany industry Richttafeln 2018 G mortality rates and standard turnover values for the years ended December 31, 2020 and 2019. The discount rate used to calculate the German benefit obligation was derived from markets yields on high quality corporate bonds with durations consistent with plan obligations. The duration of the German pension liability is approximately 17 years.

The following tables present a reconciliation of the beginning and ending funded status and the net amounts recognized for the defined benefit plans for the years ended December 31, 2020 and 2019:

(Millions)	2020	2019
Change in benefit obligation		
Projected benefit obligation, beginning of year	\$ 20.3	\$ 17.5
Service cost	1.3	1.5
Interest cost	0.3	0.4
Actuarial losses	(0.9)	2.9
Benefit payments	(0.5)	(1.2)
Tax payments	(0.2)	(0.3)
Currency revaluation effect	2.5	(0.6)
Projected benefit obligation, end of year	22.8	20.3
Change in plan assets		
Fair value of plan assets, beginning of year	17.7	16.4
Employer contributions	0.8	1.4
Benefit payments	(0.4)	(0.4)
Interest income	0.8	1.0
Currency revaluation effect	2.6	(0.6)
Fair value of plan assets, end of year	21.5	17.7
Funded status at end of year ⁽¹⁾	\$ (1.3)	\$ (2.6)

⁽¹⁾At December 31, 2020, the Swedish plan had a funding status of \$3.5 million and the German plan had a funding status of \$(4.8) million. At December 31, 2019, the Swedish plan had a funding status of \$2.5 million and the German plan had a funding status of \$(5.1) million.

Under the Swedish plan, a 100 basis point discount rate decrease would increase the 2020 defined benefit obligation by \$3.2 million, with all other items remaining the same. Under the German plan, a 50 basis point decrease in the discount rate would increase the benefit obligation by \$0.7 million, with all other items remaining the same. Conversely, a 50 basis point increase in the discount rate would decrease the benefit obligation by \$1.4 million.

The accumulated benefit obligation for the years ended December 31, 2020 and 2019 was \$22.8 million and \$20.3 million, respectively.

The components of net periodic pension expense for the years ended December 31, 2020, 2019, and 2018 are as follows:

(Millions)	202	20	2019	2018
Service cost	\$ (1.)	0) \$	(0.9)	\$ (1.2)
Interest cost	0.	1	0.1	0.1
Actuarial (loss)	2.	5	(0.5)	(0.8)
Net periodic pension expense	1.	7 \$	(1.3)	\$ (1.9)

The employer benefit payments/settlements for the years ended December 31, 2020 and 2019 were \$0.2 million and \$0.3 million, respectively. As of December 31, 2020, the projected benefit payments required for the defined pension benefits plans are as follows:

(Millions)	December 31, 2020
2021	\$ 0.4
2022	0.4
2023	0.4
2024	0.4
2025	0.5
2026-2030	3.3
Total benefit payments required	\$ 5.4

Defined contributions plans

Non-U.S.

In the United Kingdom, Sirius International contributes 12% of the employee's salary. Contributed funds are invested into an annuity of the employee's choice. In Belgium, Sirius International contributes 6.5%-8.5% of the employee's salary. Employees in Switzerland are eligible to participate in the industry-sponsored Swisscanto pension plan ("Swisscanto plan"). The Swisscanto plan is a combination of a defined contribution and a defined benefit plan. For the Swisscanto plan, Sirius International incurs 60%-70% of the total premium charges and the employees incur the remaining 30-40%. As of December 31, 2020 and 2019, the projected benefit obligation of Sirius International's various benefit plans was \$22.8 million and \$20.3 million and the funded status was \$(1.3) million and \$(2.6) million, respectively. Sirius International recognized expenses related to these various plans of \$5.8 million, \$8.3 million and \$7.6 million in 2020, 2019, and 2018, respectively.

Sirius Bermuda sponsors defined contribution plans, which cover substantially all of the employees of Sirius Bermuda. Under these plans, Sirius Bermuda is required to contribute 10% of each participant's salary into an individual account maintained by an independent pension administrator. Employees become vested in the Sirius Bermuda contributions after two years of service. Sirius Bermuda recognized expenses of \$0.5 million, \$0.6 million and \$0.5 million during the years ended December 31, 2020 and 2019 and 2018, respectively.

U.S.

Sirius International Holding Company, Inc. ("SIHC") sponsors a defined contribution plan (the "SIHC 401(k) Plan") which offers participants the ability to invest their balances in several different investment options. The SIHC 401(k) Plan provides qualifying employees with matching contributions of 100% up to 6% of salary (subject to U.S. federal limits on allowable contributions in a given year). Total expense for matching contributions to the SIHC 401(k) Plan was \$1.7 million, \$0.8 million and \$0.8 million in 2020, 2019 and 2018, respectively. Additionally, all participants in the SIHC 401(k) Plan can earn a variable contribution of up to 7% of their salary, subject to the applicable IRS annual covered compensation limits (\$0.3 million for 2020) and contingent upon Sirius Bermuda's performance. During 2020, 2019 and 2018, there were no variable contributions to the SIHC 401(k) Plan.

IMG sponsors a 401(k) retirement savings plan (the "IMG 401(k) Plan"). IMG 401(k) Plan participants may elect to have a percentage of their salaries contributed to the IMG 401(k) Plan on a pre-tax basis subject to annual limits prescribed under the Internal Revenue Code. IMG makes safe harbor matching contributions to the IMG 401(k) Plan equal to 100% of participants' deferrals up to the first 1% of eligible compensation and 50% of participants' deferrals between 1% and 6% of eligible compensation. IMG may also elect to make discretionary contributions to the IMG 401(k) Plan which are allocated based on compensation. IMG made matching contributions to the IMG 401(k) Plan of \$0.7 million during both 2020 and 2019, and \$0.6 million from the date of acquisition to December 31, 2018.

Armada maintains a qualified 401(k) plan (the "Armada 401(k) Plan"). Under provisions of the Armada 401(k) Plan, Armada may make discretionary, matching contributions. Matching contributions into the Armada 401(k) Plan totaled \$0.2 million and \$0.2 million during 2020 and 2019, respectively, and \$0.2 million from the date of acquisition to December 31, 2018.

Share-Based and Other Long-Term Incentive Compensation Plans

Sirius Bermuda's compensation plans include grants for various types of share-based and non-share-based compensation awards to key employees and directors of Sirius Group. As of December 31, 2020, Sirius Bermuda's share-based awards consisted of restricted share units ("RSUs") and restricted stock and options.

2018 Omnibus Incentive Plan

The 2018 Omnibus Incentive Plan ("Omnibus Plan"), which governs share-based awards to be issued to employees and directors, was adopted by the Board on August 6, 2018. The total number of shares authorized to be issued under the Plan was 14,114,904. As of December 31, 2020, the total number of shares available for issuance under the share-based awards was 13,966,813.

2019 Long Term Incentive Awards

In 2019, Sirius Bermuda through Sirius Ltd. granted 2019 Long Term Incentive Awards ("2019 LTI") to certain employees which are comprised of RSUs and Performance Share Units ("PSUs"). The PSUs provide the opportunity for the participant to receive shares of Sirius Ltd.'s common stock based on Sirius Bermuda achieving specified performance goals at the end of a three-year performance period. These performance goals are preestablished by Sirius Ltd.'s Compensation Committee at the grant date of the award. The actual number of PSUs earned can vary from 0% to 200% of the target depending on Sirius Bermuda's performance against the pre-established goals. RSUs are earned based solely on continued service by the participant.

Grant date fair value of the PSUs and RSUs is equal to the closing price of Sirius Ltd.'s common stock on the grant date of the award. Grant date fair value of the awards was \$12.75 per unit.

In July of 2020, Sirius Group's outstanding PSUs under this award were cancelled and converted into cash-based RSUs at the most recent forecasted performance percentage. In addition, Sirius Bermuda has supplemented these "replacement" RSUs with newly issued "uplift" cash-based RSUs with extended vesting periods (additional awards to all participants). For the year ended December 31, 2020, Sirius Bermuda recognized \$2.0 million of expenses related to these cash-based RSUs.

Supplemental Awards

Sirius Ltd. has also granted supplemental incentive compensation awards ("Supplemental Awards") to certain members of Sirius Bermuda's senior management in the form of RSUs. Supplemental awards are retention-based and have no performance conditions. The units can only be settled in common shares and vest on either the second or third anniversary of the date of the grant and contain certain restrictions, related to, among other things, forfeitures in the event of termination of employment and transferability.

IPO Incentive Awards

Sirius Ltd. granted incentive compensation awards to certain members of senior management ("IPO Incentive Awards") through its 2018 Omnibus Incentive Plan. The original terms of the IPO Incentive Award required employees to purchase Sirius Ltd.'s common stock in order to be issued corresponding PSUs. On February 27, 2019, Sirius Ltd. modified the plan to terminate the obligation that required participants to purchase shares in order to receive the award shares. Modification applied to all recipients of the award.

PSUs vested over three years, 25% based on return of equity ("ROE") performance during each of the 2019, 2020 and 2021 fiscal years and 25% based on the average ROE performance during the 2019 through 2021 period. Payouts began at 0% of awarded shares for a 4.5% ROE, 100% at a 9.0% ROE and 150% at a 13.5% ROE with linear interpolation in between. The employee must have remained employed through the end of the applicable performance period to vest in the shares earned in that performance period. The grant date fair value of the award was equal to the closing price of Sirius Ltd.'s common stock on the grant date of the award or \$12.75 per unit.

In July 2020, Sirius Group's outstanding PSUs under this award were cancelled and converted into cash-based RSUs at the most recent forecasted performance percentage. In addition, Sirius Bermuda has supplemented these "replacement" RSUs with newly issued "uplift" cash-based RSUs with extended vesting periods (additional awards to all participants). For the year ended December 31, 2020, Sirius Bermuda recognized \$4.5 million of expenses related to these cash-based RSUs.

Employee Share Purchase Plan

Effective August 22, 2018, Sirius Ltd. established an employee share purchase plan ("ESPP") which allowed all employees of Sirius Ltd. and its subsidiaries to purchase up to 1,000, but no less than 100 shares of Sirius Ltd. The purchase price of each common share of Sirius Ltd. purchased by a participant is equal to 85% of market value for the first 100 shares and 100% of market value for any additional shares purchased. Participants can either purchase the shares in cash or be issued a full-recourse promissory note by the Company, secured by the shares, payable via payroll deductions.

149,236 shares were purchased under the ESPP during 2018. No further purchases are permitted under the ESPP.

Net promissory notes as of December 31, 2020 and 2019 total \$0.0 million and \$0.4 million, respectively.

2016 Long Term Incentive Plan

Sirius Bermuda has historically awarded long-term incentive compensation in the form of three-year, cliff-vested, performance units or phantom performance shares that can be paid in cash, or upon Sirius Ltd. becoming public, Sirius Ltd.'s common shares, at the discretion of Sirius Ltd.'s Compensation Committee. Performance shares compound through the end of the three-year award period based on a selection performance metrics during the period. The performance goals were determined by the Sirius Ltd.'s Compensation upon granting of awards.

There were no new awards issued under the 2016 Long Term Incentive Plan ("2016 LTIP") during 2020 or 2019 as it was replaced by the Omnibus Plan on a go-forward basis. Additionally, for the two three-year performance cycles still outstanding under the legacy 2016 LTIP, now that Sirius Group's common shares are publicly traded, upon vesting of these awards, (i) each phantom performance share will be valued at the market price of a common share at the time of payout and (ii) the Compensation Committee has discretion to settle these awards in common shares rather than cash.

In July, 2020, active employees were offered the opportunity to early settle the 2018 long term incentive award under this plan at the recent forecasted performance percentage in cash with the remaining balance of share units converted into replacement cash-based RSUs with extended vesting periods. In addition, Sirius Bermuda has supplemented these "replacement" RSUs with newly issued "uplift" cash-based RSUs with extended vesting periods (additional awards to all participants). For the ended December 31, 2020, Sirius Bermuda recognized \$1.2 million of expenses related to these cash-based RSUs.

The following tables present pre-tax and after-tax share-based compensation expense recognized under the above plans:

(Millions)	2020	2019	2018
PSUs - IPO Incentive Awards ⁽¹⁾	\$ (1.5)	\$ 0.4	\$ 1.1
PSUs - 2019 LTI	(0.5)	0.5	-
RSUs	4.4	4.2	-
LTIP ⁽²⁾⁽³⁾	(0.8)	(2.2)	0.8
Total share-based compensation expense - pre-tax	\$ 1.6	\$ 2.9	\$ 1.9

(1)2019 includes a reversal of 2018 accrual of \$1.5 related to modification of the award.

(2) Expense is negative as these awards were cancelled and replaced with cash-based awards.

(3)Legacy 2016 LTIP includes two open cycles in 2019 and three open cycles in 2018. Award was partially settled during 2020 and partially cancelled and replaced with cash-based awards.

(Millions)	2020	2019	2018
PSUs - IPO Incentive Awards ⁽¹⁾	\$ (1.2)	\$ 0.3	\$ 0.9
PSUs - 2019 LTI	(0.4)	0.4	-
RSUs	3.5	3.4	-
LTIP ⁽²⁾⁽³⁾	(0.6)	(1.8)	0.6
Total share-based compensation expense - after-tax	\$ 1.2	\$ 2.3	\$ 1.5

(1)2019 includes a reversal of 2018 accrual of \$1.5 related to modification of the award.

(2) Expense is negative as these awards were cancelled and replaced with cash-based awards.

(3)Legacy 2016 LTIP includes two open cycles in 2019 and three open cycles in 2018. Award was partially settled during 2020 and partially cancelled and replaced with cash-based awards.

The following tables present unrecognized compensation cost associated with unvested awards and weighted average period over which it is expected to be recognized:

(Millions)	December 31, 2020
	RSUs
Unrecognized compensation cost related to unvested awards	\$ 4.9
Weighted average recognition period (years)	1.1 years

As of and for the year ended December 31, 2020	Numbers of Shares				
	PSUs - IPO Incentive Awards	PSUs - 2019 LTI	RSUs	LTI ⁽¹⁾	
Unvested, beginning of the year	555,163	391,136	135,3852	870,471	
Granted	-	-	776	-	
Vested	-	-	-	147,854	
Forfeited	555,163	391,136	85,558	722,617	
Unvested, end of the year	-	-	1,269,070	-	

The following table summarizes outstanding share-settled awards as of the end of the year ended December 31, 2020:

1) Awards that were awards were cancelled and replaced with cash-based awards are shown in the forfeited line.

Retention Bonuses and Other Cash-Settled Awards

From time to time, the Company may issue cash-settled retention awards to its employees. In 2019, Sirius Bermuda issued retention awards to certain key employees of the Company that vest in equal proportions on March 15, 2020 and on or prior to March 15, 2021, subject to continued employment on the applicable vesting date. In total the retention awards issued were \$13.7 million, of which, during the year ended December 31, 2020, the Company settled \$8.9 million. During the years ended December 31, 2020 and 2019, the Company recognized \$10.8 million and \$2.1 million, respectively, in General and administrative expenses.

Under the SPA with former parent White Mountains, certain transaction bonuses and retention bonuses were granted, which were agreed to be partially reimbursed by White Mountains. During 2020 and 2019, the Company was not paid any amount from White Mountains for these bonuses. The Company was paid \$25.3 million in 2018 by its former parent for the transaction and retention bonuses after employment costs and taxes, which was recorded as Additional paid-in surplus. During the years ended December 31, 2020 and 2019, the Company recorded no expense related to these bonuses. During the year ended December 31, 2018, Sirius Bermuda recorded \$13.3 million in General and administrative expenses in connection with these retention bonuses. In addition, for the year ended December 31, 2018, under the SPA, White Mountains paid Sirius Bermuda for certain incentive awards that the Company paid to its employees, with \$1.4 million recorded as Additional paid-in surplus. No payments from White Mountains were received by Sirius Bermuda for the incentive awards in 2020 or 2019.

Note 15. Common shareholder's equity and non-controlling interests

Common shareholder's equity

At December 31, 2020, the Company is an indirect wholly-owned subsidiary of Sirius Ltd. through Sirius International Holdings, Ltd., both exempted Bermuda limited liability companies.

Additional paid-in surplus

The following table shows the change in Additional paid-in surplus for the years ended December 31, 2020, 2019, and 2018:

(Millions)	Total
Additional paid-in surplus as of December 31, 2017	\$ 1,920.8
Capital contributions from parent ⁽¹⁾	 133.5
Additional paid-in surplus as of December 31, 2018	\$ 2,054.3
Capital contributions from parent	-
Additional paid-in surplus as of December 31, 2019	\$ 2,054.3
Capital contributions from parent	-
Additional paid-in surplus as of December 31, 2020	\$ 2,054.3

⁽¹⁾ Includes \$28.5 from the contribution of the common shares of SAHC3 (See Note 2)

Dividends

The Company paid common dividends of \$150.0 million, \$80.0 million, and \$170.0 million during the years ended December 31, 2020, 2019, and 2018, respectively.

Non-controlling interests

Non-controlling interests consist of the ownership interests of non-controlling shareholders in consolidated entities and are presented separately on the balance sheet. At December 31, 2020 and 2019, Sirius Group's balance sheet included \$0.3 million and \$2.4 million, respectively, in non-controlling interests.

The following table shows the change in non-controlling interest for the years ended December 31, 2020, 2019, and 2018:

(Millions)	Total
Non-controlling interests as of December 31, 2017	\$ 0.2
Net income attributable to non-controlling interests	1.4
Other, net	0.1
Non-controlling interests as of December 31, 2018	\$ 1.7
Net income attributable to non-controlling interests	1.7
Dividends to non-controlling interests	(1.0)
Non-controlling interests as of December 31, 2019	\$ 2.4
Net income attributable to non-controlling interests	0.1
Dividends to non-controlling interests	(2.2)
Non-controlling interests as of December 31, 2020	\$ 0.3

Alstead Re

As of December 31, 2020 and 2019, Sirius Bermuda recorded non-controlling interest of \$0.1 million and \$2.3 million, respectively, in Alstead Re Insurance Company ("Alstead Re"). (See Note 18.)

Note 16. Statutory capital and surplus

Sirius Bermuda's insurance and reinsurance operations are subject to regulation and supervision in each of the jurisdictions where they are domiciled and licensed to conduct business. Generally, regulatory authorities have broad supervisory and administrative powers over such matters as licenses, standards of solvency, premium rates, policy forms, investments, security deposits, methods of accounting, form and content of financial statements, reserves for unpaid loss and LAE, reinsurance, minimum capital and surplus requirements, dividends and other distributions to shareholders, periodic examinations, and annual and other report filings. In general, such regulation is for the protection of policyholders rather than shareholders.

Non-U.S.

The Insurance Act 1978 of Bermuda and related regulations, as amended ("Insurance Act"), regulates the insurance business of Bermuda-domiciled insurers and reinsurers. The Insurance Act imposes solvency and liquidity standards on Bermuda insurance companies, as well as auditing and reporting requirements. The Bermuda Monetary Authority ("BMA"), a Solvency II-equivalent regulatory regime, has confirmed that it will act as the primary group supervisor effective July 1, 2016 and has designated Sirius Bermuda as the designated insurer. Therefore, Sirius Bermuda is subject to the BMA's group supervision and solvency rules. Under the Insurance Act, insurers and reinsurers are required to maintain minimum statutory capital and surplus at a level equal to the greater of a minimum solvency margin ("MSM") and the Enhanced Capital Requirement ("ECR") which is established by reference to either a Bermuda Solvency Capital Requirement ("BSCR") model or an approved internal capital model. The BSCR model is a risk-based capital model that provides a method for determining an insurer's minimum required capital taking into account the risk characteristics of different aspects of the company's business. As of December 31, 2020, the eligible capital for Sirius Bermuda exceeded the required capital as measured by the BSCR model.

Management has also evaluated the Bermuda and principal operating subsidiaries' ability to maintain adequate levels of statutory capital, liquidity, and rating agency capital and believes they will be able to do so. In performing this analysis, management has considered the most recent statutory capital position of each of the principal operating subsidiaries as well as the Bermuda overall, through its holding companies as a result of BMA Bermuda regulation.

In addition, management has evaluated the ability of the holding companies to allocate capital and liquidity around the group as and when needed.

The Company is a Class 4 insurer. Alstead Re, a Class 3A insurer. Each of these Bermuda insurance subsidiaries are registered under the Insurance Act and are subject to regulation and supervision of the BMA. The BSCR and actual statutory capital and surplus for Sirius Bermuda and Alstead Re as of December 31, 2020 has not been determined as of the filing of this Annual Report on Form 10-K. The BSCR for Sirius Bermuda and Alstead Re as of December 31, 2019 was \$813.6 million and \$1.0 million, respectively. Actual statutory capital and surplus of the Bermuda based insurance subsidiaries as of December 31, 2019 was \$2.3 billion. In addition, the Bermuda based insurance subsidiaries are required to maintain a minimum liquidity ratio. As of December 31, 2020, all liquidity ratio requirements were met.

Sirius International is subject to regulation and supervision by the Swedish Financial Supervisory Authority ("SFSA"). Sirius International's total regulatory capital as of December 31, 2019 was \$1.6 billion. In accordance with SFSA regulations, Sirius International holds restricted equity of \$1.2 billion as a component of Swedish regulatory capital. This restricted equity cannot be paid as dividends. Under Solvency II, the SFSA also acts as the European Economic Area group supervisor, with Sirius International UK Holding Ltd. ("SIUK") serving as the highest European entity subject to the SFSA's group supervision. Solvency II regulation in Europe gives the SFSA the option to waive European-level group supervision if certain legal requirements are met. As of December 31, 2020, the SFSA has not exercised this option.

The financial services industry in the United Kingdom is dual-regulated by the Financial Conduct Authority and the Prudential Regulation Authority (collectively, the "U.K. Regulators"). The U.K. Regulators regulate insurers, insurance intermediaries and Lloyd's. The U.K. Regulators and Lloyd's have common objectives in ensuring that the Lloyd's market is appropriately regulated. Lloyd's is required to implement certain rules prescribed by the U.K. Regulators by the powers it has under the Lloyd's Act of 1982 relating to the operation of the Lloyd's market. In addition, each year the U.K. Regulators require Lloyd's to satisfy an annual solvency test that measures whether Lloyd's has sufficient assets in the aggregate to meet all the outstanding liabilities of its members.

Lloyd's permits its corporate and individual members ("Members") to underwrite insurance risks through Lloyd's syndicates. Members of Lloyd's may participate in a syndicate for one or more underwriting years by providing capital to support the syndicate's underwriting. All syndicates are managed by Lloyd's approved managing agents. Managing agents receive fees and profit commissions in respect of the underwriting and administrative services they provide to the syndicates. Lloyd's prescribes, in respect of its managing agents and Members, certain minimum standards relating to their management and control, solvency and various other requirements.

Sirius Bermuda participates in the Lloyd's market through the 100% ownership of Sirius International Corporate Member Ltd., a Lloyd's corporate member, which in turn provides underwriting capacity to Syndicate 1945. Sirius Bermuda has its own Lloyd's managing agent, Sirius International Managing Agency, which manages Syndicate 1945. Lloyd's approved net capacity for 2021 is £100.0 million, or approximately \$137.0 million (based on the December 31, 2020 GBP to USD exchange rate). Stamp capacity is a measure of the amount of net premium (premiums written less acquisition costs) that a syndicate is authorized by Lloyd's to write.

U.S.

Sirius America and its insurance subsidiaries are subject to regulation and supervision by the National Association of Insurance Commissioners ("NAIC") and the department of insurance in the state of domicile. The NAIC uses risk-based capital ("RBC") standards for U.S. property and casualty insurers as a means of monitoring certain aspects affecting the overall financial condition of insurance companies. As of December 31, 2020, the available capital of Sirius Group's U.S. insurance and reinsurance operating subsidiaries exceeded their respective RBC requirements.

Sirius America's policyholders' surplus, as reported to regulatory authorities as of December 31, 2020 and 2019, was \$609.0 million and \$522.1 million. Sirius America's statutory net (loss) income for the years ended December 31, 2020, 2019 and 2018 was \$17.4 million, \$(25.0) million, and \$(9.9) million, respectively. The principal differences between Sirius America's statutory amounts and the amounts reported in accordance with GAAP include deferred acquisition costs, deferred taxes, gains recognized under retroactive reinsurance contracts and market value adjustments for debt securities. The minimum policyholders' surplus necessary to satisfy Sirius America's regulatory requirements was \$98.7 million as of December 31, 2020, which equals the authorized control level of the NAIC risk-based capital based on Sirius America's policyholders' surplus.

Oakwood Insurance Company ("Oakwood") policyholders' surplus, as reported to regulatory authorities as of December 31, 2020 and 2019 was \$40.0 million and \$39.7 million, respectively. Oakwood's statutory net (loss) for the years ended December 31, 2020, 2019 and 2018 was \$(0.5) million, \$(1.0) million and \$(1.1) million, respectively. The minimum policyholders' surplus necessary to satisfy Oakwood's regulatory requirements was \$7.5 million as of December 31, 2020, and the NAIC risk-based capital authorized control level was \$3.8 million.

Cedar's policyholders' surplus, as reported to regulatory authorities as of the years ended December 31, 2020 and 2019 was \$13.8 million and \$13.9 million, respectively. Cedar's statutory net (loss) for the years ended December 31, 2020 and 2019 was \$(0.2) million and \$0.0 million, respectively. The minimum policyholders' surplus necessary to satisfy Cedar's regulatory requirements was \$9.8 million as of December 31, 2020, and the NAIC risk-based capital authorized control level was \$0.0 million.

Sirius Specialty Insurance Company ("Sirius Specialty") policyholders' surplus, as reported to regulatory authorities as of the year ended December 31, 2020 was \$52.7 million. Sirius Specialty's statutory net (loss) for the year ended December 31, 2020 was \$(2.8) million. The minimum policyholders' surplus necessary to satisfy Sirius Specialty's regulatory requirements was \$47.0 million as of December 31, 2020, and the NAIC risk-based capital authorized control level was \$0.1 million.

Dividend Capacity

The Company's ability to pay dividends is limited under Bermuda law and regulations. Under the Insurance Act, the Company is restricted with respect to the payment of dividends. The Company is prohibited from declaring or paying in any financial year dividends of more than 25% of its total statutory capital and surplus (as shown on its previous financial year's statutory balance sheet) unless it files, at least seven days before payment of such dividends, with the BMA an affidavit stating that it will continue to meet the required margins following the declaration of those dividends. As of December 31, 2020, Sirius Bermuda can pay approximately \$464.0 million to its parent company, Sirius Group, during 2021. The Company indirectly owns Sirius International, Sirius America, and Sirius Group's other insurance and reinsurance operating companies, each of which are limited in their ability to pay dividends by the insurance laws of their relevant jurisdictions. CMIG International Holdings Pte. Ltd. ("CMIG International"), which is approximately 82% owned by China Minsheng Investment Group Corp., Ltd. ("CMIG"), indirectly holds approximately 87% of the voting and dispositive control over Sirius Ltd.'s common shares as of December 31, 2020, through CMIG International's wholly-owned Bermuda holding company, CM Bermuda Ltd. ("CM Bermuda"). During 2019, CMIG made several public announcements relating to defaults and cross-defaults on certain bonds and other debt obligations issued by certain subsidiaries of CMIG (the "CMIG Defaults"), the failure and uncertainty of CMIG's subsidiaries to repay their debt obligations as they become due and the existence of certain asset freeze orders relating to the equity interests of CMIG in certain Chinese subsidiaries not within the chain of control of Sirius Ltd, the Company's indirect parent. On May 3, 2019, in connection with the CMIG Defaults, the Company along with Sirius Ltd., entered into a voluntary undertaking with the BMA to provide further comfort to the BMA as the group supervisor of Sirius Bermuda and primary regulator of the Company, the designated insurer for group supervisory purposes regarding the potential risks to companies within Sirius Ltd's control in connection with the CMIG Defaults. On March 27, 2020, Sirius Bermuda extended the voluntary undertaking for an additional year. Pursuant to the voluntary undertaking, Sirius Ltd. and the Company have agreed, until May 3, 2021, (a) to provide ten days prior written notice to the BMA prior to declaring any dividend or capital distribution, which notice shall include an affidavit confirming that the declaration and payment of such dividend would not be in breach of (i) the provisions of section 54 of the Companies Act 1981 in the case of the Company, (ii) the Minimum Liquidity Ratio as defined in the Insurance Act 1978 in the case of the Company; and (iii) the Target Capital Level of 120% of the Enhanced Capital Requirement as defined by the Bermuda Solvency Capital Requirement promulgated by the BMA for the Company, and a summary description of the use proceeds from such declaration or dividend or capital distribution within Sirius Ltd. or the Company; (b) not to enter into any guarantees, keepwells, loans or other financial arrangements between Sirius Ltd. and its subsidiaries, which include the Company, and CMIG, or provide any credit support with respect to any obligations of CMIG; and (c) not to enter into any related party transaction with CMIG. During 2020, the Company paid \$150.0 million of dividends to Sirius Group.

Sirius International has the ability to pay dividends to its immediate parent subject to the availability of unrestricted equity, calculated in accordance with the Swedish Act on Annual Accounts in Insurance Companies and the SFSA. Unrestricted equity is calculated on a consolidated group account basis and on a parent account basis. Differences between the two include but are not limited to accounting for goodwill, subsidiaries (with parent accounts stated at original foreign exchange rates), taxes and pensions. Sirius International's ability to pay dividends is limited to the "lower of" unrestricted equity as calculated within the group and parent accounts. As of December 31, 2020, Sirius International had \$386.9 million (based on the December 31, 2020 SEK to USD exchange rate) of unrestricted equity on a parent account basis (the lower of the two approaches) available to pay dividends in 2021. The amount of dividends available to be paid by Sirius International in any given year is also subject to cash flow and earnings generated by Sirius International's business, the maintenance of adequate solvency capital ratios for Sirius International and the consolidated SIUK group, as well as to dividends received from its subsidiaries. Earnings generated by Sirius International's business that are allocated to the Safety Reserve are not available to pay dividends (see "Safety Reserve" below). During 2020, Sirius International did not declare a dividend and paid SEK 167.3 million (or \$18.3 million on date of payment) of dividends declared prior to 2019.

Under the normal course of business, Sirius America has the ability to pay dividends to its immediate parent during any twelve-month period without the prior approval of regulatory authorities in an amount set by a formula based on the lesser of net investment income, as defined by statute, or 10% of statutory surplus, in both cases as most recently reported to regulatory authorities, subject to the availability of earned surplus and subject to dividends paid in prior periods. Based on this formula, Sirius America has dividend capacity as of December 31, 2020, without prior regulatory approval. As of December 31, 2020, Sirius America had \$609.0 million of statutory surplus and \$192.5 million of earned surplus, and could pay approximately \$38.7 million to its parent company. During 2020, Sirius America paid a dividend of \$25 million to its immediate parent.

Capital Maintenance

Safety Reserve

Subject to certain limitations under Swedish law, Sirius International is permitted to transfer pre-tax income amounts into a reserve referred to as a "Safety Reserve." Under local statutory requirements, an amount equal to the deferred tax liability on Sirius International's Safety Reserve is included in Solvency Capital. Access to the Safety Reserve is restricted to cover insurance and reinsurance losses and to cover a breach of the Solvency Capital Requirement. Access for any other purpose requires the approval of Swedish regulatory authorities. Similar to the approach taken by Swedish regulatory authorities, most major rating agencies generally include the balance of the Safety Reserve, without any provision for deferred taxes, in Sirius International's regulatory capital when assessing Sirius International and Sirius Bermuda's financial strength.

As of December 31, 2020, Sirius International's Safety Reserve amounted to SEK 9.7 billion, or \$1.2 billion (based on the December 31, 2020 SEK to USD exchange rate). Under Swedish GAAP, an amount equal to the Safety Reserve, net of a related deferred tax liability established at the Swedish tax rate, is classified as common shareholders' equity. Generally, this deferred tax liability (\$244.5 million based on the December 31, 2020 SEK to USD exchange rate) is only required to be paid by Sirius International if it fails to maintain prescribed levels of premium writings and loss reserves in future years. As a result of the indefinite deferral of these taxes, the related deferred tax liability is not taken into account by Swedish regulatory authorities for purposes of calculating Solvency Capital under Swedish insurance regulations.

Pursuant to tax legislation effective as of January 1, 2019, the tax rate applicable to Swedish corporations decreased to 21.4%, and then will further be reduced to 20.6% starting in 2021. The tax legislation also introduced an annual tax on the Safety Reserve effective as of January 1, 2019. This provision adds additional taxable income for the Company annually. The calculation applies the Government Borrowing Rate (with a floor rate of +0.5%) to the Safety Reserve balance at the beginning of the year. At the current year tax rate of 21.4%, the additional tax expense for the twelve months ended December 31, 2020 is SEK 10.9 million, or \$1.2 million (based on the December 31, 2020 SEK to USD exchange rate).

Further, the enacted legislation also included a new provision treating an amount equal to 6% of the Safety Reserve balance as of January 1, 2021, as additional taxable income in tax year 2021 only, subject to tax at the applicable 20.6% rate. Based on this provision and Sirius International's Safety Reserve balance as of December 31, 2020, Sirius International has recorded an additional deferred tax liability as of December 31, 2020 in the amount of SEK 119.8 million, or \$14.7 million (based on the December 31, 2020 SEK to USD exchange rate) for a total deferred tax liability of \$259.2 million.

Note 17. Investments in unconsolidated entities

Sirius Bermuda's investments in unconsolidated entities are included within Other long-term investments and consist of investments in common equity securities or similar instruments, which give Sirius Bermuda the ability to exert significant influence over the investee's operating and financial policies ("equity method eligible unconsolidated entities"). Such investments may be accounted for under either the equity method or, alternatively, Sirius Bermuda may elect to account for them under the fair value option.

The following table presents the components of Other long-term investments as of December 31, 2020 and 2019:

(Millions)	2020	2019
Equity method eligible unconsolidated entities, at fair value	\$ 219.0	\$ 151.9
Other unconsolidated investments, at fair value ⁽¹⁾	227.4	194.9
Total Other long-term investments ⁽²⁾	\$ 446.4	\$ 346.8

⁽¹⁾Includes Other long-term investments that are not equity method eligible.

⁽²⁾There were no investments accounted for using the equity method as of December 31, 2020 and 2019.

Equity method eligible unconsolidated entities, at fair value

Sirius Bermuda has elected the Fair Value Option to account for its equity method eligible investments accounted for as part of Other long-term investments for consistency of presentation with rest of its investment portfolio. The following table presents Sirius Bermuda's investments in equity method eligible unconsolidated entities as of December 31, 2020 and 2019:

	Ownership interest as o	f December 31,	
Investee	2020	2019	Instrument Held
BE Reinsurance Limited	24.9%	24.9%	Common shares
BioVentures Investors (Offshore) IV LP	73.0%	73.0%	Units
Camden Partners Strategic Fund V (Cayman), LP	39.4%	39.4%	Units
Diamond LS I LP	15.4%	16.0%	Units
Gateway Fund LP	22.9%	15.0%	Units
Ionarch	12.8%	12.8%	Units
lew Energy Capital Infrastructure Credit Fund LP	29.8%	30.5%	Units
New Energy Capital Infrastructure Offshore Credit Fund LP	29.8%	30.5%	Units
ie Preferred Stock ⁽¹⁾	11.9%	30.1%	Preferred shares
ie Series B Preferred Stock ⁽¹⁾	8.6%	22.4%	Preferred shares
Quintana Energy Partners	21.8%	21.8%	Units
Suckerman Capital VLP	48.3%	48.3%	Units
Suckerman Capital V Co-Investment ILP	48.8%	48.1%	Units

⁽¹⁾ Sirius Bermuda holds investments in several financing instruments of Pie Insurance Holdings, Inc.

The following tables present aggregated summarized financial information for Sirius Bermuda's investments in equity method eligible unconsolidated entities:

		As of December 31,				
(Millions)	2020	2019				
Balance sheet data:						
Total assets	\$ 617.	8 \$ 594.5				
Total liabilities	\$ 76.	3 \$ 47.6				

	Fo	or the years ended December 3	1,
(Millions)	2020	2019	2018
Income statement data:			
Revenues	\$ 59.4	\$ 72.7	\$ 55.4
Expenses	\$ (96.5)	\$ (30.2)	\$ (25.1)

Note 18. Variable interest entities

Sirius Bermuda consolidates the results of operations and financial position of every voting interest entity ("VOE") in which it has a controlling financial interest and VIEs in which it is considered to be the primary beneficiary. The consolidation assessment, including the determination as to whether an entity qualifies as a VOE or VIE, depends on the facts and circumstances surrounding each entity.

Sirius Bermuda has determined that Alstead Re is a VIE for which Sirius Bermuda is the primary beneficiary and is required to consolidate it. The following table presents Alstead Re's assets and liabilities, as classified in the Consolidated Balance Sheets as of December 31, 2020 and 2019:

(Millions)	2020	2019
Assets:		
Fixed maturity investments	\$ 4.0	\$ 3.9
Short-term investments	0.5	0.5
Cash	0.1	0.1
Total investments	 4.6	4.5
Insurance and reinsurance premiums receivable	(0.1)	(0.3)
Funds held by ceding companies	0.5	3.4
Deferred acquisition costs	0.1	0.3
Total assets	\$ 5.1	\$ 7.9
Liabilities		
Loss and loss adjustment expense reserves	\$ 0.2	\$ 0.5
Unearned insurance and reinsurance premiums	0.3	0.6
Other liabilities	0.1	0.1
Total liabilities	\$ 0.6	\$ 1.2

Sirius Bermuda is a passive investor in certain third-party-managed hedge and private equity funds, some of which are VIEs. Sirius Bermuda is not involved in the design or establishment of these VIEs, nor does it actively participate in the management of the VIEs. The exposure to loss from these investments is limited to the carrying value of the investments at the balance sheet date.

Sirius Bermuda calculates maximum exposure to loss to be (i) the amount invested in the debt or equity of the VIE, (ii) the notional amount of VIE assets or liabilities where Sirius Bermuda has also provided credit protection to the VIE with the VIE as the referenced obligation, and (iii) other commitments and guarantees to the VIE. Sirius Bermuda does not have any VIEs that it sponsors nor any VIEs where it has recourse to it or has provided a guarantee to the VIE interest holders.

The following table presents total assets of unconsolidated VIEs in which Sirius Bermuda holds a variable interest, as well as the maximum exposure to loss associated with these VIEs:

		Maximum Exposure to Loss					
(Millions)	Total VIE Assets		-Balance Sheet	Off-	Balance Sheet		Total
December 31, 2020							
Other long-term investments ⁽¹⁾	\$ 250.3	\$	188.6	\$	6.7	\$	195.3
Total at December 31, 2020	\$ 250.3	\$	188.6	\$	6.7	\$	195.3
December 31, 2019							
Other long-term investments ⁽¹⁾	\$ 257.8	\$	102.6	\$	16.3	\$	118.9
Total at December 31, 2019	\$ 257.8	\$	102.6	\$	16.3	\$	118.9

⁽¹⁾*Comprised primarily of hedge funds and private equity funds.*

Note 19. Transactions with related parties

(Re)insurance contracts

In the normal course of business, Sirius Bermuda enters into insurance and reinsurance contracts with certain of its insurance and MGU affiliates, or their subsidiaries. During the years ended December 31, 2020, 2019 and 2018, these contracts with related parties resulted in gross written premiums of \$123.7 million, \$88.6 million and \$67.9 million, respectively. As of December 31, 2020 and 2019, Sirius Bermuda had total receivables due from related parties of \$27.9 million and \$16.1 million, respectively. As of December 31, 2020 and 2019, Sirius Bermuda had total payables due to related parties of \$0.9 million.

Note 20. Commitments and contingencies

Concentrations of credit risk

Sirius Bermuda underwrites a significant amount of its reinsurance business through reinsurance intermediaries that represent the ceding company. There is credit risk associated with payments of (re)insurance balances to Sirius Bermuda in regards to these brokers' ability to fulfill their contractual obligations. These intermediaries are fairly large and well established, and there are no indications they are financially distressed.

During the years ended December 31, 2020, 2019 and 2018, Sirius Bermuda received its gross reinsurance premiums written from four major, thirdparty reinsurance intermediaries as detailed in the following table:

Gross written premium by intermediary	2020	2019	2018
Guy Carpenter & Company and subsidiaries	23%	24%	26%
Aon Corporation and subsidiaries	17%	24%	26%
WT Butler and Co. Ltd.	12%	11%	10%
Willis Towers Watson plc and subsidiaries	10%	10%	8%
Total	62%	69%	70%

Geographic Concentration

The following table shows Sirius Bermuda's net written premiums by geographic region based on the location of the ceding company for the years ended December 31, 2020, 2019, and 2018:

(Millions)	2020	2019	2018
United States	\$ 963.7	\$ 922.3	\$ 794.7
Europe	278.3	268.9	276.5
Canada, the Caribbean, Bermuda and Latin America	98.9	102.5	103.6
Asia and Other	163.9	208.9	182.3
Total	\$ 1,504.8	\$ 1,502.6	\$ 1,357.1

Sirius Bermuda conducts a significant portion of its business outside of the United States. As a result, a significant portion of Sirius Bermuda's assets, liabilities, revenues, and expenses are denominated in currencies other than the U.S. dollar and are therefore subject to foreign currency risk. Sirius Bermuda's foreign currency risk cannot be eliminated entirely and significant changes in foreign exchange rates may adversely affect Sirius Bermuda's results of operations and financial condition.

Sirius Bermuda's foreign operations are subject to legal, political, and operational risks that may be greater than those present in the United States. As a result, certain of Sirius Bermuda's operations at these foreign locations could be temporarily or permanently disrupted.

Lloyd's Central Fund

The Lloyd's Central Fund is available to satisfy claims if a member of Lloyd's is unable to meet its obligations to policyholders. Sirius Bermuda has an obligation to pay contributions to the Lloyd's Central Fund each year based on gross written premium. For 2021, Sirius Bermuda estimates the Lloyd's Central Fund contributions to be \$0.5 million (based on the December 31, 2020 GBP to USD exchange rate) which is 0.35% of gross written premium.

The Council of Lloyd's have the power to levy an additional contribution on members if it considered necessary, and the maximum additional contribution is currently 3% of capacity.

Leases

Sirius Bermuda leases office space and equipment under various noncancelable operating lease agreements. The average life of the office leases is 3 years and the equipment leases is 3 years.

During the years ended December 31, 2020 and 2019, Sirius Bermuda recognized operating lease expense of \$12.0 million and \$12.6 million, respectively, which included property taxes and routine maintenance expense as well as rental expenses related to short term leases. Total rental expense for the year ended December 31, 2018 was \$11.7 million. As of December 31, 2020 and 2019, Sirius Bermuda had \$25.8 million and \$27.4 million operating lease right-of-use assets, respectively, included in Other assets. As of December 31, 2020 and 2019, Sirius Group had \$27.6 million and \$29.3 million operating lease liabilities, respectively, included in Other liabilities.

The following table presents the lease balances within the Consolidated Balance Sheets as of December 31, 2020:

(Millions)	Balance Sheet Classification	ance Sheet Classification December 31, 2020		0	December 31, 2019
Operating lease right-of-use assets	Other assets	\$	25.8	\$	27.4
Current lease liabilities	Other liabilities	\$	9.6	\$	8.3
Non-current lease liabilities	Other liabilities	\$	18.0	\$	21.0

The following table presents weighted average remaining lease term and weighted average discount rate as at December 31, 2020:

Weighted average remaining lease term (years) as of December 31, 2020	
Leased offices	3 years
Leased equipment	3 years
Weighted average discount rate:	
Leased offices	3.3%
Leased equipment	3.4%

total lease liability as of December 31, 2020:	
(Millions)	Future Payments
2021	\$ 10.4
2022	9.3
2023	5.7
2024	2.4
2025	1.0
2026	0.1
2027 and after	0.2
Total future annual minimum rental payments as at December 31, 2020	29.1
Less: present value discount	(1.5)
Total lease liability as of December 31, 2020	\$ 27.6

The following table presents future annual minimum rental payments required under non-cancellable leases and the present value discount to arrive at total lease liability as of December 31, 2020:

As of December 31, 2020, the Company's future operating lease obligations that have not yet commenced are immaterial.

Legal Proceedings

Sirius Bermuda, and the insurance and reinsurance industry in general, are routinely subject to claims related litigation and arbitration in the normal course of business, as well as litigation and arbitration that do not arise from, or are directly related to, claims activity. Sirius Bermuda estimates of the costs of settling matters routinely encountered in claims activity are reflected in the reserves for unpaid loss and LAE. (See Note 5.)

Sirius Bermuda considers the requirements of ASC 450, *Contingencies* ("ASC 450"), when evaluating its exposure to non-claims related litigation and arbitration. ASC 450 requires that accruals be established for litigation and arbitration if it is probable that a loss has been incurred and it can be reasonably estimated. ASC 450 also requires that litigation and arbitration be disclosed if it is probable that a loss has been incurred or it there is a reasonable possibility that a loss may have been incurred.

Note 21. Subsequent Events

On February 26, 2021, pursuant to the Agreement and Plan of Merger, by and among Third Point Reinsurance Ltd. ("TPRE"), a Bermuda exempted company limited by shares, Sirius Ltd., the Company's indirect parent and a Bermuda exempted company limited by shares, and Yoga Merger Sub Limited ("Merger Sub"), a Bermuda exempted company limited by shares and wholly owned subsidiary of TPRE, Merger Sub was merged with and into Sirius Ltd. (the "Merger"), with Sirius Ltd. continuing as the surviving company in the Merger, as a wholly owned subsidiary of TPRE. TPRE was renamed SiriusPoint Ltd. following the Merger and is continuing as the parent company ("SiriusPoint"). SiriusPoint trades on the New York Stock Exchange under the ticker symbol "SPNT.