

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

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

For the fiscal year ended December 31, 2019

OR

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

Commission file number 001-38731

SIRIUS INTERNATIONAL INSURANCE GROUP, LTD.

(Exact name of registrant as specified in its charter)

Bermuda

(State or other jurisdiction of incorporation or organization)

98-0529995

(I.R.S. Employer Identification No.)

14 Wesley Street, Hamilton HM 11, Bermuda

(Address of principal executive offices)

(441) 278-3140

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common shares, par value \$0.01 per share	SG	Nasdaq Global Select Market

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

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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

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

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or

revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the voting and non-voting common equity held by non-affiliates, computed by reference to the closing price as reported by the Nasdaq Global Select Market as of the last business day of the registrant's most recently completed second fiscal quarter, was approximately \$52.4 million.

At February 28, 2020, the number of outstanding common shares of the registrant was 115,299,341.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Part III of this Annual Report on Form 10-K will be filed by amendment no later than 120 days after the end of the fiscal year.

**SIRIUS INTERNATIONAL INSURANCE GROUP, LTD.
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As used in this Annual Report on Form 10-K, references to "we," "us," "our," "Sirius Group" or "the Company" refer to the consolidated operations of Sirius International Insurance Group, Ltd. and, unless the context requires otherwise, its consolidated subsidiaries. Tabular amounts are in U.S. Dollars in thousands, except share amounts, unless otherwise noted.

Cautionary Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the federal securities laws, including the Private Securities Litigation Reform Act of 1995. These forward looking statements reflect the future financial condition, results of operations and operating activities of Sirius Group. Forward-looking statements are typically identified by forward-looking terminology such as "plan," "believe," "expect," "anticipate," "intend," "outlook," "estimate," "forecast," "project," "target," "continue," "could," "may," "might," "will," "possible," "potential," "predict," "should," "would," "seeks," "likely," and other similar words and expressions, but the absence of these words does not mean that a statement is not forward-looking. The forward-looking statements are based on the current expectations of the management of the Company and speak only as of the date of this Annual Report on Form 10-K. There can be no assurance that future developments will be those that have been anticipated. These forward-looking statements involve a number of risks, uncertainties or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those risks identified in "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this Annual Report on Form 10-K and in the Company's other filings with the Securities and Exchange Commission.

While forward-looking statements reflect our good-faith beliefs, they are not guarantees of future performance. Should one or more of these risks or uncertainties materialize, or should any of the assumptions made by the management of the Company prove incorrect, actual results or performance may vary in material respects from that projected in these forward-looking statements. Except to the extent required by applicable law or regulation, Sirius Group undertakes no obligation to update these forward-looking statements to reflect changes in underlying assumptions or factors, new information, data or methods, or future events or other changes after the date of this Annual Report on Form 10-K.

PART I

Item 1. Business

Overview

Sirius International Insurance Group, Ltd. ("the Company") is a Bermuda exempted company organized in 2006 with roots back to 1945 and has \$2.5 billion in total capital as of December 31, 2019, and provides multi-line insurance and reinsurance on a worldwide basis through its subsidiaries (collectively with the Company, "Sirius Group"). As of December 31, 2019, Sirius Group had \$6.4 billion of total assets and \$1.6 billion of common shareholders' equity. Sirius Group wrote \$1.9 billion and \$1.8 billion in gross written premiums and \$1.5 billion and \$1.4 billion in net written premiums in 2019 and 2018, respectively.

We have a highly diversified portfolio carefully assembled over 75 years with nearly 2,000 clients in approximately 150 countries. Together, our primary operating subsidiaries are responsible for the execution of over 8,000 treaties and accounts. Sirius Group's key insurance and reinsurance subsidiaries include Sirius Bermuda Insurance Company Ltd. ("Sirius Bermuda"), Sirius International Insurance Corporation ("Sirius International"), Sirius America Insurance Company ("Sirius America"), Sirius International Corporate Member Limited, a Lloyd's of London ("Lloyd's") Corporate Member, and Sirius Global Solutions Holding Company ("Sirius Global Solutions"). In addition, Sirius International sponsors Lloyd's Syndicate 1945 ("Syndicate 1945") and Sirius International Corporate Member participates in the Lloyd's market, which in turn provides underwriting capacity to Syndicate 1945.

In addition to the key insurance and reinsurance subsidiaries, we own two managing general underwriters ("MGUs"), International Medical Group, Inc. ("IMG") and ArmadaCorp Capital, LLC ("Armada"). IMG is a full service MGU that has been an award-winning provider of global health and travel insurance benefits and assistance service for over 25 years. IMG offers a full, innovative line of international medical insurance products, trip cancellation programs, medical management services and 24/7 emergency medical and travel assistance. For 2019 and 2018, IMG produced \$204 million and \$175 million of gross written premiums, respectively, the vast majority of which are written on Sirius Group paper. Armada, through ArmadaCare and ArmadaHealth, serves as a supplemental medical insurance MGU that markets and underwrites its signature UltimateHealth supplemental health product designed for C-Suite executives, as well as PlenaHealth and Complamed, which are targeted towards broader segments of the workforce. For 2019 and 2018, Armada produced \$128 million and \$120 million of gross written premiums, respectively.

As of December 31, 2019, our business consisted of the following reportable segments:

- Global Property, which offers other property insurance and reinsurance, property catastrophe excess reinsurance, and agriculture reinsurance products on a worldwide basis;
- Global A&H, which consists of Sirius Group's Global A&H insurance and reinsurance underwriting unit along with IMG and Armada, which provide supplemental healthcare and medical travel insurance products as well as related administration services;
- Specialty & Casualty, which offers insurance and reinsurance specialty & casualty product lines consisting of Aviation & Space, Marine, Trade Credit, Contingency, Casualty, Surety and Environmental specialty lines on a worldwide basis; and
- Runoff & Other, which is comprised of asbestos risks, environmental risks, and other long-tailed liability exposures, in addition to results from Sirius Global Solutions.

On December 31, 2019, the Company completed an internal reorganization to optimize the Company's operations, better serve its clients and make the Company more nimble and efficient. Beginning on January 1, 2020, our reportable segments will consist of the following:

- Global Reinsurance, which will be comprised of Property Insurance and Reinsurance, Property Catastrophe Excess Reinsurance, Agriculture Reinsurance, Aviation & Space, Marine, Trade Credit, Contingency, and Casualty Reinsurance;
- Global A&H, which will remain unchanged;
- U.S. Specialty, which will be comprised of our primary Environmental, Surety, and Casualty platforms; and
- Runoff & Other, which will remain unchanged.

Our History

Our corporate history can be traced back to 1945 when a predecessor of Sirius International was founded in Stockholm, Sweden. Since its founding Sirius International has expanded through acquisitions resulting in the establishment of local branch offices providing insurance and reinsurance services in various cities throughout Europe and Asia, including London, United Kingdom; Hamilton, Bermuda; Liege, Belgium; Hamburg, Germany; Zurich, Switzerland; and Singapore. In 2011, Sirius International sponsored the formation of Syndicate 1945. In 2014, Sirius Group established its own Lloyd's managing agent, Sirius International Managing Agency, to manage Syndicate 1945.

In 1980, Sirius America (formerly known as Folksamerica Reinsurance Company) commenced business as a New York domiciled insurance and reinsurance company. Since its formation, Sirius America has grown organically and through strategic acquisitions. In the mid-1990's Sirius America was acquired by White Mountains Insurance Group Ltd. ("White Mountains"). In 2004, White Mountains acquired Sirius International which was joined with Sirius America to form the Sirius Group. Sirius America has offices in New York; Norwalk, Connecticut; Miami, Florida and Toronto, Canada.

Until 2016, the Company was a subsidiary of White Mountains. On April 18, 2016, CMIG International Holdings Pte. Ltd. ("CMIG International"), through its Bermuda holding company CM Bermuda Ltd. ("CM Bermuda"), purchased Sirius Group and its subsidiaries from White Mountains for approximately \$2.6 billion. In 2017, the Company expanded its accident and health primary business capabilities in the U.S. via the acquisition of IMG, which offered Sirius Group additional access to health products that are complementary to its global product offerings, as well as growth opportunities in Europe and Asia, and via the acquisition of Armada which offered Sirius Group additional health products that improve the efficiency and effectiveness of how its clients access the healthcare system. In addition to growing in accident and health insurance, Sirius Group further expanded its primary insurance platform launching its primary Surety and Environmental insurance platforms in the U.S. in late 2017. In mid-2018, Sirius Group began writing primary casualty insurance through Pie Insurance Holdings, Inc. ("Pie Insurance"), a start-up specializing in a data driven approach to workers compensation insurance, where we also have a minority investment and carrier relationship. In addition to these primary insurance platforms, Sirius Group re-entered the broker market for U.S. casualty reinsurance treaties written on a proportional and excess of loss basis in 2017.

On November 5, 2018, Sirius Group merged (the "Merger") with Easterly Acquisition Corp. ("Easterly") pursuant to a definitive agreement and plan of merger, which resulted in Sirius Group becoming a publicly listed company. Following the Merger, the Company's common shares are traded on the Nasdaq Global Select Market ("Nasdaq") under the symbol "SG."

Competitive Strengths

Sirius Group's management believes that the following competitive strengths position Sirius Group to capitalize on the opportunities presented in the insurance and reinsurance marketplace:

Global Multi-Line Reinsurer with Proven Track Record and Diversified Book of Business

Sirius Group is a global multi-line insurance and reinsurance company with a long operating history. Sirius Group writes a diversified book of insurance and reinsurance business across different risk types and geographic locations. As of December 31, 2019, Sirius Group had nearly 2,000 clients in approximately 150 countries with over 8,000 treaties and accounts. The majority of Sirius Group's business is relatively short-tailed, though its Specialty & Casualty segment started to underwrite longer-tailed lines of business in 2017. Sirius Group's management believes diversification is a competitive advantage, which increases return per unit of risk, provides access to risk worldwide and reduces the overall volatility of results. Diversification is also the cornerstone of managing the cyclicity of insurance and reinsurance markets.

History of Long-Term Customer Relationships

Sirius Group's global branch network, managed by a long-tenured and experienced team, has allowed Sirius Group to develop long-standing, local customer relationships. These strong relationships have allowed Sirius Group's operating team to profitably navigate through both favorable and unfavorable market conditions. Sirius Group's global management committee underwriting leaders have an average of approximately 20 years of employment with Sirius Group and 30 years in the insurance and reinsurance industry.

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Over the years, Sirius Group has developed into a leading reinsurer primarily in Europe but also in the United States and in other parts of the world. Of Sirius Group's 2019 underwriting year written premiums, 32% are from clients of 20 or more years and 52% are from clients of 10 or more years. Sirius Group's long-standing relationships have contributed to its position in its markets that enables it to lead, co-lead or have influence on prices in 58% of its business (as measured on December 31, 2019), which influences terms and conditions.

Prudent, Disciplined Approach to Risk Management

Sirius Group is guided by its core operating principles and believes that a long-term commitment to disciplined underwriting and prudent pricing is firmly ingrained in its corporate culture. Sirius Group focuses risk management efforts on ensuring that exposure to potential loss in any business area remains at an acceptable level. Although these efforts include extensive modeling, Sirius Group also evaluates its total limit loss in a particular region to ensure that not only is the probable maximum loss ("PML") within its tolerance, but the maximum foreseeable loss is as well.

Efficient Capital Deployment and Financial Strength

Sirius Group's management believes that its long-standing presence in multiple markets, including North America and Europe, has allowed Sirius Group to deploy its capital in an efficient manner throughout the world. Sirius Group seeks to maintain capital and leverage at levels that support its ratings, and deploys its capital opportunistically across the entire organization. Another important benefit of Sirius Group's capital structure is the \$239 million deferred tax liability on retained earnings in Sirius Group's Swedish "safety reserve" position as of December 31, 2019. Pursuant to Swedish regulations, all the retained earnings in the safety reserve, including the deferred tax liability, are available to pay claims and deemed to be capital supporting underwriting.

Management's Extensive Experience

Sirius Group's executive management team has extensive experience in the insurance and reinsurance industry across operations, strategy and mergers and acquisitions. On average, each team member has 26 years of professional experience. Sirius Group strives to continue to attract and retain exceptional talent by encouraging individual personal development of all its employees and rewarding them for outstanding performance.

Growth Strategy

Sirius Group's corporate objective is to grow book value per share by maximizing underwriting profits through market cycles while preserving and achieving long-term growth. Sirius Group intends to pursue this objective with the following strategies:

Maintain Broad Geographic Coverage Across Multiple Lines

Sirius Group intends to leverage its multi-line offerings across a broad geographic scope to grow its business when appropriate. Sirius Group has had a long-standing presence in multiple markets and across multiple product categories and has developed long-term relationships with brokers and ceding companies. Sirius Group seeks to use management's expertise, experience, and market relationships to identify and underwrite well-priced risks while delivering innovative risk transfer solutions to customers. Sirius Group believes that its flexibility and expertise in diverse insurance and reinsurance markets will allow it to create a well-balanced and profitable portfolio of risks across market cycles.

Manage Capital Prudently

Sirius Group actively manages its capital and business profile. Sirius Group strives to underwrite business only when the price and other terms and conditions are attractive. If Sirius Group needs to reduce its business volumes due to overly aggressive competition, it intends to do so, as it has done in the past. The "Reportable Segments" table under "Products and Services" later in this section demonstrates Sirius Group's opportunistic underwriting approach, whereby Sirius Group has increased and decreased writings in various lines of business commensurate with prevailing market conditions. When appropriate, Sirius Group will consider dedicated pools of outside capital and use of retrocessional coverage.

Continue to Identify Opportunistic Acquisitions

Sirius Group has the in-house mergers and acquisitions capability and experience to source and successfully execute upon attractive opportunities. Sirius Group will continue to evaluate acquisition opportunities and pursue those that meet its strict criteria to generate attractive financial returns. Acquisitions can be in the form of active operations, such as the acquisitions of IMG and Armada, or in the form of run-off opportunities, which are led by the dedicated team at Sirius Global Solutions. While Sirius Group has an active and ongoing effort to pursue acquisitions, management believes that Sirius Group's opportunistic and disciplined approach and experience ensures that it will be selective in pursuing transactions. In a given year, Sirius Group may complete several transactions or may not complete any, depending on the quality of opportunities that become available. Sirius Group is optimistic that there will continue to be attractive opportunities in the future.

Maintain a Disciplined Investment Approach

Sirius Group's investment philosophy is to maximize long-term total returns (after-tax) while taking prudent levels of risk and maintaining a diversified portfolio, subject to its investment guidelines and various regulatory restrictions. Under this total return investment approach, gains in market prices of securities are valued equally with yield income.

Insurance and Reinsurance Overview

Products and Services

Sirius Group writes primary insurance and reinsurance business. Sirius Group's primary insurance business is written predominantly by several MGUs in the accident and health space. Sirius Group employs a detailed selection process for these MGU partners, and has narrowly defined underwriting standards in place that are closely monitored by Sirius Group staff. In addition to the day-to-day interactions that Sirius Group has with the MGUs, audits are performed on a regular basis.

Reinsurance is an arrangement in which a reinsurance company (the "reinsurer") agrees to indemnify an insurance company (the "ceding company") for insurance risks underwritten by the ceding company. Reinsurance can benefit a ceding company in a number of ways, including reducing exposure on individual risks, providing catastrophe protections from large or multiple losses, and assisting in maintaining acceptable capital levels as well as financial and operating leverage ratios. Reinsurance can also provide a ceding company with additional underwriting capacity by permitting it to accept larger risks and underwrite a greater number of risks without a corresponding increase in its capital. Reinsurers may also purchase reinsurance, known as retrocessional reinsurance, to cover risks assumed from ceding companies. Reinsurance companies often enter into retrocessional agreements for many of the same reasons that ceding companies enter into reinsurance agreements.

Reinsurance is generally written on a treaty or facultative basis. Treaty reinsurance is an agreement whereby the reinsurer assumes a specified portion or category of risk under all qualifying policies issued by the ceding company during the term of the agreement, usually one year. When underwriting treaty reinsurance, the reinsurer does not evaluate each individual risk and generally accepts the original underwriting decisions made by the ceding company. Facultative reinsurance, on the other hand, is underwritten on a risk-by-risk basis, which allows the reinsurer to determine pricing for each exposure.

Treaty reinsurance is typically written on either a proportional or excess of loss basis. A proportional reinsurance treaty is an arrangement whereby a reinsurer assumes a predetermined proportional share of the premiums and losses generated on specified business. An excess of loss treaty is an arrangement whereby a reinsurer assumes losses that exceed a specific retention of loss by the ceding company.

A significant period of time normally elapses between the receipt of insurance premiums for MGUs and reinsurance premiums from ceding companies and the payment of claims. While premiums are generally paid to the insurer or reinsurer following inception of the underlying coverage, the claims process is delayed and generally begins upon the occurrence of an event causing an insured loss followed by: (i) the reporting of the loss by the insured to its broker or agent; (ii) the reporting by the broker or agent to the MGU or ceding company; (iii) the reporting by the ceding company to its reinsurance intermediary or agent; (iv) the reporting by the reinsurance intermediary or agent to the reinsurer; (v) the MGUs or ceding company's adjustment and payment of the loss; and (vi) the payment to the MGU or ceding company by the reinsurer. During this time, the insurer or reinsurer invests the premiums, earns investment income, and generates net realized and unrealized investment gains and losses on investments.

Reportable Segments

During 2019, we classified our business into four reportable segments: Global Property, Global A&H, Specialty & Casualty, and Runoff & Other. The following discussion summarizes the business written by each of Sirius Group's segments.

Global Property

Global Property consists of Sirius Group's underwriting lines of business which offer other property insurance and reinsurance, property catastrophe excess reinsurance, and agriculture reinsurance on a worldwide basis. The following provides details of Global Property by product line:

Other Property Insurance and Reinsurance—Sirius Group participates in the broker market for property reinsurance treaties written on a proportional and excess of loss basis. For Sirius Group's international business, the book consists of treaty, written on both a proportional and excess of loss basis, facultative, and primary business, primarily in Europe, Asia and Latin America. In the United States, the book predominantly centers on significant participations on proportional and excess of loss treaties mostly in the excess and surplus lines of the market.

Property Catastrophe Excess Reinsurance—Property catastrophe excess of loss reinsurance treaties covers losses from catastrophic events. Sirius Group writes a worldwide book with the largest concentration of exposure in Europe and the United States. The U.S. book has a national account focus supporting principally the lower and/or middle layers of large capacity programs and also consists of select small regional and standard lines carriers. The exposures written in the international book are diversified across many countries, regions, perils and layers.

Agriculture—Sirius Group provides stop-loss reinsurance coverage to companies writing U.S. government-sponsored multi-peril crop insurance ("MPCI"). Sirius Group's participation is net of the government's stop-loss reinsurance protection. Sirius Group also provides coverage for crop-hail and certain named perils when bundled with MPCI business. Sirius Group also writes agriculture business outside of the United States.

Global A&H

The Global A&H operating segment consists of Sirius Group's insurance, reinsurance, and MGUs units (which include Armada and IMG) that offer accident and health products on a worldwide basis:

Accident and Health insurance and reinsurance—Sirius Group is an insurer of accident and health insurance business in the United States, either on an admitted or surplus lines basis, as well as international business written through wholly-owned IMG. Armada business is written on an admitted basis. Sirius Group also writes proportional and excess reinsurance treaties covering employer medical stop-loss for per person (specific) and per employer (aggregate) exposures. In addition, Sirius Group writes some medical, health, travel and personal accident coverages written on a treaty, facultative, and primary basis.

Specialty & Casualty

Specialty & Casualty consists of Sirius Group's insurance and reinsurance underwriting units which offer specialty & casualty product lines on a worldwide basis. Specialty lines represent unique risks where the more difficult and unusual risks are underwritten, and much of the market is characterized by a high degree of specialization. The following provides details of Specialty & Casualty by product line:

Aviation & Space—provides aviation insurance that covers loss of or damage to an aircraft and the aircraft operations' liability to passengers, cargo and hull as well as to third parties. Additionally, liability arising out of non-aircraft operations such as hangars, airports and aircraft products can be covered. Space insurance primarily covers loss of or damage to a satellite during launch and in orbit. The book consists of treaty, written on both a proportional and excess of loss basis, facultative, and primary business.

Marine—provides marine reinsurance, primarily written on an excess of loss and proportional basis. Coverage offered includes damage to ships and goods in transit, marine liability lines, and offshore energy industry insurance. Sirius Group also writes yacht business, both on reinsurance and a primary basis. The marine portfolio is diversified across many countries and regions. Starting in 2018, Sirius Group decided not to renew the book written in Sirius International's London office due to underwriting performance.

Trade credit—writes credit and bond reinsurance worldwide. The bulk of the business is traditional short-term commercial credit insurance, covering pre-agreed domestic and export sales of goods and services with typical coverage periods of 60 to 120 days. Losses under these policies are correlated to adverse changes in a respective country's gross national product.

Contingency—writes insurance for event cancellation and non-appearance, primarily on a primary policy and facultative reinsurance basis. Additionally, coverage for liabilities arising from contractual bonus, prize redemption and over-redemption is also offered. The contingency portfolio is diversified across many countries and regions. In August 2018, Sirius Group decided not to renew the book written in Sirius International's London office due to underwriting performance.

Casualty—represents a cross section of all casualty lines, including general liability, umbrella, auto, workers compensation, professional liability, and other specialty classes, written on a proportional, excess of loss, and primary basis.

Surety—underwrites commercial surety bonds, including non-construction contract bonds, in a broad range of business segments in the U.S.

Environmental—underwrites a pure environmental insurance book in the U.S. consisting of four core products that revolve around pollution coverage, which are premises pollution liability, contractor's pollution liability, contractor's pollution and professional liability.

Runoff & Other

Runoff & Other consists of asbestos risks, environmental risks and other long-tailed liability exposures, and results from Sirius Global Solutions, including the acquisition and management of runoff liabilities for insurance and reinsurance companies, both in the United States and internationally.

Gross and Net Written Premiums – Reportable Segments

The following table sets forth Sirius Group's gross written premiums for the years ended December 31, 2019, 2018, and 2017:

<i>(Millions)</i>	2019	2018	2017
Other Property	\$ 476.5	\$ 623.0	\$ 405.2
Property Catastrophe Excess	301.9	275.3	255.3
Agriculture	70.0	64.1	71.6
Global Property	848.4	962.4	732.1
Global Accident & Health	593.4	500.6	494.6
Casualty Reinsurance	203.9	131.9	38.2
Aviation & Space	95.1	72.5	65.7
Trade Credit	53.7	48.1	39.7
Primary Workers Compensation	37.7	4.5	—
Marine	31.5	34.7	56.1
Environmental	20.5	10.1	—
Surety	9.3	6.7	—
Contingency	5.0	16.6	18.4
Specialty & Casualty	456.7	325.1	218.1
Runoff & Other	4.2	32.9	(5.5)
Total	\$ 1,902.7	\$ 1,821.0	\$ 1,439.3

The following table sets forth Sirius Group's net written premiums for the years ended December 31, 2019, 2018, and 2017:

<i>(Millions)</i>	2019	2018	2017
Other Property	\$ 337.1	\$ 414.9	\$ 323.2
Property Catastrophe Excess	219.9	177.8	163.9
Agriculture	68.7	62.3	69.1
Global Property	625.7	655.0	556.2
Global Accident & Health	458.1	379.8	341.5
Casualty Reinsurance	203.9	131.9	38.2
Aviation & Space	76.6	61.9	55.0
Trade Credit	53.1	45.4	37.3
Primary Workers Compensation	36.8	4.5	—
Marine	23.2	26.4	47.9
Environmental	10.2	5.1	—
Surety	8.3	5.4	—
Contingency	4.2	12.1	14.6
Specialty & Casualty	416.3	292.7	193.0
Runoff & Other	2.5	29.6	(0.5)
Total	\$ 1,502.6	\$ 1,357.1	\$ 1,090.2

For the years ended December 31, 2019, 2018, and 2017, 76%, 76%, and 74%, respectively, of Sirius Group's net written premiums were for reinsurance products, with the remainder for insurance products.

Diversification by Geography

Sirius Group's net written premiums are geographically diversified across the world. The following table shows Sirius Group's net written premiums by geographic region based on client location for the years ended December 31, 2019, 2018, and 2017:

<i>(Millions)</i>	2019	2018	2017
United States	\$ 922.3	\$ 794.7	\$ 563.1
Europe	268.9	276.5	262.3
Canada, the Caribbean, Bermuda and Latin America	102.5	103.6	111.4
Asia and Other	208.9	182.3	153.4
Total	\$ 1,502.6	\$ 1,357.1	\$ 1,090.2

Marketing and Distribution

For reinsurance business, Sirius Group obtains most of its submissions from reinsurance intermediaries that represent the ceding company. The process of placing an intermediary reinsurance program typically begins when a ceding company enlists the aid of a reinsurance intermediary in structuring a reinsurance program. The ceding company and the reinsurance intermediary will often consult with one or more lead reinsurers as to the pricing and contract terms for the reinsurance protection being sought. Once the ceding company has approved the terms quoted by the lead reinsurer, the reinsurance intermediary will offer participation to qualified reinsurers until the program is fully subscribed. Sirius Group considers both the reinsurance intermediary and the ceding company to be its clients. Sirius Group believes it has developed strong business relationships over a long period of time with the management of many of its ceding companies and reinsurance intermediaries.

Sirius Group pays ceding companies a ceding commission under most proportional reinsurance treaties and some excess of loss reinsurance treaties. The ceding commission is generally based on the ceding company's cost of acquiring and administering the business being reinsured (e.g., agent commissions, premium taxes and certain miscellaneous expenses). The ceding commissions paid to ceding companies constitute the majority of Sirius Group's total acquisition costs. Additionally, Sirius Group pays reinsurance intermediaries commissions based on negotiated percentages of the premium they produce on a per treaty or certificate basis.

For primary insurance business, mostly Global A&H, Sirius Group enters into agreements with select MGUs, who then market Sirius Group's insurance products to the general public and have underwriting authority on its behalf. Sirius Group has narrowly defined underwriting standards in place for these MGUs that are closely monitored by Sirius Group staff. Sirius Group pays certain MGUs profit commissions based upon the underwriting profit business produced. In addition to the day-to-day interactions that Sirius Group has with its MGUs, audits are performed on a regular basis. These high-retention, long-term partnerships generate significant premium, and create alignment with the MGUs as they retain a share of underwriting results.

During the years ended December 31, 2019, 2018, and 2017, Sirius Group received gross written premiums from four major, third-party insurance and reinsurance intermediaries as detailed in the following table:

Gross written premium by intermediary	2019	2018	2017
AON Corporation and subsidiaries	24%	26%	22%
Guy Carpenter & Company and subsidiaries	24%	26%	25%
WT Butler and Co. Ltd.	11%	10%	10%
Willis Towers Watson plc and subsidiaries	10%	8%	8%
Total	69%	70%	65%

Policies with Respect to Certain Activities

The following is a discussion of our underwriting and pricing, claims management, catastrophe risk management, and reinsurance protection policies.

Underwriting and Pricing

Sirius Group seeks to maintain a disciplined underwriting strategy which, while considering overall exposure, focuses on writing more business when market terms and conditions are favorable and reducing business volume during soft markets when terms and conditions become less favorable. Sirius Group offers clients a wide range of insurance and reinsurance products across multiple lines of business to satisfy risk management needs.

Sirius Group derives its reinsurance business from a broad spectrum of ceding companies, including national, regional, specialty, and excess and surplus lines writers, both internationally and in the United States. Sirius Group derives its primary insurance business mostly for Global A&H through several MGUs, which source business internationally and in the United States. Sirius Group prices its products by assessing the desired return on the expected capital needed to write a given contract and on the expected underwriting results of the contract. Sirius Group's pricing indications are based on a number of underwriting factors including historical results, analysis of exposure and estimates of future loss costs, a review of other programs displaying similar exposure characteristics and the MGUs or ceding company's underwriting and claims experience. Additionally, in the United States, Sirius Group's underwriters, actuaries and claims personnel perform audits of all MGUs and certain ceding companies. Generally, ceding company audits are not customary outside the United States.

Reinsurers do not have the stringent regulations with respect to contract terms and policy exclusions that are generally imposed on primary insurers. For example, the Terrorism Risk Insurance Act in the United States is not applicable to reinsurers. As a result, terrorism exclusions on reinsurance contracts are dictated by the marketplace. Sirius Group evaluates terrorism exposure from its ceding companies and applies exclusions as it deems appropriate and as permitted by market conditions. Reinsurance on U.S. commercial risks written by Sirius Group subsequent to the terrorist acts of September 11, 2001 generally contains clauses that exclude acts of terrorism certified under the Terrorism Risk Insurance Act. Reinsurance on personal risks written by Sirius Group subsequent to the terrorist acts of September 11, 2001 generally contains exclusions related to nuclear, biological, radiological and chemical attacks.

Claims Management

Sirius Group maintains a staff of experienced insurance and reinsurance claim specialists. Sirius Group's claims specialists work closely with reinsurance intermediaries, MGUs and insureds to obtain specific claims information on reported matters to properly adjust and resolve each matter. Where customary or appropriate, Sirius Group's claims staff performs selective on-site claim reviews to assess an MGU's claim handling abilities and, where customary or appropriate, a ceding company's claim handling abilities and reserve techniques. In addition, Sirius Group's claims specialists review loss information provided by ceding companies and MGUs for adequacy and accuracy. The results of these claim reviews are shared with the underwriters and actuaries to assist them in pricing products and establishing loss reserves.

Sirius Group also uses third-party administrators ("TPAs") for certain claims, including claims arising from certain Runoff & Other claims related to certain acquired companies. Sirius Group's claims staff performs on-site claim audits of certain TPAs to ensure the propriety of the controls and processes over claims serviced by the TPAs.

Catastrophe Risk Management

Sirius Group has exposure to catastrophe losses, mostly for Global Property, caused by hurricanes, earthquakes, tornadoes, winter storms, windstorms, floods, tsunamis, terrorist acts and other catastrophic events. In the normal course of business, Sirius Group regularly manages its concentration of exposures to catastrophic events, primarily by limiting concentrations of exposure to what it deems acceptable levels and, if necessary, purchasing reinsurance. In addition, Sirius Group seeks to limit losses that might arise from other extreme events such as terrorism, cyber or nuclear incidents, in its insurance and reinsurance contracts by exclusionary provisions where available. Sirius Group has significant exposure to windstorm, earthquake, wildfire, and flood events across the globe, primarily in North America, Europe, Asia (including Japan), Oceania, and Latin America.

Sirius Group licenses third-party global property catastrophe models from two of the leading vendors of industry-standard catastrophe modeling software, and also utilizes its own proprietary models to calculate expected PML estimates from various property natural catastrophe scenarios. Sirius Group prices its property catastrophe contracts using the aforementioned third-party software and internal models and other methods. Sirius Group also uses a proprietary property underwriting and pricing tool, referred to as "GPI", which consolidates and reports on all its worldwide property exposures. GPI is used to calculate individual and aggregate PMLs by combining multiple third-party and proprietary models, actuarial methods, and underwriting judgement. For business that Sirius Group determines to have exposure to natural catastrophic perils, it models and assesses the exposure to quantify the appropriate premium for the exposure as part of its underwriting process. This includes property, accident and health, marine, and casualty exposures.

The following table provides an estimate of Sirius Group's three largest PML zones on a per occurrence basis for 1-in-100 and 1-in-250 year events as of January 1, 2020 as measured by net after-tax exposure.

(Millions)	Sirius Group Net After-Tax Loss					
	Modelled Industry Loss	Sirius Group Gross Loss	Net After Reinsurance and Reinstatements	Net After-Tax	Net After-Tax as % of Total Capital ⁽¹⁾	Net After-Tax as % of Common Shareholders' Equity ⁽¹⁾
1-in-100 year event						
Southeast U.S.	\$ 117,292.3	\$ 397.3	\$ 281.6	\$ 256.9	10.1%	15.7%
West Coast U.S.	38,952.9	380.0	233.8	212.9	8.4%	13.0%
Europe	38,449.1	486.0	224.3	185.8	7.3%	11.3%
1-in-250 year event						
Southeast U.S.	\$ 187,501.2	\$ 580.7	\$ 414.1	\$ 376.2	14.8%	22.9%
West Coast U.S.	68,487.3	572.5	379.9	344.3	13.5%	21.0%
Europe	56,575.9	611.3	278.5	232.2	9.1%	14.2%

⁽¹⁾Total Capital and Common Shareholders' Equity as of December 31, 2019. Total Capital represents total debt, Series B preference shares, and Common Shareholders' Equity.

The proprietary GPI platform allows Sirius Group to choose either a third-party catastrophe modeling software or an internally developed model for PML reporting within each area and peril. The choice is based on a scientific, actuarial and underwriting assessment of the quality of the model by territory. If a third-party model is deemed to be qualitative overall but less strong in certain regards, Sirius Group may impose modifications on the model to mitigate any weaknesses. The third-party catastrophe modeling software provides new versions of their models on a periodic basis, usually annually for peak exposure zones. Sirius Group may implement these new versions for use in the underwriting and risk management process after having engaged in appropriate testing and achieving comfort with the model enhancements.

With GPI, the view of risk for each treaty can be further adjusted based on underwriting judgment regarding the specific exposures underlying each cedent's portfolio. This yields a final view of risk for each cedent. This view of risk is aggregated across Sirius Group's portfolio to an aggregated, simulated dataset from which PML estimates and any other portfolio metrics can be extracted.

Catastrophe modeling is dependent upon several broad scientific and economic assumptions. This includes fundamental assumptions on hazard frequency and intensity, assumptions on the vulnerability of different risks depending on their occupancy and building characteristics, assumptions on replacement values as well as assumptions on economic factors such as demand surge (the localized increase in prices of goods and services that often follows a catastrophe). Catastrophe modeling is inherently uncertain due to the significant uncertainties involved in estimating and quantifying these assumptions. Third-party modeling software does not provide information for all territories or perils for which Sirius Group writes business. Sirius Group uses its own proprietary models in these situations.

Sirius Group does not believe that it can rely solely upon catastrophe modeling to measure its exposure to natural catastrophe risk. For example, the losses arising from Hurricane Katrina for both Sirius Group and the industry were substantially in excess of losses previously predicted by third-party models from such an event. This was due to issues such as inadequate storm surge and demand surge assumptions in the models, as well as flooding from levees breaking, which was not fully contemplated in these models. Sirius Group monitors gross and net property catastrophe occurrence limits by country and region globally. Further, losses to a number of deterministic scenarios involving both natural and man-made catastrophes are estimated and tracked.

Reinsurance Protection

In the normal course of business, Sirius Group seeks to protect its business from losses due to concentration of risk and loss arising from catastrophic events by reinsuring with third-party reinsurers. Sirius Group 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 Group's written and earned premiums and on losses and loss adjustment expenses ("LAE") for the years ended December 31, 2019, 2018, and 2017 were as follows:

<i>(Millions)</i>	2019	2018	2017
Written premiums:			
Direct	\$ 511.2	\$ 454.5	\$ 450.2
Assumed	1,391.5	1,366.5	989.1
Gross written premiums	1,902.7	1,821.0	1,439.3
Ceded	(400.1)	(463.9)	(349.1)
Net written premiums	\$ 1,502.6	\$ 1,357.1	\$ 1,090.2
Earned premiums:			
Direct	\$ 481.0	\$ 432.6	\$ 405.7
Assumed	1,357.7	1,236.2	942.2
Gross earned premiums	1,838.7	1,668.8	1,347.9
Ceded	(397.1)	(406.5)	(312.6)
Net earned premiums	\$ 1,441.6	\$ 1,262.3	\$ 1,035.3
Losses and LAE:			
Direct	\$ 316.3	\$ 260.5	\$ 294.9
Assumed	1,111.4	819.1	701.3
Gross losses and LAE	1,427.7	1,079.6	996.2
Ceded	(257.4)	(179.6)	(185.0)
Net losses and LAE	\$ 1,170.3	\$ 900.0	\$ 811.2

Sirius Group'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 Property

Sirius Group'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.

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Sirius Group has in place excess of loss retrocessional coverage for its worldwide earthquake related exposures. This coverage was renewed for one year at June 1, 2019, providing 50% of \$40.0 million of reinsurance protection in excess of Sirius Group's retention of \$35.0 million and a further of 100% of \$35.0 million of coverage in excess of \$75.0 million.

Sirius Group 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 excluding North East, all natural perils	\$5.0 million	\$40.0 billion	July 5, 2020

Sirius Group 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.

Global A&H

Sirius Group 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) in place.

Specialty & Casualty

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 2020. 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 \$27.5 million. The ILWs attach at industry loss levels between \$400.0 million and \$800.0 million.

Other lines of business within the Specialty & Casualty segment are protected through various quota share and excess of loss protections.

Runoff & Other

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

Reinsurance Recoverables by Rating

As of December 31, 2019, Sirius Group had reinsurance recoverables on paid losses of \$74 million and reinsurance recoverables of \$410 million on unpaid losses. As of December 31, 2018, Sirius Group had reinsurance recoverables on paid losses of \$55 million and reinsurance recoverables of \$350 million on unpaid losses. Because retrocessional reinsurance contracts do not relieve Sirius Group of its obligation to its insureds, the ability to collect balances due from Sirius Group's reinsurers is important to its financial strength. Sirius Group monitors the financial strength and ratings of retrocessionaires on an ongoing basis. Uncollectible amounts historically have not been significant.

The following table provides a listing of Sirius Group'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, 2019. With certain reinsurers, if Standard & Poor's rating was not available, an A.M. Best rating was used.

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%	
A	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" (Adequate).

Loss and LAE Reserves

Sirius Group establishes loss and LAE reserves that are estimates of future amounts needed to pay claims and related expenses for events that have already occurred. The process of estimating reserves involves a considerable degree of judgment by management and, as of any given date, is inherently uncertain. See Note 2 "Summary of Significant Accounting Policies—Significant Accounting Policies" in Sirius Group's audited financial statements and "Summary of Critical Accounting Estimates" in "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this Annual Report on Form 10-K for a further discussion of loss and LAE reserves.

Sirius Group's net incurred losses from asbestos and environmental ("A&E") claims have totaled \$166 million over the past ten years. Sirius Group'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, the exposures arise almost entirely from old assumed reinsurance contracts having small limits of liability. See Note 5 "Reserves for Unpaid Losses and Loss Adjustment Expenses—Asbestos and Environmental Loss and Loss Adjustment Expense Reserve Activity" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K.

Investments

Sirius Group's investment objective is to maximize the total return, including yield income and gains and losses, over the long term, without assuming risk to a degree which could jeopardize the vitality of Sirius Group's insurance franchise. This objective and associated policies and guidelines ("Investment Policy") are established by the Finance Committee of the Sirius Group Board of Directors. Certain relevant subsidiaries also approve policies and guidelines substantially similar to, and consistent with, the Sirius Group Investment Policy.

Sirius Group operates its investment portfolio in a way that would allow it to demonstrate to internal and external constituents that it is able, and will remain able, to pay insurance claims during, and after, periods of extreme volatility to its enterprise—whether such volatility arises from within its insurance business operations or investment portfolio. Such constituents include numerous regulatory regimes, rating agencies, shareholders and Sirius Group's risk management framework.

The Investment Policy provides a cohesive framework to mitigate risk and prescribes a number of thresholds under which the portfolio is intended to operate. The group is expected to hold cash and fixed income investments that amount to no less than 100% of policyholder liabilities. Investable assets in excess of policyholder liabilities and liquidity needs are available to be invested in equity securities, funds, direct investments and other long-term investments.

Sirius Group operates subsidiaries and branches located throughout the world. Its global footprint requires Sirius Group to transact in numerous currencies. Where practical, Sirius Group aims to generally match material liabilities with assets and in many cases investable assets. From time to time, Sirius Group may utilize third party tools such as currency forwards or swaps to mitigate unmatched exposure or may choose to leave such exposure unmatched. Sirius Group does not apply hedge accounting to currency swaps or forwards.

See Note 2 "*Summary of Significant Accounting Policies—Significant Accounting Policies*" and Note 8 "*Investment securities*," in Sirius Group's audited financial statements as well as "Summary of Investment Results" in "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" included elsewhere in this Annual Report on Form 10-K for a further discussion of investments.

Competition and Peers

The worldwide insurance and reinsurance markets are highly competitive. Competition is influenced by a variety of factors, including price charged and other terms and conditions offered, financial strength ratings, prior history and relationships, as well as expertise and the speed at which the company has historically paid claims.

Sirius Group competes for business in Europe, Bermuda, the United States and other international markets with numerous global competitors. Its competitors include other insurance and reinsurance companies and underwriting syndicates at Lloyd's of London, as well as London Market Companies. Some of the companies that Sirius Group competes with directly include Alleghany Corporation, Arch Capital Group Ltd., Axis Capital Holdings Ltd., Everest Re Group, Ltd., General Reinsurance Corporation, Greenlight Capital Re, Ltd., Hannover Ruckversicherung AG, Munich Re Group, Odyssey Re Holdings Corp., PartnerRe Ltd., RenaissanceRe Holdings Ltd., Scor Global P&C, Swiss Re Group and Third Point Reinsurance Ltd. While some of these competitors have greater revenue and shareholders' equity than Sirius Group, management believes that Sirius Group is well-suited to compete against its peers.

In addition, in recent years the persistent low interest rate environment and ease of entry into the reinsurance sector has led to increased competition from non-traditional sources of capital, such as insurance-linked funds or collateralized special purpose insurers, predominantly in the property catastrophe excess reinsurance market. This alternative capital provides collateralized property catastrophe protection in the form of catastrophe bonds, industry loss warranties and other risk-linked products that facilitate the ability for non-reinsurance entities, such as hedge funds and pension funds, to compete for property catastrophe excess reinsurance business outside of the traditional treaty market. As a result, Sirius Group has observed reduced pricing and/or reduced shares in certain property catastrophe excess markets, as well as certain other markets.

Seasonality

Sirius Group's segments experience some seasonality with regard to quarterly recognition of premiums written, which are generally highest in the first quarter and lowest during the fourth quarter. We expect this trend to continue in the future.

Regulation

The business of insurance and reinsurance is regulated in all countries in which Sirius Group operates, although the degree and type of regulation varies from one jurisdiction to another. As a holding company, Sirius Group is generally not directly subject to such regulations, but its various insurance and reinsurance operating subsidiaries are subject to regulation. The following describes the current material regulations under which the Company operates.

Bermuda Insurance Regulation

Insurance Regulation Generally

Our Bermuda insurance operating subsidiary and other Bermuda operating companies are subject to the Insurance Act 1978 of Bermuda and related regulations, as amended (the "Insurance Act"). The Insurance Act imposes solvency and liquidity standards on Bermuda insurance companies, as well as auditing and reporting requirements and grants the BMA powers to supervise, investigate, require information and demand the production of documents and intervene in the affairs of insurance companies.

The BMA acts as the group supervisor for Sirius Group and has designated Sirius Bermuda, a Class 4 licensed Bermuda-based reinsurance company, which is the most strictly regulated insurance classification, as the designated insurer for group supervisory and solvency purposes ("Designated Insurer"). Therefore, Sirius Group is subject to the BMA's group supervision and solvency rules which cover assessing the financial situation and solvency position of Sirius Group and regulating intra-Group transactions, risk concentration, governance procedures, risk management and regulatory reporting and disclosure. See "*Regulatory Group Supervision*" below for further discussion.

Principal Representative

As a Class 4 insurer, Sirius Bermuda is required to maintain a principal office and to appoint and maintain a principal representative in Bermuda. It is the duty of the principal representative to notify the BMA if there is a likelihood of the insurer becoming insolvent, or upon becoming aware that a reportable "event" has occurred, or is believed to have occurred. Examples of a reportable "event" include a failure by the insurer to comply substantially with a condition imposed upon it by the BMA relating to its solvency position, governance and risk management or supervisory reporting and disclosures, a significant loss reasonably likely to cause the insurer to fail to comply with its enhanced capital requirement (discussed below) and the occurrence of a "material change" (as such term is defined under the Insurance Act) in its business operations.

Loss Reserve Specialist

As a Class 4 insurer, Sirius Bermuda is required to appoint a qualified individual approved by the BMA to be its loss reserve specialist, and is required to submit annually an opinion of its loss reserve specialist with its capital and solvency return in respect of its total general business insurance technical provisions (i.e. the aggregate of its net premium provisions, net loss and loss expense provisions and risk margin, as each is reported in the insurer's statutory economic balance sheet). The loss reserve specialist's opinion must state, among other things, whether or not the aggregate amount of technical provisions shown in the statutory economic balance sheet as at the end of the relevant financial year (i) meets the requirements of the Insurance Act and (ii) makes reasonable provision for the total technical provisions of the insurer under the terms of its insurance contracts and agreements. In order to comply with this requirement, Sirius Bermuda has appointed an independent loss reserve specialist to provide the opinion described above with Sirius Bermuda's annual capital and solvency return.

Annual Statutory Financial Statements

As a Class 4 insurer, Sirius Bermuda is required to file with the BMA a statutory financial return no later than four months after its financial year end. The statutory financial return includes, among other matters, the statutory financial statements and the calculations for the Class 4 insurer's minimum solvency margin and liquidity ratio.

In addition, each year Sirius Bermuda is required to file with the BMA a capital and solvency return. As required by the Insurance Act, Sirius Group has published on its website its financial condition report as of December 31, 2018 which contains the minimum solvency margin and enhanced capital requirement of Sirius Group together with those of its Bermudian subsidiaries including Sirius Bermuda.

At the time of filing its statutory financial statements, Sirius Bermuda is also required to deliver to the BMA a declaration of compliance, with respect to the preceding financial year as to (i) compliance with all requirements of the minimum criteria applicable to it; (ii) compliance with the minimum margin of solvency as at its financial year end; (iii) compliance with the applicable enhanced capital requirements as at its financial year end; and (iv) compliance with any limitations, restrictions or conditions imposed upon issuance of its license, if applicable.

Minimum Liquidity Ratio

The Insurance Act provides a minimum liquidity ratio for general business insurers. A Class 4 insurer engaged in general business is required to maintain the value of its relevant assets at not less than 75% of the amount of its relevant liabilities, as reported in the statutory financial return.

Minimum Solvency Margin and Enhanced Capital Requirements

Sirius Bermuda is required to maintain available statutory economic capital and surplus at a level equal to or in excess of its enhanced capital requirement ("ECR"), which is established by reference to either a model based on the BMA's prescribed form of capital and solvency return (known as the Bermuda Solvency Capital Requirement or "BSCR") or an approved internal capital model.

The BSCR model is a risk-based capital model which provides a method for determining a Class 4 insurer's capital requirements (statutory economic capital and surplus) by taking into account the risk characteristics of different aspects of the Class 4 insurer's business. The BMA has also established a target capital level ("TCL") for each Class 4 insurer equal to 120% of its ECR. The TCL serves as an early warning tool for the BMA, and failure to maintain statutory capital at least equal to the TCL will likely result in increased regulatory oversight.

A Class 4 insurer is required to have general business assets that exceed the value of its general business liabilities by an amount prescribed by the Insurance Act, as its Minimum Solvency Margin ("MSM"). The MSM that a Class 4 insurer is required to maintain with respect to its general business is the greater of (i) U.S. \$100 million, or (ii) 50% of net premiums written (with a credit for reinsurance ceded not exceeding 25% of gross premiums), or (iii) 15% of the aggregate of net loss and loss expense provisions and other reinsurance reserves, or (iv) 25% of the ECR as reported at the end of the relevant year.

Eligible Capital

A Class 4 insurer is required to disclose the makeup of its capital in accordance with the "3-tiered eligible capital system". Under this system, all of the Class 4 insurer's capital instruments will be classified as either basic or ancillary capital which in turn will be classified into one of three tiers based on their "loss absorbency" characteristics. Highest quality capital will be classified as Tier 1 Capital, and lesser quality capital will be classified as either Tier 2 Capital or Tier 3 Capital. Under this regime, up to certain specified percentages of Tier 1, Tier 2 and Tier 3 Capital may be used to support the Class 4 insurer's MSM, ECR and TCL.

Non-insurance Business

As a Class 4 insurer, Sirius Bermuda may not engage in non-insurance business, unless that non-insurance business is ancillary to its core business. Non-insurance business means any business other than insurance business and includes carrying on investment business, managing an investment fund as operator, carrying on business as a fund administrator, carrying on banking business, underwriting debt or securities or otherwise engaging in investment banking, engaging in commercial or industrial activities and carrying on the business of management, sales or leasing of real property.

Code of Conduct

The Insurance Code of Conduct (the "Code of Conduct") prescribes the duties, standards, procedures and sound business principles that must be complied with by all insurers registered under the Insurance Act. The BMA will assess an insurer's compliance with the Code of Conduct in a proportional manner relative to the nature, scale and complexity of its business.

Cancellation of Insurer's Registration

An insurer's registration may be cancelled by the BMA at the request of the insurer or on certain grounds specified in the Insurance Act. For example, such grounds include a failure by the insurer to comply with its obligations under the Insurance Act or where the BMA believes that the insurer has not been carrying on business in accordance with sound insurance principles.

Restrictions on Dividends and Distributions

A Class 4 insurer is prohibited from declaring or paying a dividend if it is in breach of its MSM, ECR or minimum liquidity ratio, or if the declaration or payment of such dividend would cause such a breach. Where an insurer fails to meet its MSM or minimum liquidity ratio on the last day of any financial year, it will be prohibited from declaring or paying any dividends during the next financial year without the approval of the BMA.

In addition, a Class 4 insurer is prohibited from declaring or paying in any financial year dividends of more than 25% of its total statutory capital and surplus (as shown on its previous financial year's statutory balance sheet) unless it files with the BMA an affidavit signed by at least two directors and the principal representative stating that it will continue to meet its solvency margin and minimum liquidity ratio.

On May 3, 2019, in connection with certain public announcements relating to defaults and cross-defaults on certain bonds and other debt obligations issued by certain subsidiaries of China Minsheng Investment Group Corp., Ltd. ("CMIG" and, such defaults, the "CMIG Defaults"), which is the ultimate parent company of CMIG International, Sirius Bermuda and Sirius Group entered into a voluntary undertaking with the BMA to provide further comfort to the BMA as the group supervisor of Sirius Group and primary regulator of Sirius Bermuda, the designated insurer for group supervisory purposes, regarding the potential risks to Sirius Group in connection with the CMIG Defaults. Pursuant to the voluntary undertaking, each of Sirius Group and Sirius Bermuda have agreed, until May 3, 2020, to (a) 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) in the case of Sirius Bermuda, after the payment of a dividend, the requirement (x) to be able to pay its liabilities as they become due or (y) that its assets be greater than its liabilities, (ii) the minimum liquidity ratio in the case of Sirius Bermuda; and (iii) the TCL of 120% of the ECR for Sirius Group and Sirius Bermuda, and a summary description of the use proceeds from such declaration or dividend or capital distribution within Sirius Group or Sirius Bermuda, among other undertakings; (b) not enter into any guarantees, keepwells, loans or other financial arrangements between Sirius Group and CMIG, or provide any credit support with respect to any obligations of CMIG; and (c) not enter into any related party transaction with CMIG. For additional details, see "*Risk Factors—Sirius Group has become aware of recent announcements by CMIG regarding the CMIG Defaults. The CMIG Defaults may have financial, legal, regulatory, contractual and other implications that could have a material adverse effect on Sirius Group's business, prospects, financial condition, results from operations, liquidity, and share price*" and "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Dividend Capacity*" included elsewhere in this Annual Report on Form 10-K.

Reduction of Capital

No Class 4 insurer may reduce its total statutory capital by 15% or more, as set out in its previous year's financial statements, unless it has received the prior approval of the BMA.

Supervision, Investigation, Intervention and Disclosure

The BMA may, by notice in writing served on a registered person or a designated insurer, require the registered person or designated insurer to provide such information and/or documentation as the BMA may reasonably require with respect to matters that are likely to be material to the performance of its supervisory functions under the Insurance Act. In addition, it may require such person's or insurer's auditor, underwriter, accountant or any other person with relevant professional skill of such registered person or designated insurer to prepare a report on any aspect pertaining thereto. In the case of a report, the person so appointed shall immediately give the BMA written notice of any fact or matter of which he becomes aware or which indicates to him that any condition attaching to his registration under the Insurance Act is not or has not or may not be or may not have been fulfilled and that such matters are likely to be material to the performance of its functions under the Insurance Act. If it appears to the BMA to be desirable in the interests of the clients of a registered person or relevant insurance group, the BMA may also exercise these powers in relation to subsidiaries, parent companies and other affiliates of the registered person or designated insurer.

Where the BMA suspects that a person has failed to properly register under the Insurance Act or that a registered person or designated insurer has failed to comply with a requirement of the Insurance Act or that a person is not, or is no longer, a fit and proper person to perform functions in relation to a regulated activity, it may, by notice in writing, carry out an investigation into such person (or any other person connected thereto). In connection therewith, the BMA may require every person who is or was a controller, officer, employee, agent, banker, auditor, accountant, barrister and attorney or insurance manager to make a report and produce such documents in his care, custody and control and to attend before the BMA to answer questions relevant to the BMA's investigation and to take such actions as the BMA may direct.

If it appears to the BMA that the business of the registered insurer is being conducted in a way that there is a significant risk of the insurer becoming insolvent or being unable to meet its obligations to policyholders, or that the insurer is in breach of the Insurance Act or any conditions imposed upon its registration, or the minimum criteria stipulated in the Insurance Act is not or has not been fulfilled in respect of a registered insurer, or that a person has become a controller without providing the BMA with the appropriate notice or in contravention of a notice of objection, or the registered insurer is in breach of its ECR, or that a designated insurer is in breach of any provision of the Insurance Act or the regulations or rules applicable to it, the BMA may issue such directions as it deems desirable for safeguarding the interests of policyholders or potential policyholders of the insurer or the insurance group, including but not limited to, restricting business activities, investments and dividends.

Fit and Proper Controllers

The BMA maintains supervision over the controllers of all registered insurers in Bermuda. A controller includes (i) the managing director of the registered insurer or its parent company; (ii) the chief executive of the registered insurer or of its parent company; (iii) a shareholder controller (as defined below); and (iv) any person in accordance with whose directions or instructions the directors of the registered insurer or of its parent company are accustomed to act. All registered insurers are required to give written notice to the BMA of a change in controller(s) within 45 days of becoming aware of such change. The BMA may object to a controller and require the controller to reduce its shareholdings and direct, among other things, that voting rights attaching to the shares shall not be exercisable.

The definition of shareholder controller generally refers to (i) a person who holds 10% or more of the shares carrying rights to vote at a shareholders' meeting of the registered insurer or its parent company, or (ii) a person who is entitled to exercise 10% or more of the voting power at any shareholders' meeting of such registered insurer or its parent company, or (iii) a person who is able to exercise significant influence over the management of the registered insurer or its parent company by virtue of its shareholding or its entitlement to exercise, or control the exercise of, the voting power at any shareholders' meeting. These regulations may impact a person or entity's ability to acquire 10% or more of Sirius Group common shares.

Notification of Material Changes

Registered insurers are required to give notice to the BMA of their intention to effect a material change within the meaning of the Insurance Act. Material changes include: the transfer or acquisition of insurance business; merger with or acquisition of another firm; acquisition of a controlling interest in an undertaking that is engaged in non-insurance business; outsourcing all or substantially all of the company's actuarial, risk management, compliance, underwriting or internal audit functions; transfer or expansion into another line of business or the outsourcing of an officer role.

Regulatory Group Supervision

The BMA acts as group supervisor of Sirius Group and its subsidiaries (the "Regulatory Group") and has designated Sirius Bermuda as the Designated Insurer. As the Designated Insurer, Sirius Bermuda is required to facilitate compliance by the Regulatory Group with group insurance solvency and supervision rules.

As group supervisor, the BMA performs a number of supervisory functions including (i) coordinating the gathering and dissemination of information which is of importance for the supervisory task of other competent authorities; (ii) carrying out a supervisory review and assessment of the Regulatory Group; (iii) carrying out an assessment of the Regulatory Group's compliance with the rules on solvency, risk concentration, intra-group transactions and good governance procedures; (iv) planning and coordinating, with other competent authorities, supervisory activities in respect of the Regulatory Group, both as a going concern and in emergency situations; (v) coordinating any enforcement action that may need to be taken against the Regulatory Group or any of its members; and (vi) planning and coordinating meetings of colleges of supervisors (consisting of insurance regulators) in order to facilitate the carrying out of the functions described above.

Group Solvency and Group Supervision

The current supervision and solvency rules (together, "Group Rules") apply to the Regulatory Group so long as the BMA remains Sirius Group's group supervisor. Through the Group Rules, the BMA may take action which affects Sirius Group. Under the Group Rules, the Regulatory Group is required to annually prepare and submit to the BMA audited financial statements prepared in accordance with GAAP, statutory financial statements, an annual statutory financial return, a capital and solvency return, a Group Solvency Self-Assessment ("GSSA"), and a financial condition report. The GSSA assesses the quality and quantity of the capital required to adequately cover the risks to which the insurance group is exposed. In particular, the GSSA should, among other things, include consideration of the relationship between risk management, the quality and quantity of capital resources, the impact of risk mitigation techniques and diversification and correlation effects between material risks; describe the Regulatory Group's risk appetite; be forward-looking; include appropriate stress and scenario testing and appropriately reflect all assets and liabilities, material off-balance sheet arrangements, material intra-group transactions, relevant managerial practices, systems and controls and a valuation basis that is aligned with the risk characteristics and business model of the group. The Regulatory Group is also required to maintain available Group statutory economic capital and surplus in an amount that is at least equal to the ECR of the Regulatory Group ("Group ECR") and the BMA has established a group target capital level equal to 120% of Group ECR.

In addition, the Designated Insurer is required to file quarterly group financial returns for the Regulatory Group, ensure that the Regulatory Group appoints an individual approved by the BMA to be the group actuary and disclose the make of the Regulatory Group's capital in accordance with a 3-tiered eligible capital system. Under the eligible capital requirements, all of the Regulatory Group's capital instruments will be classified as either basic or ancillary capital which in turn will be classified into one of three tiers based on their "loss absorbency" characteristics. Highest quality capital will be classified Tier 1 Capital, lesser quality capital will be classified as either Tier 2 Capital or Tier 3 Capital. A minimum threshold of Tier 1 and maximum thresholds of Tier 2 and Tier 3 Capital used to satisfy the Regulatory Group MSM and Regulatory Group ECR requirements are specified under the rules.

Group Governance

The Group Rules require the Board of Directors of Sirius Group (the" Parent Board") to establish and effectively implement corporate governance policies and procedures, which must be periodically reviewed to ensure they continue to support the overall organizational strategy of the Regulatory Group. In particular, the Parent Board must:

- ensure that operational and oversight responsibilities of the group are clearly defined and documented and that the reporting of material deficiencies and fraudulent activities are transparent and devoid of conflicts of interest;
- establish systems for identifying on a risk-sensitive basis those policies and procedures that must be reviewed annually and those policies and procedures that must be reviewed at other regular intervals;
- establish a risk management and internal controls framework and ensure that it is assessed regularly and such assessment is reported to the Parent Board, the chief executive officer and senior executives;
- establish and maintain sound accounting and financial reporting procedures and practices for the Regulatory Group; and
- establish and keep under review group functions relating to actuarial, compliance, internal audit and risk management functions which must address certain specific requirements as set out in the Group Rules.

Certain Other Bermuda Law Considerations

Sirius Group is a Bermuda exempted company incorporated under the Companies Act. As a result, Sirius Group is required to comply with the provisions of the Companies Act regulating the payment of dividends and making of distributions from contributed surplus. Under Sirius Group's bye-laws, each common share is entitled to dividends if, and when, dividends are declared by the Parent Board, subject to any preferred dividend rights which may be held by the holders any preference shares. In addition, the Companies Act regulates return of capital, reduction of capital and any purchase or redemption of shares by Sirius Group.

Under Bermuda law, exempted companies are companies formed for the purpose of conducting business outside Bermuda from a principal place in Bermuda. As an exempted company, Sirius Group may not participate in certain business transactions, including the carrying on of business of any kind in Bermuda, except in furtherance of its business carried on outside Bermuda or under license granted by the Minister of Finance. Generally, it is not permitted without a special license granted by the Minister of Finance to insure Bermuda domestic risks or risks of persons of, in or based in Bermuda.

On January 1, 2019, the Economic Substance Act 2018 (the "ESA") came into effect in Bermuda. Under the provisions of the ESA, every Bermuda registered entity engaged in a "relevant activity" must satisfy economic substance requirements by maintaining a substantial economic presence in Bermuda. Carrying on as a business in either insurance or holding entity activities (both as defined in the ESA and Economic Substance Regulations 2018) are relevant activities under the ESA. Sirius Group's registered entities are required to demonstrate compliance with the ESA by filing an annual economic substance declaration with the Registrar of Companies in Bermuda.

U.S. Insurance Regulation

State-Based Regulation

Sirius Group's U.S.-based insurance and reinsurance operating subsidiaries are subject to regulation and supervision in each of the states where they are domiciled and where they are licensed to conduct business. Generally, state regulatory authorities have broad supervisory and administrative powers over such matters as licenses, standards of solvency, premium rates, policy forms, investments, statutory deposits, methods of accounting, form and content of financial statements, reserves for unpaid loss and loss adjustment expenses, reinsurance, minimum capital and surplus requirements, dividends and other distributions to shareholders, annual and other report filings and market conduct.

Sirius Group's U.S.-based insurance and reinsurance subsidiaries, and their respective domiciliary state regulators (the "Domiciliary States") are as follows:

- Sirius America Insurance Company (New York State Department of Financial Services);
- Empire Insurance Company (New York State Department of Financial Services);
- Cedar Insurance Company (New York State Department of Financial Services); and
- Oakwood Insurance Company (Tennessee Department of Commerce and Insurance).

State Accreditation and Monitoring

All state insurance regulatory bodies with jurisdiction over Sirius Group's U.S.-based insurance and reinsurance subsidiaries are accredited by the National Association of Insurance Commissioners ("NAIC"). Accredited states generally follow the model laws developed by the NAIC. However, there are jurisdictional differences that require reference to each state's insurance laws. States have laws establishing the standards that an insurer must meet to maintain its license to write business. In addition, all states, including the Domiciliary States, have enacted laws substantially similar to the NAIC's risk-based capital ("RBC") standards for property and casualty companies, which are designed to determine minimum capital requirements and to raise the level of protection that statutory surplus provides for policyholder obligations. The RBC formula for property and casualty insurance companies measures three major areas of risk: (1) underwriting, which encompasses the risk of adverse loss developments and inadequate pricing; (2) declines in asset values arising from market and/or credit risk; and (3) off-balance sheet risk arising from adverse experience from non-controlled assets, guarantees for affiliates or other contingent liabilities and excessive premium growth. RBC reports are provided annually to state regulators as part of an insurer's financial reporting requirements. Insurers having less total adjusted capital than that required by the RBC calculation will be subject to varying degrees of regulatory action, depending on the level of capital inadequacy. As of December 31, 2019, Sirius Group's U.S. domiciled subsidiaries exceeded all required RBC regulatory thresholds.

The NAIC has a set of financial relationship tests known as the Insurance Regulatory Information System to assist state insurance regulators in monitoring the financial condition of insurance companies and identifying companies that require special regulatory attention operating in their respective states. Insurance companies generally submit data annually to their domiciliary state regulator, which in turn analyzes the data using prescribed financial data ratios ("IRIS ratios"), each with defined "usual ranges". Generally, regulators will begin to investigate or monitor an insurance company if its IRIS ratios fall outside the usual ranges for four or more of the ratios. If an insurance company has insufficient capital, regulators may act to reduce the amount of insurance it can issue or, in severe situations, assume control of the company. None of Sirius Group's U.S.-based (re)insurance subsidiaries is currently subject to regulatory scrutiny based on their respective IRIS ratios.

Many states have laws and regulations that limit an insurer's ability to exit a market. Some states also limit canceling or non-renewing certain policies for specific reasons. State insurance laws and regulations include numerous provisions governing marketplace activities of insurers, including provisions governing marketing and sales practices, policyholder services, claims management and complaint handling. State regulatory authorities generally test and enforce these provisions through periodic market conduct examinations. These laws are applicable to certain types of primary insurance policies, but not applicable to reinsurance.

States have adopted laws modeled on the NAIC's Risk Management and Own Risk and Solvency Assessment Model Act ("ORSA Model Act") to strengthen the ability of regulators to understand and regulate the risk-management practices of insurers and insurance groups. The ORSA Model Act requires insurers meeting premium thresholds to: (1) maintain a risk-management framework; and (2) annually submit a comprehensive report ("ORSA Report") designed to assess the adequacy of an insurer's risk-management practices, including risks related to the insurer's future solvency position. Each of the Domiciliary States has substantially adopted the ORSA Model Act, and Sirius Group's U.S.-based (re)insurance subsidiaries are in compliance with the ORSA Model Act as adopted by the Domiciliary States.

Holding Company Regulation

As a holding company, Sirius Group is subject to the state insurance holding company statutes as well as certain other laws of each of the Domiciliary States. The insurance holding company statutes generally require an insurance holding company and insurers that are members of such holding company system to register with their domestic insurance regulators and to file certain reports with those authorities, including information concerning their capital structure, ownership, financial condition, certain intercompany transactions and general business operations.

The NAIC's amended Insurance Holding Company System Regulatory Model Act (the "Amended Holding Company Model Act"), addresses the concept of "enterprise risk" within an insurance holding company system and provides enhanced authority for states to regulate insurers as well as their affiliated entities and imposed more extensive informational requirements on parents and other affiliates of licensed insurers or reinsurers for the purpose of protecting licensed companies from enterprise risk. The Amended Holding Company Model Act requires the ultimate controlling person in an insurer's holding company structure to identify and annually report to state insurance regulators material risks within the structure that could pose enterprise risk to the insurer. Each of the Domiciliary States has substantially adopted the Amended Holding Company Model Act.

Acquisition of Control

Insurance holding company laws generally provide that no person or entity may acquire control of an insurance company, or a controlling interest in any parent company of an insurance company, without the prior approval of such insurance company's domiciliary state insurance regulator. Control is generally presumed to exist if any person acquires, directly or indirectly, 10% or more of the voting securities of an insurance company. This statutory presumption of control may be rebutted by showing that control does not exist in fact. Control may also be deemed to exist upon the possession of the power to direct or cause the direction of the management and policies of any person, whether through ownership of voting securities, by contract or otherwise.

To obtain approval of any acquisition of control, the proposed acquirer must file with the applicable insurance regulator an application disclosing, among other information, its background, financial condition, the financial condition of its affiliates, the source and amount of funds by which it will affect the acquisition, the criteria used in determining the nature and amount of consideration to be paid for the acquisition, proposed changes in the management and operations of the insurance company and other related matters. In considering an application to acquire control of an insurer, an insurance commissioner generally will consider such factors as the experience, competence and financial strength of the applicant, the integrity of the applicant's board of directors and executive officers, the acquirer's plans for the management and operation of the insurer, and any anti-competitive results that may arise from the acquisition. Regulations pertaining to an acquisition of control of an insurance company may impact a person or entity's ability to acquire Sirius Group, as well as Sirius Group's ability to acquire an insurance company.

Guaranty Funds and Mandatory Shared Market Mechanisms

All states within the U.S. and the District of Columbia have insurance guaranty fund laws requiring insurance companies doing business within those jurisdictions to participate in guaranty associations. Sirius Group's U.S.-based insurance and reinsurance subsidiaries may be required to participate in guaranty funds to help pay the obligations of impaired, insolvent or failed insurance companies to their policyholders and claimants. Such participation generally includes an assessment based on the premiums written by the insurer in such state applicable to particular lines of business.

Pricing, Investments and Dividends

Nearly all states have insurance laws requiring licensed property and casualty insurance companies to file their rates, rules and policy or coverage forms with the state's regulatory authority. In most cases, such rates, rules and forms must be approved prior to use. While pricing laws vary from state to state, their objectives are generally to ensure that rates are not excessive, unfairly discriminatory or used to engage in unfair price competition. The ability and timing of Sirius Group's U.S.-based (re)insurance subsidiaries to increase rates are dependent upon the regulatory requirements in each state where policies are sold.

Sirius Group's U.S.-based (re)insurance subsidiaries are subject to state laws and regulations that require investment portfolio diversification and that dictate the quality, quantity and general types of investments they may hold. Non-compliance may cause non-conforming investments to be non-admitted when measuring statutory surplus and, in some instances, may require divestiture. Sirius Group's investment/finance units continually monitor portfolio composition to ensure compliance with the investment rules applicable to each (re)insurance subsidiary.

Under the insurance laws of the Domiciliary States, an insurer is restricted with respect to the timing and the amount of dividends it may pay without prior approval by regulatory authorities. Under the current law of the State of Tennessee, where Oakwood Insurance Company ("Oakwood") is domiciled, an insurer has the ability, without the prior approval of the regulatory authority and subject to the availability of earned surplus, to pay dividends or make distributions which, together with dividends or distributions paid during the preceding twelve months, do not exceed the greater of (i) 10% of the insurer's surplus as regards policyholders as of the immediately preceding year end or (ii) the net income of the insurer (excluding realized capital gains) for the preceding twelve-month period ending as of the immediately preceding year end. Under the current law of the State of New York, where Sirius America, Empire Insurance Company ("Empire"), and Cedar Insurance Company ("Cedar") are domiciled, an insurer has the ability to pay dividends during any 12-month period without the prior approval of the regulatory authority in an amount set by a formula based on the lesser of adjusted net investment income, as defined by statute, or 10% of statutory surplus, in both cases as most recently reported to the regulatory authority, subject to the availability of earned surplus and subject to dividends paid in prior periods. The insurance laws and regulations of the Domiciliary States also require that an insurer's surplus as regards policyholders following any dividend or distribution be reasonable in relation to such insurer's outstanding liabilities and adequate to meet its financial needs.

Based upon these formulas, as of December 31, 2019, Sirius America and Empire have dividend capacity without prior approval of the applicable regulatory authority, while Oakwood and Cedar do not have dividend capacity without prior approval of the applicable regulatory authorities.

U.S. Federal Regulation Affecting the Insurance Industry

Sirius Group's U.S.-based insurance and reinsurance subsidiaries are not federally regulated, but they are impacted by other federal regulations targeted at the insurance and other industries. From time to time, federal measures are proposed that may significantly affect the insurance business, for example, the Terrorism Risk Insurance Act. The Terrorism Risk Insurance Act provides a federal backstop to all U.S.-based property and casualty insurers for insurance-related losses resulting from any act of terrorism on U.S. soil or against certain U.S. air carriers, vessels or foreign mission.

The federal government also has issued certain orders and regulations that require Sirius Group's U.S.-based (re)insurance subsidiaries to establish certain internal controls. Most significant of these regulations is the U.S. Treasury Department Office of Foreign Asset Control ("OFAC"). OFAC proscribes transactions with specially designated nationals ("SDNs") and blocked countries due to ties with matters such as terrorism, drugs and money laundering. Insurance and reinsurance transactions with SDNs and blocked countries are prohibited and violation can result in significant fines.

While the federal government does not directly regulate the insurance business, the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") made sweeping changes to the regulation of financial services entities, products and markets.

The Dodd-Frank Act established the Federal Insurance Office ("FIO") within the Treasury Department to monitor the insurance industry and certain lines of business. The FIO is designed principally to exercise a monitoring and information-gathering role, rather than a regulatory role. The director of the FIO has submitted reports to Congress regarding (i) how to modernize and improve the system of insurance regulation in the U.S., (ii) the impact of Part II of the Nonadmitted and Reinsurance Reform Act of 2010 and (iii) the global reinsurance market and the regulation of reinsurance. These activities could ultimately lead to changes in the regulation of certain insurers and reinsurers in the United States.

The Dodd-Frank Act also authorizes the FIO to assist the Treasury Department in negotiating covered agreements. A covered agreement is an agreement between the U.S. and one or more foreign governments, authorities or regulatory entities, regarding prudential measures with respect to insurance or reinsurance. The FIO is further charged with determining, in accordance with the procedures and standards established under the Dodd-Frank Act, whether state laws are preempted by a covered agreement. Pursuant to this authority, in September 2017, the U.S. and the European Union signed a covered agreement (the "Covered Agreement") to address, among other things, reinsurance collateral requirements. U.S. state regulators have 60 months, or five years, to adopt reinsurance reforms removing reinsurance collateral requirements for European Union reinsurers that meet the Covered Agreement's prescribed minimum conditions or else state laws imposing such reinsurance collateral requirements may be subject to federal preemption. On June 25, 2019, the NAIC Executive Committee and Plenary adopted revisions to the Credit for Reinsurance Model Law and Regulation ("Model Law and Regulation") which incorporate relevant provisions of the Covered Agreement. Individual states are now beginning a process of adopting the Model Law and Regulation. The reinsurance collateral provisions of the Covered Agreement may increase competition, in particular with respect to pricing for reinsurance transactions, by lowering the cost at which competitors are able to provide reinsurance to U.S. insurers.

Consumer Protection Laws and Privacy and Data Security Regulation

The NAIC has adopted an Insurance Data Security Model Law, which when adopted by the states, will require insurers and other related entities that are licensed under state insurance laws to comply with certain data and information security requirements, such as developing an information security program, conducting risk assessments and overseeing the data security practices of third-party vendors. In addition, certain federal and state laws and regulations require financial institutions, including insurers, to protect the security and confidentiality of nonpublic personal information, including certain health-related and customer information, and to notify customers and other individuals about their policies and practices relating to their collection and disclosure of health-related and customer information and their practices relating to protecting the security and confidentiality of such information. State laws regulate use and disclosure of social security numbers and federal and state laws require notice to affected individuals, law enforcement, regulators and others if there is a breach of the security of certain nonpublic personal information, including social security numbers.

Issues surrounding data security and the safeguarding of consumers' protected information are under increasing regulatory scrutiny by state and federal regulators, particularly in light of the number and severity of recent U.S. companies' data breaches. The Federal Trade Commission, the Federal Bureau of Investigation, the Federal Communications Commission, the New York State Department of Financial Services, and the NAIC have undertaken various studies, reports and actions regarding data security for entities under their respective supervision. Some states have recently enacted new insurance laws that require certain regulated entities to implement and maintain comprehensive information security programs to safeguard the personal information of insureds and enrollees. For example, New York requires financial institutions, including certain of Sirius Group's U.S.-based (re)insurance subsidiaries, to establish a cybersecurity program with specific technical safeguards and requirements regarding governance, incident planning, data management, system testing and regulator notification. In addition, the California Consumer Privacy Act of 2018, which took effect January 1, 2020, requires Sirius Group to comply with obligations to identify and secure personal data, among other requirements.

Sirius Group expects cybersecurity risk management, prioritization and reporting to continue to be an area of significant regulatory focus by such regulatory bodies and self-regulatory organizations.

European Insurance Regulation

Businesses that carry out insurance activities in Europe are subject to extensive insurance laws and regulations, including prudential requirements and requirements relating to the manner in which insurance activities are conducted. These laws and regulations are generally designed to protect the interests of policyholders, consumers and claimants, rather than investors.

Prudential regulation and supervision focuses on authorization, ownership and control, resourcing and capital adequacy, risk identification and management, and sound governance. Conduct regulation focuses on the manner in which an insurer or insurance intermediary conducts itself in relation to its interactions with customers. Businesses carrying out insurance activities are primarily regulated and supervised by government authorities within their home jurisdictions.

The regulatory framework promulgated under the Solvency II Directive 2009/138/EC, Commission Delegated Regulation (EU) 2015/35, a number of Commission Implementing Technical Standards and the European Insurance and Occupational Pensions Authority ("EIOPA") Guidelines (the "Solvency II Regulation") for insurance business provides a single set of key prudential requirements that apply to insurance and reinsurance businesses operating within the European Economic Area ("EEA"). It imposes economic risk-based solvency requirements across all member states. The aim of the Solvency II Regulation is to ensure that insurance and reinsurance undertakings are financially sound and can withstand adverse events in order to protect policyholders and the stability of the financial system as a whole. It also aims at the creation of a single market for insurance in the EEA with consistent regulatory requirements and harmonized supervision. The Solvency II Regulation is categorized into three 'pillars', covering quantitative requirements, such as capital requirements designed to ensure that sufficient and appropriate assets are held to cover insurance liabilities and risk exposure (Pillar 1), qualitative requirements relating to governance and risk-management (Pillar 2), and transparency obligations requiring disclosure of extensive information to supervisors and to the public (Pillar 3).

The Solvency II Regulation requirements in respect of insurance groups include group solvency and capital requirements, group disclosure and supervisory reporting, and undertaking a group own risk and solvency assessment. The Bermuda commercial insurance regulatory regime has been approved by the European Commission as being Solvency II equivalent. Therefore, the Solvency II group requirements are capped at the highest European entity, Sirius International UK Holdings Ltd. ("SIUK"). Accordingly, the Swedish Financial Supervisory Authority (the "SFSA") is the group supervisor for the SIUK group, and the BMA has been designated as the group supervisor for the Sirius Group-level and below. As a consequence of the U.K. withdrawal from the European Union, Sirius Group is preparing for the Solvency II Regulation group requirements to apply to another of its subsidiary holding companies within the European group which is located in Luxembourg.

In addition to the Solvency II Regulation, there are a number of pan-European rules and regulations in relation to the distribution of insurance in the EEA. The Insurance Distribution Directive (EU/2016/97) (the "IDD") was implemented in all EEA states by October 1, 2018. The IDD applies to all distributors of insurance and reinsurance products (including insurers and reinsurers selling directly to customers) and intends to strengthen the regulatory regime applicable to distribution activities through increased transparency, information and conduct requirements.

The General Data Protection Regulation (EU 2016/679) ("GDPR") became effective on May 25, 2018. The GDPR is intended to harmonize data protection procedures and enforcement across the EU and achieve consistency with the system for ensuring privacy online and it is directly applicable to data controllers and data processors in all member states. Many of the provisions of the GDPR will have a significant impact on data controllers and processors who are active within the EEA, and those who are located outside it, including Sirius Group. The penalties for breach of GDPR and IDD are substantial.

Sweden Insurance Regulation

Sirius International is subject to regulation and supervision by the SFSA. As Sweden is a member of the EU, the SFSA supervision of branches is recognized across all locations within the EU (apart from customer conduct that is regulated and supervised locally across the EU). The SFSA has broad supervisory and administrative powers over such matters as licenses, governance and internal control, standards of solvency, investments, methods of accounting, form and content of financial statements, minimum capital and surplus requirements, and annual and other report filings. Non-compliance can be sanctioned by warnings, fees or withdrawal of license.

The Solvency II Regulation is implemented in Sweden primarily through the Swedish Insurance Business Act (Sw. *försäkringsrörelselag (2010:2043)*) (the "IBA"), the measures set out in the Commission Delegated Regulation (EU) 2015/35 and the Commission Implementing Technical Standards and have direct effect in Sweden. The IBA, the Commission Delegated Regulation (EU) 2015/35 and the Commission Implementing Technical Standards constitute the main legal framework applicable to insurance business in Sweden. In addition, the SFSA and EIOPA issues regulations and general guidelines. Supplementary company law for most insurance companies is provided in the Swedish Companies Act (Sw. *aktiebolagslagen (2005:551)*).

Insurance companies are obliged to provide, on an ongoing basis, information about their financial status, and the SFSA may conduct on-site inspections and review the operations at any time. In addition to what is required under the Solvency II Regulation, Swedish insurance companies must conduct the business in accordance with "generally accepted insurance practices".

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 Group's financial strength.

As of December 31, 2019, Sirius International's Safety Reserve amounted to SEK 10.2 billion, or \$1.1 billion (based on the December 31, 2019 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 (\$226 million based on the December 31, 2019 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 enacted in Sweden in June 2018, the tax rate applicable to Swedish corporations decreased to 21.4% effective as of January 1, 2019, and then will further reduce 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 2019 is SEK 11 million, or \$1 million (based on the December 31, 2019 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, 2019, Sirius International has recorded an additional deferred tax liability as of December 31, 2019 in the amount of SEK 131 million, or \$14 million (based on the December 31, 2019 SEK to USD exchange rate).

Change of Control

The acquisition of a "qualifying holding" directly or indirectly in Sirius International requires approval from the SFSA prior to completion. "Qualifying holding" means:

- a direct or indirect ownership in an undertaking, where the holding represents 10% or more of the equity capital or of all voting participating interests; or
- the ability to exercise a significant influence over the management of the undertaking (e.g. possible shareholder agreements which might have an impact on the influence over the undertaking)

In addition, approval from the SFSA must be obtained when the holding is increased so that the holding represents or exceeds 20%, 30% or 50% of the equity capital or of all voting participating interests, or when the company becomes a subsidiary. The same is valid if there is a decrease. When certain persons or companies act in concert, their holdings are aggregated to determine whether such persons or companies acquire a qualifying holding or cross any relevant threshold.

The SFSA assesses the suitability of the acquirer and will generally grant authorization if, among other things, the acquisition is found to be financially sound. The SFSA will also assess the acquirer's reputation, financial standing and possible links to money laundering and financing of terrorism. The ownership assessment also encompasses a suitability assessment of the management of all legal persons' acquiring a qualifying holding in Sirius International.

United Kingdom Insurance Regulation

The financial services industry in the United Kingdom is currently dual-regulated by the Financial Conduct Authority (the "FCA") and the Prudential Regulation Authority (the "PRA") (collectively, the "U.K. Regulators"). Prudential regulation and supervision of insurance undertakings is carried out by the PRA and the regulation and supervision of conduct matters is carried out by the FCA. All insurers and Lloyd's managing agents are regulated by both the PRA and the FCA, while businesses that only carry on insurance intermediary activities are solely regulated by the FCA for both prudential and conduct matters. The Financial Policy Committee (which is within the Bank of England) is responsible for the overall prudential regulation of the financial services industry.

There remains some considerable uncertainty as to the legal and regulatory landscape that will exist in respect of the U.K. insurance regulatory regime and the future approach U.K. legislation and regulation may take following the U.K.'s anticipated transition from the EU in 2020 and as to the terms of any transitional agreement that may be entered into between the U.K. and EU.

Sirius Group's U.K.-based authorized insurance subsidiaries are as follows:

- Sirius International Managing Agency Limited, a Lloyd's managing agent that is dual-regulated by the PRA and FCA and supervised by Lloyd's; and
- A La Carte Healthcare Limited and IMG Europe Limited, both insurance intermediaries regulated by the FCA.

Sirius International Insurance Corporation also operates in the U.K. under an EEA branch passporting license and one company within Sirius Group, Sirius International Corporate Member Limited ("Sirius International Corporate Member"), is a corporate member of Lloyd's.

PRA and FCA regulation

The primary statutory objectives of the PRA in relation to its supervision of insurers are (i) to promote their safety and soundness; and (ii) to contribute to the securing of an appropriate degree of protection for policyholders or those who may become policyholders. As conduct regulator, the FCA also acts to protect policyholders but the FCA's focus is to ensure that consumers are treated fairly when dealing with insurers and insurance intermediaries while the PRA's focus is to ensure that policyholders have appropriate protection in respect of the cover for the risks that they are insured against.

The U.K. Regulators have extensive powers to intervene in the affairs of the insurance businesses that they regulate and to monitor compliance with their objectives, including amending (including by imposing limitations on) or withdrawing a firm's authorization, prohibiting individuals from carrying on regulated activities, suspending firms or individuals from undertaking regulated activities and fining or requiring compensation from firms and individuals who breach their rules.

Businesses carrying out insurance activities in the U.K. must not only comply with the PRA's requirements (as set out in the PRA Rulebook) and the FCA's requirements (as set out in the FCA Handbook) but also a wide range of U.K. insurance legislation. The most notable of such legislation is the Financial Services and Markets Act 2000 ("FSMA"), which includes the requirements for becoming authorized to carry out regulated insurance activities, regulated and prohibited activities of an insurance company, the approval process for the acquisition or disposal of control of insurance companies, rules on financial promotions, transfers of insurance portfolios and market abuse provisions. This is complemented by a range of statutory instruments on certain subjects, for example the authorization or exemption process. In addition, U.K. companies carrying out insurance activities must comply with general legislation, such as the U.K. Companies Act 2006.

Lloyd's regulation

As well as regulating insurers and insurance intermediaries, the U.K. Regulators also regulate 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 ("Lloyd's Act") 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. The PRA and the FCA can give directions to Lloyd's in order to advance their statutory objectives.

The governing body of the Lloyd's market is the Council of Lloyd's (the "Council"). The Council is responsible for the supervision and management of the Lloyd's market and it has the power to regulate and direct the business of the market. The Lloyd's Acts, byelaws, requirements made under byelaws, minimum standards, guidance, codes of conduct and bulletins issued by or under the authority of the Council together contain the powers and requirements that apply in respect of businesses operating in the Lloyd's market. In addition, Lloyd's prescribes, in respect of its managing agents and corporate and individual members ("Members"), certain minimum standards relating to their management and control, financial resources and various other requirements. In addition, as dual-regulated firms, managing agents must comply with the relevant parts of the PRA Rulebook and the FCA Handbook (including FCA capital resources requirements). Sirius Group participates in the Lloyd's market through the 100% ownership of Sirius International Corporate Member, which is the sole member of Syndicate 1945. Syndicate 1945 commenced underwriting on July 1, 2011 and is managed by another wholly-owned subsidiary within Sirius Group, Sirius International Managing Agency. Lloyd's approved stamp capacity for Syndicate 1945 in 2020 is £91 million, or approximately \$120 million (based on the December 31, 2019 GBP to USD exchange rate). Stamp capacity is a measure of the amount of net premium (gross premiums written less acquisition costs) that a syndicate is authorized by Lloyd's to write.

Sirius International Corporate Member, as a Member of Lloyds, is required to contribute 0.35% of Syndicate 1945's premium income limit for each year of account to the Lloyd's Central Fund ("Central Fund"). If a Member is unable to pay its obligations to policyholders, such obligations may be payable by the Central Fund. If Lloyd's determines that the Central Fund needs to be increased, it may levy premiums on current Members. The Council of Lloyd's has discretion to call upon up to 3% of a Member's underwriting capacity in any one year as a Central Fund contribution.

The underwriting capacity of a Member must be supported by providing a deposit in the form of cash, securities, letters of credit or guarantees ("Funds at Lloyd's") in an amount to be determined pursuant to the Members' capital requirements set by Lloyd's.

The amounts of capital required by Lloyd's to be maintained in the form of Funds at Lloyd's to support the activities of the Members of a syndicate is determined by a combination of the managing agent's assessment of capital requirements for the syndicate, and review and challenge by Lloyd's. The managing agent's assessment of capital requirements for the syndicate determines its view of the Solvency Capital Requirement ("SCR"); this represents the capital needed to support the syndicate, based on modeling individual syndicate robustness against the risk environment in which the syndicate operates. Lloyd's may or may not approve the level of SCR as submitted by the managing agent and has the authority to require the SCR to be increased. The approved or amended SCR is then uplifted by an economic capital margin (currently a flat 35% for all syndicates) to produce an amount of syndicate capital known as the economic capital assessment ("ECA"). The level of the ECA is set to ensure that Lloyd's overall aggregate capital is maintained at a level necessary to retain its desired rating, as well as to meet the requirements of the U.K. Regulators. Any failure to comply with these requirements may affect the amount of business which the syndicate may underwrite and/or could result in sanctions being imposed by Lloyd's and/or the U.K. Regulators. The process and the method by which the required capital is calculated may alter from year to year and may affect the level of participation of Members in a particular syndicate.

In addition to a Member's Funds at Lloyd's, at a syndicate level insurance premiums are held in a premium trust fund for the benefit of policyholders whose contracts are underwritten by the syndicate and these funds are the first resources used to pay claims made by policyholders of that syndicate.

Lloyd's has wide discretionary powers to regulate a Member's underwriting. All syndicates at Lloyd's must also submit their business plans to Lloyd's for approval and amendments or restrictions may be applied to proposed business plans or, in extreme circumstances, approval may be refused which would lead to that syndicate ceasing to underwrite for the following year of account.

Change of Control

The change of control requirements in the U.K. are similar to the Swedish regulatory requirements. Prior regulatory consent is required before a person (alone or together with any associates) can acquire direct or indirect control over a U.K. authorized firm. The change of control requirements apply whether such change of control results from an external acquisition or an internal restructuring resulting in a new controller. For U.K. authorized insurance intermediaries, the control threshold percentages are amended such that there is a single 20% threshold where prior regulatory consent is required. In relation to the acquisition or increase of direct or indirect control over a Lloyd's managing agent or Lloyd's corporate member, such as Sirius International Managing Agency Limited and Sirius International Corporate Member Limited respectively, prior approval is also required from Lloyd's. Prior approval is also required where a person (together with any associates) increases its holding of shares or voting power from (i) less than 20% to 20% or more, (ii) less than 30% to 30% or more, and (iii) less than 50% to 50% or more.

Ratings

Ratings by independent agencies are an important factor in establishing the competitive position of insurance and reinsurance companies and are important to Sirius Group's ability to market and sell its products and services. Rating organizations continually review the financial positions of reinsurers and insurers, including Sirius Group. Sirius Group's insurance and reinsurance operating subsidiaries are rated as follows:

	A.M. Best ⁽¹⁾	Fitch ⁽²⁾	Standard & Poor's ⁽³⁾
Rating	"A-" (Excellent)	"A-" (Strong)	"A-" (Strong)
Outlook	Negative	Negative	Negative

⁽¹⁾"A-" is the fourth highest of 16 financial strength ratings assigned by A.M. Best, as last updated March 4, 2020.

⁽²⁾"A-" is the seventh highest of 22 financial strength ratings assigned by Fitch, as last updated December 12, 2019.

⁽³⁾"A-" is the seventh highest of 21 financial strength ratings assigned by Standard & Poor's, as last updated March 3, 2020.

These ratings reflect A.M. Best's, Fitch's and Standard & Poor's respective opinions of the ability of Sirius Group to pay claims and are not evaluations directed to security holders. A.M. Best maintains a letter-scale rating system ranging from "A++" (Superior) to "F" (in liquidation). Fitch maintains a letter-scale rating system ranging from "AAA" (Exceptionally Strong) to "D" (Distressed). Standard & Poor's maintains a letter-scale rating system ranging from "AAA" (Extremely Strong) to "D" (Default).

These ratings are subject to periodic review by, and may be revised downward or revoked at the sole discretion of the rating agencies.

Employees

As of December 31, 2019, Sirius Group had 1,076 employees. Sirius Group believes its relationships with employees are satisfactory.

Status as a Foreign Private Issuer and Controlled Company

Sirius Group is considered a "foreign private issuer" under the rules and regulations of the SEC. A "foreign private issuer" is any issuer incorporated or organized under the laws of a foreign country, except an issuer meeting both of the following conditions: (i) more than 50% of the outstanding voting securities of the issuer are directly or indirectly held of record by residents of the U.S.; and (ii) any one of the following: (a) the majority of the executive officers or directors of the issuer are U.S. citizens or residents; (b) more than 50% of the assets of the issuer are located in the U.S.; or (c) the business of the issuer is administered principally in the U.S. Pursuant to the "foreign private issuer" rules, Sirius Group is exempt from certain provisions of the Exchange Act applicable to U.S. domestic public companies, including: (1) the sections of the Exchange Act regulating the solicitations of proxies, consents or authorizations in respect of a security registered under the Exchange Act; (2) the sections of the Exchange Act requiring insiders to file public reports of their stock ownership and trading activities and liability for insiders who profit from trades made in a short period of time; and (3) the rules under the Exchange Act requiring the filing with the SEC of quarterly reports on Form 10-Q containing unaudited financial and other specific information, or current reports on Form 8-K, upon the occurrence of specified significant events.

In addition, Sirius Group is a "controlled company" within the meaning of Nasdaq rules. A "controlled company" is a company of which more than 50% of the voting power is held by an individual, group or another company. Pursuant to the "controlled company" exemption, Sirius Group is not required to comply with the requirements that: (1) a majority of the Board consist of independent directors; (2) it have a nominating committee composed entirely of independent directors with a written charter addressing such committee's purpose and responsibilities and (3) it have a compensation committee that is composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities.

Sirius Group does not currently rely on the scaled disclosure practices permitted by the SEC or the alternate governance practices permitted by Nasdaq applicable to foreign private issuers and/or controlled companies, and is voluntarily choosing to register and report using the SEC's domestic forms and comply with the Nasdaq governance practices applicable to domestic companies. However, there is no assurance that Sirius Group will not rely on these exemptions in the future. If Sirius Group were to utilize some or all of these exemptions, shareholders may not have the same protections or level of disclosure afforded to shareholders of companies that are subject to all of the SEC and Nasdaq rules regarding corporate governance and disclosure.

Available Information

Our Internet website address is <https://www.siriusgroup.com>. From time to time, we may make available on our website certain financial information of our operating subsidiaries. We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and file or furnish reports, proxy statements, and other information with the U.S. Securities and Exchange Commission ("SEC"), including Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. Such reports and other information filed by the Company with the SEC are available free of charge on our website at ir.siriusgroup.com as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The SEC maintains an Internet site that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC at www.sec.gov. The contents of the websites referred to above are not incorporated herein.

Item 1A. Risk Factors

You should carefully consider the following risk factors, in addition to the other information included in this Annual Report on Form 10-K, including matters addressed in the section entitled "Cautionary Statement Regarding Forward-Looking Statements" and the financial statements and notes to the financial statements included herein. Sirius Group may face additional risks and uncertainties that are not presently known to us, or that Sirius Group currently deems immaterial, which may also impair our business.

Risks Related to Sirius Group's Business and Industry

Sirius Group is exposed to unpredictable catastrophic events that could adversely affect its results of operations and financial condition.

Sirius Group writes reinsurance contracts and insurance policies that cover unpredictable catastrophic events. Covered unpredictable catastrophic events, predominantly in its property catastrophe excess line of business, include natural perils and other disasters, such as hurricanes, windstorms, earthquakes, floods, wildfires and severe winter weather. Catastrophes can also include terrorist attacks, explosions and infrastructure failures. Sirius Group has significant exposure to a potential major earthquake or series of earthquakes in California, the Midwestern United States, Canada, Japan and Latin America and to windstorm damage in Northern Europe, the Northeast United States, the United States Atlantic Coast (i.e., Massachusetts to Florida) and the United States Gulf Coast (i.e., Florida to Texas) regions and Japan.

Similar exposures to losses caused by the same types of catastrophic events occur in other lines of business such as marine, aviation, contingency, casualty, trade credit and accident and health (including trip cancellation), including pandemic risk. Pandemic risk is the increase in mortality or morbidity over an annual period associated with a rapidly spreading virus (either within a highly populated geographic area or on a global basis) with a high mortality or morbidity rate. Sirius Group could experience risk of loss due to potential claims for cover of high mortality virus and infectious disease, such as the coronavirus. It could experience loss in certain lines of business, including its property (re)insurance due to business interruption if a pandemic spreads and supply chains are globally disrupted. As a result of a pandemic, Sirius Group could also experience losses in its trade credit line of business if businesses become insolvent due to the decrease in economic activity, and losses in its investment portfolio as a result of volatile markets. Sirius Group's catastrophe losses, net of reinsurance and reinstatement premiums, were \$194 million, \$194 million, and \$259 million for the years ended December 31, 2019, 2018, and 2017, respectively.

The extent of catastrophe losses is a function of both the severity of the event and total amount of insured exposure affected by the event. Increases in the value and concentration of insured property or insured individuals, the effects of inflation, changes in weather patterns, such as climate change, and increased terrorism could increase the future frequency and/or severity of claims from catastrophic events. Claims from catastrophic events could materially adversely affect Sirius Group's results of operations and financial condition. Sirius Group's ability to write new reinsurance contracts and insurance policies could also be impacted as a result of corresponding reductions in Sirius Group's capital levels.

Although Sirius Group attempts to manage its exposure to such events through a multitude of approaches, including geographic diversification, geographic limits, individual policy limits, exclusions or limitations from coverage, purchase of reinsurance and expansion of supportive collateralized capacity, the availability of these management tools may be dependent on market factors and, to the extent available, may not respond in the way that is expected. For instance, Sirius Group seeks to manage its exposure to catastrophe losses by limiting the aggregate insured value of policies in geographic areas with exposure to catastrophic events by estimating PML for many different catastrophe scenarios and by buying reinsurance, including retrocession coverage. To manage and analyze aggregate insured values and PML, Sirius Group uses a variety of tools, including external and internal catastrophe modeling software packages. Estimates of PMLs are dependent on many variables, including assumptions about demand surge and storm surge, loss adjustment expenses, insurance-to-value for the underlying properties, the relationship of the actual event parameters to the modelled event and the quality of portfolio data provided to Sirius Group by ceding companies (in the case of Sirius Group's reinsurance operations). Accordingly, if these assumptions about the variables are incorrect, the losses Sirius Group might incur from an actual catastrophe could be materially higher than its expectation of losses generated from modelled catastrophe scenarios which could materially adversely affect Sirius Group's financial condition, liquidity or results of operations.

Given the inherent uncertainty of models, the usefulness of such models as a tool to evaluate risk is subject to a high degree of uncertainty that could result in actual losses that are materially different than Sirius Group's estimates including PMLs, and Sirius Group's financial results may be adversely impacted, perhaps significantly.

Sirius Group uses third-party vendor and proprietary analytic and modeling capabilities, including global property catastrophe models, which consolidates and reports on all its worldwide property exposures, to calculate expected PML from various property natural catastrophe scenarios. Sirius Group uses these models and software to help it control risk accumulation, inform management and other stakeholders of capital requirements and to improve the risk/return profile in Sirius Group's overall portfolio of reinsurance contracts. However, given the inherent uncertainty of modeling techniques and the application of such techniques, these models and databases may not accurately address a variety of matters impacting Sirius Group's coverages.

For example, catastrophe modeling is dependent upon several broad economic and scientific assumptions, such as storm surge (the water that is pushed toward the shore by the force of a windstorm), demand surge (the localized increase in prices of goods and services that often follows a catastrophe) and zone density (the percentage of insured perils that would be affected in a region by a catastrophe). Third-party modeling software also does not provide information for all territories or perils for which Sirius Group writes business. Catastrophe modeling is inherently uncertain due to process risk (i.e., the probability and magnitude of the underlying event) and parameter risk (i.e., the probability of making inaccurate model assumptions).

The inherent uncertainties underlying, or the incorrect usage or misunderstanding of these tools may lead to unanticipated exposure to risks relating to certain perils or geographic regions which could have a material adverse effect on Sirius Group's business, prospects, financial condition or results of operations.

Sirius Group's loss and LAE reserves may be inadequate to cover its ultimate liability for losses and as a result its financial results could be adversely affected.

Sirius Group must maintain reserves adequate to cover its estimated ultimate liabilities for LAE. Loss and LAE reserves are typically comprised of (i) case reserves for claims reported ("case reserves") and (ii) incurred but not reported ("IBNR") reserves for losses that have occurred but for which claims have not yet been reported and for expected future development on case reserves. These reserves are estimates of what the settlement and administration of claims will cost based on facts and circumstances then known to Sirius Group. These estimates involve actuarial and claims assessments, and require Sirius Group to make a number of assumptions about future events that are subject to unexpected changes and are beyond its control, such as future trends in claim severity, frequency, inflation, legislative and judicial changes and other factors.

Because of uncertainties associated with estimating ultimate loss and LAE reserves, we are unable to guarantee that Sirius Group's reserves are adequate. In the event that Sirius Group's reserves become insufficient to cover its actual losses and LAE, Sirius Group may need to add to its reserves, which could have a material adverse effect on Sirius Group's results of operations and financial condition.

In addition, Sirius Group reserves for losses and LAE include an estimate of Sirius Group's ultimate liability for natural catastrophe events, and asbestos and environmental claims for which Sirius Group cannot estimate the ultimate value using traditional reserving techniques, and for which there are significant uncertainties in estimating the amount of Sirius Group's potential losses.

Sirius Group is reliant on financial strength and creditworthiness ratings, and any downgrade or withdrawal of ratings and/or change in outlook may have a material adverse effect on Sirius Group's business, prospects, financial condition and results from operations.

Third-party rating agencies assess and rate the financial strength, including claims-paying ability, of insurers and reinsurers. These ratings are based upon criteria established by the rating agencies and are subject to revision at any time at the sole discretion of the agencies. Some of the criteria relate to general economic conditions and other circumstances outside of the rated company's control. These financial strength ratings are used by policyholders, agents and brokers to assess the suitability of insurers and reinsurers as business counterparties and are an important factor in establishing the competitive position of insurance and reinsurance companies.

The maintenance of an "A-" or better financial strength rating from A.M. Best and/or Standard & Poor's is particularly important to the ability of Sirius Group's operating (re)insurance subsidiaries to bind property and casualty insurance and reinsurance business in most markets. In addition, general creditworthiness ratings are used by existing or potential investors to assess the likelihood of repayment on a particular debt issue. Accordingly, the maintenance of an investment grade creditworthiness rating (e.g., "BBB-" or better from Standard & Poor's or Fitch Ratings) is important to Sirius Group's ability to raise new debt with acceptable terms. Strong creditworthiness ratings are important factors that provide better financial flexibility when issuing new debt or restructuring existing debt.

Rating agencies periodically evaluate Sirius Group to confirm that it continues to meet the criteria of the ratings previously assigned to Sirius Group. A downgrade, withdrawal or negative watch/outlook of the financial strength rating of Sirius Group's operating (re)insurance companies could severely limit or prevent Sirius Group from writing new policies or renewing existing policies, which could have a material adverse effect on Sirius Group's results of operations and financial condition. A downgrade, withdrawal or negative watch/outlook of Sirius Group's creditworthiness ratings could limit its ability to raise new debt or could make new debt more costly and/or have more restrictive conditions. Additionally, some of Sirius Group's assumed reinsurance contracts contain optional cancellation, commutation and/or funding provisions that would be triggered if A.M. Best and/or Standard & Poor's were to downgrade below "A-" or withdraw the financial strength ratings of Sirius Group's principal (re)insurance operating subsidiaries. A client may choose to exercise these rights depending on, among other things, the reasons for such a downgrade, the extent of the downgrade, the prevailing market conditions, the degree of unexpired coverage, and the pricing and availability of replacement reinsurance coverage. Sirius Group cannot predict in advance how many of its clients would actually exercise such rights in the event of such a downgrade or withdrawal, but widespread exercise of these options could be materially adverse.

Currently, Sirius Group's and its main subsidiaries' have financial strength ratings of "A-" (Strong) with negative implications from Standard & Poor's, "A-" (Strong) with a negative outlook from Fitch, and "A-" (Excellent) with negative implications from A.M. Best. Our ratings are subject to periodic review by these agencies and we can offer no assurances that our ratings will remain at their current levels or that any of our ratings will remain unchanged. Liquidity events at CMIG, such as the CMIG Defaults and other concerns with respect to our controlling shareholder, including its lack of financial transparency, have prompted rating agencies to place a negative outlook on Sirius Group's ratings, and other events outside of Sirius Group's control, such as actions taken by CMIG's creditors and other parties in interest, may in the future prompt ratings agencies to take additional actions to downgrade and/or place a negative watch/outlook on Sirius Group's ratings. For example, during the fourth quarter 2019, Fitch revised Sirius Group's outlook from stable to negative. The negative outlook and financial strength rating reflected Fitch's concerns regarding the deterioration of Sirius Group's recent operating performance and a one-notch lower adjustment due to CMIG's majority ownership. In addition, during the first quarter 2020, Sirius Group's ratings were downgraded by A.M. Best from a financial strength rating of "A" (Excellent) with stable outlook to "A-" (Excellent) under review with negative implications and Standard & Poor's placed Sirius Group on credit watch negative. Standard & Poor's and A.M. Best's ratings actions were taken following a written resolution executed by CM Bermuda Ltd., the Company's controlling shareholder, on February 25, 2020 which may prohibit Sirius Group's Board of Directors from issuing any shares without CM Bermuda Ltd.'s prior approval. A.M. Best's ratings downgrade reflects the negative impact of Sirius Group's association with CMIG and A.M. Best's concern that CMIG, with a credit quality significantly weaker than Sirius Group, could exert control over Sirius Group despite the presence of a sufficiently strong governance structure and independent board. Standard & Poor's noted that it placed Sirius Group on credit watch negative due to its concerns that there appeared to be a divergence of views between Sirius Group's management and CMIG over the group's future capital strategy. It also noted that the worsening of the dispute between Sirius Group and CMIG could impact the assessment of the group's governance possibly leading to the determination that the Board was no longer Sirius Group's final decision making authority. Standard & Poor's also viewed CMIG's creditworthiness to be significantly weaker than Sirius Group. If the rating agencies were to perceive Sirius Group's safeguard mechanisms as insufficient, or should they determine that CMIG exercises control over Sirius Group's operations, further negative rating action will likely occur, which could include a downgrade or withdrawal of Sirius Group's ratings, and any such action taken by the ratings agencies would have a material adverse effect on Sirius Group's business (including, without limitation, loss of premium), prospects, financial condition and results from operations.

Sirius Group's investment portfolio may suffer reduced returns or losses, which could adversely affect Sirius Group's results of operations and financial condition. Adverse changes in interest rates, foreign currency exchange rates, equity markets, debt markets or market volatility could result in significant losses to the fair value of Sirius Group's investment portfolio.

Sirius Group's investment portfolio is overseen in accordance with the investment policy and guidelines approved by the Finance Committee of the Sirius Group board of directors. As of December 31, 2019, Sirius Group's investment portfolio consisted of fixed maturity investments (including U.S. and foreign government bonds, corporate debt, mortgage-backed, asset-backed and other fixed-maturity securities), short-term investments, equity securities, convertibles and other long-term investments, including hedge funds and private equity funds.

Sirius Group invests to maximize long-term total returns (after-tax) while taking prudent levels of risk and maintaining a diversified portfolio subject to its investment guidelines, policy and various regulatory restrictions. However, investing entails substantial risks. Sirius Group may not achieve its investment objectives, and investment performance may vary substantially over time. Investment returns are an important part of Sirius Group's strategy to grow, and fluctuations in the fixed-income or equity markets could impair Sirius Group's results of operations and financial condition.

Both Sirius Group's investment income and the fair market value of its investment portfolio are affected by general economic and market conditions, including fluctuations in interest rates, foreign currency exchange rates, debt market levels, equity market levels and market volatility.

Interest rates are highly sensitive to many factors, including governmental monetary policies, domestic and international economic and political conditions and other factors beyond Sirius Group's control. In particular, a significant increase in interest rates could result in significant losses in the fair value of Sirius Group's investment portfolio. In addition, certain fixed-income securities, such as mortgage-backed and asset backed securities, carry prepayment risk or, in a rising interest rate environment, may not pre-pay as quickly as expected. Conversely, in a low interest rate environment, Sirius Group may be forced to reinvest proceeds from investments that have matured or have been prepaid or sold at lower yields, which will reduce Sirius Group's investment returns. Additionally, a change in interest rates could adversely affect Sirius Group's results of operations and financial condition.

The table below summarizes the estimated effects of hypothetical increases and decreases in market interest rates on Sirius Group's fixed maturity investments. The size of interest rate decreases presented may be limited in order to floor interest rates at a de minimis level.

	Fair Value at December 31, 2019	Assumed Change in Relevant Interest Rate	Estimated Fair Value After Change in Interest Rate	Pre-Tax Increase (Decrease) in Carrying Value
Fixed maturity investments	\$ 1,681.0	300 bp decrease	\$ 1,764.6	\$ 83.6
		200 bp decrease	1,748.5	67.5
		100 bp decrease	1,716.8	35.8
		50 bp decrease	1,700.1	19.1
		50 bp increase	1,661.1	(19.9)
		100 bp increase	1,641.1	(39.9)
		200 bp increase	1,601.2	(79.8)
		300 bp increase	1,561.2	(119.8)

Sirius Group's investment portfolio is also exposed to investment credit risk, which is the risk that the value of certain investments may decrease due to a deterioration in the financial condition, operating performance or business prospects of, or the liquidity available to, one or more issuers of those securities or, in the case of mortgaged-back and other asset-backed securities, due to the deterioration of the loans or other assets that underlie the securities. Mortgage-backed securities are particularly sensitive to changes in U.S. economic conditions, including deterioration of the U.S. housing market and unemployment, among other factors.

Sirius Group is also exposed to changes in equity markets. A significant decline in the equity markets, such as that experienced from September 2008 to March 2009, could have a material adverse effect on Sirius Group's results of operations and financial condition. Assuming a hypothetical 10% and 30% increase or decrease in the value of Sirius Group's equity securities and other long-term investments as of December 31, 2019, the carrying value of Sirius Group's equity securities and other long-term investments would have increased or decreased by approximately \$75 million and \$226 million pre-tax, respectively.

Since a portion of Sirius Group's investment portfolio is invested in securities denominated in currencies other than the U.S. dollar, the value of Sirius Group's portfolio is sensitive to changes in foreign currency rates. Sirius Group is also exposed to changes in the volatility levels of various investment markets. The underlying conditions prompting such changes are outside of Sirius Group's control and could adversely affect the value of Sirius Group's investments and results of operations and financial condition.

A portion of Sirius Group's investment portfolio is invested in securities indexed based on the London Interbank Offered Rate ("LIBOR"). On July 27, 2017, the U.K. Financial Conduct Authority announced that it will no longer persuade or compel banks to submit rates for the calculation of LIBOR after 2021, which is expected to result in these widely used reference rates no longer being available. At this time, it is not possible to predict the effect of any such changes, any establishment of alternative reference rates or any other reforms to LIBOR that may be enacted in the U.K. or elsewhere. Uncertainty as to the nature of such potential changes, alternative reference rates or other reforms may adversely affect the trading market for LIBOR-based securities, including those held in our investment portfolio. For discussion regarding changes to LIBOR, see "Changes in the method for determining LIBOR and the potential replacement of LIBOR may affect our cost of capital and net investment income" below.

Changes in the method for determining LIBOR and the potential replacement of LIBOR may affect our cost of capital and net investment income.

As a result of concerns about the accuracy of the calculation of LIBOR, a number of British Bankers Association ("BBA") member banks entered into settlements with certain regulators and law enforcement agencies with respect to the alleged manipulation of LIBOR. Actions by the BBA, regulators or law enforcement agencies as a result of these or future events may result in changes to the manner in which LIBOR is determined. Potential changes or uncertainty related to such potential changes, alternative reference rates or other reforms may adversely affect the market for LIBOR-based securities, including certain of our LIBOR-based assets and liabilities. More generally, any of the above changes or any other consequential changes to LIBOR or any other "benchmark" as a result of international, national or other proposals for reform or other "initiatives" or "investigations" or any other further uncertainty in relation to timing and manner of implementation of such changes, could have a material adverse effect on the value of return on any securities based on or linked to a "benchmark" such as certain of our LIBOR-based assets and liabilities. If LIBOR ceases to exist, we may need to renegotiate the terms of certain of our capital securities and credit instruments, which utilize LIBOR as a factor in determining the interest rate, to replace LIBOR with the new standard that is established. The U.S. Federal Reserve has begun publishing a Secured Overnight Funding Rate which is intended to replace U.S. dollar LIBOR. Plans for alternative reference rates for other currencies have also been announced. At this time, it is not possible to predict how markets will respond to these new rates, and the effect that any changes in LIBOR or the discontinuation of LIBOR might have on new or existing financial instruments. We are not able to predict what the impact of such changes may be on our cost of capital or net investment income.

An unexpected accumulation of attritional losses may adversely affect Sirius Group's operating results.

In addition to Sirius Group's exposures to natural catastrophe and other large losses as discussed above, Sirius Group's operating results may be adversely affected by unexpectedly large accumulations of smaller losses. Sirius Group seeks to manage this risk by using appropriate underwriting processes to guide the pricing, terms and acceptance of risks. These processes, which include pricing models, are intended to ensure that premiums received are sufficient to cover the expected levels of attritional losses and a contribution to the cost of natural catastrophes and large losses where necessary. However, it is possible that these underwriting approaches and/or pricing models may not work as intended and that actual losses from a class of risks may be greater than expected. Sirius Group's pricing models are also subject to the same limitations as the models used to assess exposures to natural catastrophe losses noted above. Accordingly, these factors could adversely impact Sirius Group's financial condition and/or operating results.

A decrease in the fair value of Global A&H and/or Sirius Group's intangible assets may result in future impairments.

As of December 31, 2019, goodwill and intangible assets represented approximately 35% of Sirius Group's consolidated shareholders' equity. Goodwill and intangible assets are assessed for impairment on an annual basis or more frequently if events or changes in circumstances indicate that the carrying amount may not be recoverable. These assessments require Sirius Group to use significant judgment in making various estimates and assumptions, such as the determination of expected future cash flows and/or earnings, and actual results may ultimately be materially different from such estimates and assumptions. For example, expected future cash flows and/or earnings may be materially and negatively impacted as a result of, among other things, a decrease in renewals and new business, loss of key personnel, lower-than-expected yields and/or cash flows from Sirius Group's investment portfolio, as applicable, or higher-than-expected claims activity and incurred losses as well as other general economic factors. As a result of these potential changes, the estimated fair value of Sirius Group's goodwill and intangible assets may decrease, causing the carrying value to exceed the fair value and the goodwill and/or intangible assets to be impaired. If an impairment is determined to exist, the carrying value of the goodwill and/or intangible asset is adjusted to its implied fair value with the corresponding expense recorded in Sirius Group's income statement, as applicable, in the period in which the impairment is determined. If Sirius Group is required to record goodwill impairments in the future, its financial condition and results of operations would be negatively affected.

Sirius Group is exposed to unpredictable casualty insurance risks that could adversely affect its results of operations and financial condition.

Sirius Group writes insurance and reinsurance policies covering casualty risks. Casualty insurance generally covers the financial consequences of the legal liability of an individual or organization resulting from negligent acts causing bodily injury and/or property damage to a third party. Claims from such business can take years to develop and settle and can be subject to unanticipated claims and economic and social inflation. In addition, Sirius Group could be adversely affected by proposals or enacted legislation to expand the scope of coverage under existing policies or extend the statute of limitations for certain casualty risks. For example, the State of New York recently passed the Child Victims Act which greatly extends the State of New York's statutes of limitations for childhood sex abuse allowing victims to sue until age 55. In connection with this legislation, the New York State Department of Financial Services has released guidance that (re)insurers are to cooperate fully with the Child Victims Act. As a result, this legislation may greatly expand the universe of claimants for which Sirius Group may be liable. Accordingly, if Sirius Group's pricing and/or reserving assumptions are incorrect, higher than expected losses could materially adversely affect Sirius Group's financial condition, liquidity or results of operations.

The property and casualty insurance and reinsurance industries are highly competitive and cyclical and Sirius Group may not be able to compete effectively in the future.

The property and casualty insurance and reinsurance industries are highly competitive and have historically been cyclical, experiencing periods of severe price competition and less selective underwriting standards ("soft markets") followed by periods of relatively high prices and more selective underwriting standards ("hard markets"). Sirius Group competes with numerous reinsurance companies throughout the world and Lloyd's Syndicate 1945, the Lloyd's syndicate that Sirius Group sponsors and that is managed through Syndicate 1945, also competes with other Lloyd's syndicates and London market companies. Many of these competitors have greater financial, marketing and management resources available to them, including greater revenue and shareholders' equity, have established long-term and continuing business relationships throughout the insurance and reinsurance industries and may have higher financial strength ratings, which can be a significant competitive advantage for them.

Soft primary insurance market conditions could lead to a significant reduction in reinsurance premium rates, less favorable contract terms and fewer submissions for Sirius Group's reinsurance underwriting capacity. The supply of reinsurance is also related to the level of reinsured losses and the level of industry capital which, in turn, may fluctuate in response to changes in rates of return earned in the reinsurance industry. As a result, the reinsurance business historically has been a cyclical industry characterized by periods of intense price competition due to excess underwriting capacity as well as periods when shortages of capacity permitted improvements in reinsurance rate levels and terms and conditions.

In recent years, the persistent low interest rate environment and ease of entry into the reinsurance sector has led to increased competition from non-traditional sources of capital, such as insurance-linked funds or collateralized special purpose insurers, predominantly in the property catastrophe excess reinsurance market. This alternative capital provides collateralized property catastrophe protection in the form of catastrophe bonds, industry loss warranties and other risk-linked products that facilitate the ability of non-reinsurance entities, such as hedge funds and pension funds, to compete for property catastrophe excess reinsurance business outside of the traditional treaty market. This alternative capacity is also expanding into lines of business other than property catastrophe reinsurance.

Consequently, the market is currently in a prolonged phase of the soft market cycle in many lines of business, particularly in certain property catastrophe excess reinsurance markets, and, as a result, many of Sirius Group's products are experiencing varying degrees of rate pressure. To the extent these trends continue or accelerate, Sirius Group's financial condition or operating results could be adversely affected.

Sirius Group may not successfully alleviate risk through reinsurance arrangements. Additionally, Sirius Group may not collect all amounts due from its reinsurers under its existing reinsurance arrangements.

Sirius Group attempts to limit its risk of loss through the purchase of reinsurance, including retrocession coverage (i.e., the reinsurance of reinsurance). The availability and cost of reinsurance protection is subject to market conditions, which are outside of Sirius Group's control. In addition, the coverage provided by these reinsurance arrangements may be inadequate to cover Sirius Group's future liabilities. As a result, Sirius Group may not be able to successfully alleviate risk through these arrangements, which could have a material adverse effect on Sirius Group's results of operations and financial condition.

Purchasing reinsurance does not relieve Sirius Group of the underlying obligations to policyholders or ceding companies, so any inability to collect amounts due from reinsurers could adversely affect Sirius Group's financial condition and results of operations. Inability to collect amounts due from reinsurers can result from a number of scenarios, including: (i) reinsurers choosing to withhold payment due to a dispute or other factors beyond Sirius Group's control; and (ii) reinsurers becoming unable to pay amounts owed to Sirius Group as a result of a deterioration in their financial condition. While Sirius Group regularly reviews the financial condition of its reinsurers and currently believes their financial condition is strong, it is possible that one or more of these reinsurers will be adversely affected by future significant losses or economic events, causing them to be unable or unwilling to pay amounts owed to Sirius Group.

In addition, due to factors such as the price or availability of reinsurance coverage, Sirius Group sometimes decides to increase the amount of risk retained by purchasing less reinsurance or no reinsurance for a particular geographical region. Such determinations have the effect of increasing Sirius Group's financial exposure to losses associated with such risks and, in the event of significant losses associated with a given risk, could have a material adverse effect on Sirius Group's financial condition and results of operations.

Sirius Group, or agents appointed by Sirius Group, may act based on inaccurate or incomplete information regarding the insurance accounts Sirius Group underwrites, or such agents may exceed their authority or act fraudulently when binding policies on Sirius Group's behalf.

Sirius Group, and its MGUs and other agents who have the ability to bind policies on Sirius Group's behalf, rely on information provided by insureds or their representatives when underwriting insurance policies. While Sirius Group may make inquiries to validate or supplement the information provided, Sirius Group may make underwriting decisions based on incorrect or incomplete information. It is possible that Sirius Group will misunderstand the nature or extent of the activities and the corresponding extent of the risks that Sirius Group insures because of its reliance on inadequate or inaccurate information. If any such agents exceed their authority or engage in fraudulent activities, Sirius Group's financial condition and results of operations could be materially adversely affected.

Unexpected volatility or illiquidity associated with some of Sirius Group's investments could significantly and negatively affect Sirius Group's financial results, liquidity and ability to conduct business.

Sirius Group holds, or may in the future purchase, certain investments that include, but are not limited to, publicly traded equities, hedge funds, private equity funds, bonds, bank loans, emerging market debt, nonagency residential mortgage-backed securities, asset-backed securities, commercial mortgage-backed securities, derivatives and other investment products. During the height of the financial crisis, both fixed-income and equity markets were more illiquid and volatile than expected. If Sirius Group requires significant amounts of cash on short notice in excess of normal cash requirements, it may have difficulty selling these investments in a timely manner and/or be forced to sell them for less than it otherwise would have been able to realize. If Sirius Group is forced to sell its assets in unfavorable market conditions, there can be no assurance that it will be able to sell them for the prices at which it has recorded them and may be forced to sell them at significantly lower prices. As a result, Sirius Group's business, financial condition, liquidity or results of operations could be adversely affected.

A portion of Sirius Group's investment portfolio consists of hedge fund and private equity fund investments. The underlying investments in these funds are typically publicly traded and private equity securities and investments, and, as such, are subject to market risks that are similar to Sirius Group's equity securities. However, these investments entail substantial risks and are generally illiquid. Redemption of investments in certain of these 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.

Global climate change may have a material adverse effect on Sirius Group's business, operating results and financial condition.

There are concerns that the higher level of weather-related catastrophes and other losses incurred by the industry in prior years is indicative of changing weather patterns, including as a result of global climate change, which could cause such events to persist. This would lead to higher overall losses that Sirius Group may not be able to recoup, particularly in the current economic and competitive environment, and higher reinsurance costs. In addition, rising sea levels are expected to add to the risks associated with coastal flooding in many geographical areas. Large scale climate change could increase both the frequency and severity of Sirius Group's loss costs associated with property damage, agricultural losses and business interruption due to storms, floods and other weather-related events. Over the long-term, global climate change could impair Sirius Group's ability to predict the costs associated with future weather events and could also give rise to new environmental liability claims in the energy, manufacturing and other industries Sirius Group serves.

Given the scientific uncertainty of predicting the effect of climate cycles and global climate change on the frequency and severity of natural catastrophes and the lack of adequate predictive tools, Sirius Group may be unable to adequately model the associated exposures and potential losses in connection with such catastrophes that could have a material adverse effect on Sirius Group's business, operating results and financial condition.

Sirius Group has significant foreign operations that expose it to certain additional risks, including foreign currency risks and political risk.

Through its multinational reinsurance operations, Sirius Group conducts business in a variety of foreign (non-U.S.) currencies, the principal exposures being the Swedish Krona, British Pound Sterling, Euro and Canadian dollar. As a result, a significant portion of Sirius Group's assets, liabilities, revenues and expenses are denominated in currencies other than the U.S. dollar and are therefore subject to foreign currency risk. Significant changes in foreign exchange rates may adversely affect Sirius Group's results of operations and financial condition.

Sirius Group's foreign operations are also subject to legal, political and operational risks that may be greater than those present in the U.S. As a result, Sirius Group's operations at these foreign locations could be temporarily or permanently disrupted.

Sirius Group may suffer losses from unfavorable outcomes from litigation and other legal proceedings.

In the ordinary course of business, Sirius Group is subject to litigation and other legal proceedings as part of the claims process, the outcomes of which are uncertain. Sirius Group maintains reserves for claims-related legal proceedings as part of its loss and LAE reserves. Adverse outcomes are possible and could negatively impact Sirius Group's financial condition.

Furthermore, as industry practices and legal, judicial, social and other conditions change, unexpected issues related to claims and coverage may emerge. These issues may adversely affect Sirius Group's results of operations and financial condition by either extending coverage beyond Sirius Group's underwriting intent or by increasing the number and size of claims. In some instances, these changes may not become apparent until sometime after Sirius Group has issued the affected insurance contracts. Examples of emerging claims and coverage issues include, but are not limited to:

- new theories of liability and disputes regarding medical causation with respect to certain diseases;
- assignment-of-benefits agreements, where rights of insurance claims and benefits of the insurance policy are transferred to third parties, and which can result in inflated repair costs and legal expenses to insurers and reinsurers;
- claims related to data security breaches, information system failures or cyber-attacks; and
- claims related to blackouts caused by space weather.

Moreover, Sirius Group cannot guarantee that a court or arbitration panel will enforce policy language or not issue a ruling adverse to Sirius Group. In fact, this risk can be exacerbated by the increased willingness of some market participants to dispute insurance and reinsurance policy and contract provisions. This exposure may grow as Sirius Group grows its "long tail" casualty business since claims can typically be made for many years after actual exposure to a risk. If Sirius Group chooses to exclude such exposures, it could reduce the market's acceptance of Sirius Group's products. Sirius Group continually seeks to improve the effectiveness of its contractual provisions to address this exposure but may fail to mitigate such exposure nonetheless.

In addition, from time to time Sirius Group is subject to legal proceedings that are not related to the claims process. In the event of an unfavorable outcome in one or more non-claims legal matters, Sirius Group's ultimate liability may be in excess of amounts reserved and such additional amounts may be material to Sirius Group's results of operations and financial condition. Furthermore, it is possible that these non-claims legal proceedings could result in unexpected outcomes that may materially impact Sirius Group's business or operations.

The effects of, and uncertainty regarding, the U.K.'s withdrawal from the European Union could negatively impact Sirius Group's investment portfolio, business and results of operations.

On January 31, 2020, the U.K. withdrew from the European Union ("EU"), referred to as "Brexit". The U.K. entered into a withdrawal agreement resulting in a transition period until December 31, 2020 during which the trading relationship between the U.K. and the EU will remain the same. Uncertainty remains as to what terms, if any, may be approved during the transition period. During the transition period and beyond, the impact on the U.K. and European economies and the broader global economy could be significant, resulting in negative impacts, such as increased volatility and illiquidity, and potentially lower economic growth on markets in the U.K., Europe and globally, which may negatively impact the value of Sirius Group's investment portfolio, business and results of operations. Lloyd's has established a European subsidiary company through which Lloyd's syndicates will have access to the EU single market and Lloyd's has given assurance that the European subsidiary company will not result in increased costs above the marginal costs which have already been incurred. Sirius International and its U.K. branch can continue to write business on a passporting rights basis in the U.K. until the end of the transition period. After the transition period ends and in the absence of any trade deals, Sirius International will lose its passporting rights to operate in the U.K. Sirius has applied to the U.K. regulators to establish a Third Country Branch, to enable it to continue to operate in the U.K. The approval for the branch is expected to be secured before the U.K. temporary permissions regime has expired on December 31, 2020. This will add an additional regulatory burden on the U.K. branch as it will fall under the direct supervision of the U.K. regulators.

Sirius Group's reinsurance operations are largely dependent upon ceding companies' evaluation of risk.

Sirius Group, like other reinsurance companies that write treaty reinsurance, generally does not evaluate separately each of the assumed individual insurance risks under Sirius Group's reinsurance contracts. As such, Sirius Group is largely dependent upon the cedents' original underwriting decisions. Sirius Group is subject to the risk that the cedents may not have adequately or accurately evaluated the risks that they have insured, and Sirius Group has reinsured, and that the premiums ceded may not adequately compensate Sirius Group for the risks it assumes. If Sirius Group's reserves are insufficient to cover the actual loss and LAE arising from Sirius Group's treaty reinsurance business, Sirius Group would have to strengthen its reserves and incur charges to its earnings. These charges could be significant and could have a material adverse effect on Sirius Group's results of operations and financial condition.

Consolidation in the insurance and reinsurance industries could adversely impact Sirius Group.

The insurance and reinsurance industries have been consolidating over the past several years and the consolidation trend may continue and even accelerate in the near future. These consolidated client and competitor enterprises may try to use their enhanced market power to negotiate price reductions for Sirius Group's products and services and/or obtain a larger market share through increased line sizes. If competitive pressures reduce prices, Sirius Group would generally expect to reduce its future underwriting activities thus resulting in reduced premiums and a reduction in expected earnings. As the insurance industry consolidates, competition for customers will become more intense and the importance of sourcing and properly servicing each customer will become greater. Sirius Group could incur greater expenses relating to customer acquisition and retention, further reducing Sirius Group's operating margins. In addition, insurance companies that merge may be able to spread their risks across a consolidated, larger capital base so that they require less reinsurance. The number of companies offering retrocessional reinsurance may decline. Reinsurance intermediaries could also continue to consolidate, potentially adversely impacting Sirius Group's ability to access business and distribute its products. Sirius Group could also experience more robust competition from larger, better capitalized competitors. Any of the foregoing could adversely affect Sirius Group's business or its results of operations.

Since Sirius Group depends on a small number of brokers for a large portion of its revenues, loss of business provided by any one of them could adversely affect Sirius Group.

Sirius Group markets its insurance and reinsurance worldwide primarily through insurance and reinsurance brokers. The insurance and reinsurance brokerage industry generally, and Sirius Group's sources of business specifically, are concentrated. During 2019, 2018, and 2017, Sirius Group received 69%, 70%, and 65%, respectively, of its insurance and reinsurance business from four major insurance and reinsurance brokers as follows: Aon Corporation and subsidiaries—24%, 26%, and 22%, respectively; Guy Carpenter & Company and subsidiaries—24%, 26%, and 25%, respectively; WT Butler and Co. Ltd.—11%, 10%, and 10%; and Willis Towers Watson plc and subsidiaries—10%, 8%, and 8%, respectively. A decision of one or more of these brokers to reduce substantially or eliminate its business with Sirius Group could adversely affect Sirius Group's business, results of operations or financial condition. In addition, numerous brokers and their affiliates have equity interests in insurance and reinsurance companies that compete with Sirius Group. These brokers may favor these insurers and reinsurers over other companies, including members of Sirius Group.

Sirius Group's reliance on intermediaries subjects it to the intermediaries' credit risk.

In accordance with industry practice, Sirius Group frequently pays amounts owing in respect of claims under its contracts to reinsurance brokers and, to a lesser extent, MGUs that, in turn, make payments to the cedents. In the event that a broker or MGU fails to make such a payment, depending on the jurisdiction, Sirius Group may remain liable to the cedent for the deficiency. Conversely, when premiums for reinsurance contracts are paid to reinsurance brokers or MGUs for payment to Sirius Group, these premiums may be deemed to have been paid and the cedent may no longer be liable to Sirius Group for those amounts, whether or not actually received by Sirius Group. Intermediaries generally are less capitalized than the businesses Sirius Group reinsures and therefore may be unable to pay their debts when due. Consequently, Sirius Group faces credit risk associated with intermediaries during the payment process.

The regulatory framework under which Sirius Group operates and potential changes thereto could have a material adverse effect on its business.

Sirius Group's activities are subject to extensive regulation under the laws and regulations of the U.S., the U.K., Bermuda, Sweden and the EU and its member states and the other jurisdictions in which Sirius Group operates.

Sirius Group's operations in each of these jurisdictions are subject to varying degrees of regulation and supervision. The laws and regulations of the jurisdictions in which Sirius Group's insurance and reinsurance subsidiaries are domiciled require, among other things, that these subsidiaries maintain minimum levels of statutory capital, surplus and liquidity, meet solvency standards, submit to periodic examinations of their financial condition and restrict payments of dividends, distributions and reductions of capital in certain circumstances. Statutes, regulations and policies to which Sirius Group's insurance and reinsurance subsidiaries are subject may also restrict the ability of these subsidiaries to write insurance and reinsurance policies, make certain investments and distribute funds.

Sirius Group devotes a significant amount of time and resources to comply with various regulatory requirements imposed in Bermuda, Sweden, the U.S. and the U.K. and various other jurisdictions around the globe. There remains significant uncertainty as to the impact that these various regulations and legislation will have on Sirius Group. Such impacts could include constraints on Sirius Group's ability to move capital between subsidiaries or requirements that additional capital be provided to subsidiaries in certain jurisdictions, which may adversely impact Sirius Group's profitability. In addition, while Sirius Group currently has excess capital and surplus under applicable capital adequacy requirements, such requirements or similar regulations, in their current form or as they may be amended in the future, may have a material adverse effect on Sirius Group's business, financial condition or results of operations.

Sirius Group's insurance and reinsurance operating subsidiaries may not be able to maintain necessary licenses, permits, authorizations or accreditations in territories where Sirius Group is currently engaged in business or obtain them in new territories, or may be able to do so only at significant cost. In addition, Sirius Group may not be able to comply fully with, or obtain appropriate exemptions from, the wide variety of laws and regulations applicable to insurance or reinsurance companies or holding companies. In addition to insurance and financial industry regulations, Sirius Group's activities are also subject to relevant economic and trade sanctions, money laundering regulations, and anti-corruption laws including the U.S. Foreign Corrupt Practices Act, U.K. Bribery Act 2010 and the Bermuda Bribery Act 2016, which may increase the costs of regulatory compliance, limit or restrict Sirius Group's ability to do business or engage in certain regulated activities, or subject Sirius Group to the possibility of regulatory actions or proceedings.

There can be no assurance that Sirius Group, its employees, or its agents acting on Sirius Group's behalf are in full compliance with all applicable laws and regulations or their interpretation by the relevant authorities and, given the complex nature of the risks, it may not always be possible for Sirius Group to ascertain compliance with such laws and regulations. Failure to comply with or to obtain appropriate authorizations and/or exemptions under any applicable laws or regulations, including those referred to above, could subject Sirius Group to investigations, criminal sanctions or civil remedies, including fines, injunctions, loss of an operating license, reputational consequences, and other sanctions, all of which could have a material adverse effect on Sirius Group's business. Also, changes in the laws or regulations to which Sirius Group is subject could have a material adverse effect on its business. In addition, in most jurisdictions, government regulatory authorities have the power to interpret or amend applicable laws and regulations, and have discretion to grant, renew or revoke licenses and approvals Sirius Group needs to conduct its activities. Such governmental and regulatory authorities may require Sirius Group to incur substantial costs in order to comply with such laws and regulations.

We face risks related to changes in Bermuda law and regulations, and the political environment in Bermuda.

Sirius Group is incorporated in Bermuda and certain of our operating companies are domiciled in Bermuda. Therefore, our exposure to potential changes in Bermuda law and regulations that may have an adverse impact on our operations, such as the imposition of tax liability, increased regulatory supervision or changes in regulation could have a material adverse effect on our business. The Bermuda insurance and reinsurance regulatory framework recently has become subject to increased scrutiny in many jurisdictions, including in the U.S. and in various states within the U.S. Sirius Group is unable to predict the impact of such changes on Sirius Group's operations.

In addition, Sirius Group may be impacted by changes in the political environment in Bermuda, which could make it difficult to operate in, or attract talent to, Bermuda. Bermuda is a small jurisdiction and may be disadvantaged in participating in global or cross border regulatory matters as compared with larger jurisdictions such as the U.S. or the leading EU countries. Bermuda, which is an overseas territory of the United Kingdom, may consider changes to its relationship with the United Kingdom in the future. A change to Bermuda's regulatory or political environment could have an adverse effect on the international reinsurance market focused there which could, in turn, have a material adverse impact on Sirius Group.

Sirius Group is subject to certain legal and regulatory restrictions concerning its ownership and control which could be violated in connection with CMIG or its creditors' plans to address the CMIG Defaults.

Sirius Group is subject to certain legal and regulatory restrictions concerning its ownership and control. One such restriction is that no person or entity may acquire direct or indirect control of Sirius Group (which in some jurisdictions could occur with a person or entity, directly or indirectly, acquiring 10% or more of the voting securities of Sirius Group), without first obtaining the consent of the various regulatory authorities that have jurisdiction over Sirius Group. The CMIG Defaults could result in a situation in which CMIG or its affiliates elect or are required to sell or otherwise transfer, directly or indirectly, their holdings of Sirius Group, or their respective creditors could collect on securities (if any) pledged as collateral within Sirius Group's chain of ownership, which could result in a change of control of Sirius Group. In addition, under certain circumstances, including in the event of a change of control under the certificate of designation in respect of the Series B preference shares, Sirius Group may not have sufficient liquidity available and therefore may be required to pay the redemption price for the outstanding Sirius Group Series B preference shares in common shares valued at \$1.00 per share, which could result in a further change of control of Sirius Group. Any direct or indirect change of control of Sirius Group without the prior approval of applicable insurance regulatory authorities could result in the transaction being enjoined, the assessment of fines or penalties, the takeover of the applicable insurers by such insurance regulatory authorities, the revocation of applicable insurance licenses, and criminal penalties for willful violations of applicable insurance laws. In addition, a change in control could result in the termination of or the posting of collateral under certain reinsurance contracts. Certain U.S. states also prohibit the control of insurers by state-owned or state-controlled entities (such as state-owned banks), which may include certain of CMIG's creditors. A violation of such prohibitions could result in the revocation of insurance licenses held by Sirius Group's U.S.-domiciled insurers, which are necessary for Sirius Group to operate its business. In addition, a change of control of CMIG or Sirius Group that results in non-U.S. persons (including CMIG's creditors) acquiring direct or indirect control of Sirius Group's U.S. businesses may be subject to review by the Committee on Foreign Investment in the United States ("CFIUS"), potentially resulting in enforcement actions by CFIUS to enjoin or unwind the transaction.

In recent discussions, several holders of Sirius Group's Series B preference shares have raised the possibility that there may have been, or that CMIG or its creditors may take actions that result in, a change of control triggering a redemption of their preference shares pursuant to the terms of the certificate of designation for the Series B preference shares. Sirius Group has previously notified CMIG and outside counsel representing certain creditors of CMIG that any action that results in a change of direct or indirect control of Sirius Group, without first obtaining the consent of the various regulatory authorities that have jurisdiction over the Company and its operating subsidiaries, would be a violation of law and could result in actions being taken against such persons and/or Sirius Group that could negatively impact Sirius Group and its businesses. Sirius Group has not been able to obtain information to determine whether a change of control (within the meaning of relevant legal and regulatory restrictions and/or the certificate of designation for the Series B preference shares) has occurred or may occur as a result of actions taken or contemplated with respect to such entities.

Risks associated with changes in U.S. healthcare legislation could negatively affect Sirius Group's accident and health business.

Sirius Group derives revenues from, among other things, the provision of accident and health premiums in the U.S., that is, providing insurance to institutions that participate in the U.S. healthcare delivery infrastructure. Changes in U.S. healthcare legislation, specifically the Patient Protection and Affordable Care Act of 2010 (the "Healthcare Act") (and legislative reforms related thereto), have made significant changes to the regulation of health insurance including, but not limited to, the healthcare delivery system, the healthcare cost reimbursement structure in the U.S. and the rate of growth of health care costs in the U.S. and may negatively affect Sirius Group's accident and health business. In addition, Sirius Group may be subject to regulations, guidance or determinations emanating from the various regulatory authorities authorized under the Healthcare Act. It is difficult to predict the effect that the Healthcare Act, or any regulatory pronouncement made thereunder, will have on Sirius Group's results of operations or financial condition.

Sirius Group may be unable to adequately maintain its systems and safeguard the security of the data it holds or the data held by its business partners and service providers, which may adversely impact Sirius Group's ability to operate its business and cause reputational harm and financial loss.

Because Sirius Group's business and operations rely on secure and efficient information technology systems, Sirius Group depends on its ability and the ability of certain third parties, including vendors and business partners, to access Sirius Group's computer systems to perform necessary functions such as providing quotes and product pricing, billing and processing premiums, administering claims, and reporting its financial results. The functioning of these systems may be impacted by any number of events, including power outages, natural and man-made catastrophes, and cyber-attacks even though backup and recovery systems and contingency plans are in place. In the event Sirius Group is unable to access its systems, or any third-party system that it relies upon, Sirius Group's ability to operate its business effectively may be significantly impaired, which could adversely affect our consolidated financial condition or results of operations.

Sirius Group's business also depends upon its ability to securely process, store, transmit and safeguard confidential and proprietary information that is in Sirius Group's possession. This information includes confidential information relating to Sirius Group's business, and personally identifiable information ("PII") and protected health information ("PHI") belonging to employees, customers, claimants and business partners. Even though we implement and maintain reasonable security processes, practices and procedures appropriate to the nature of the information we hold, and we rely on sophisticated commercial control technologies to maintain security and confidentiality of our systems, Sirius Group's systems may be vulnerable to a variety of forms of unauthorized access that could result in a data breach, including hackers, computer viruses, and other cyber-attacks, as well as breaches that result from dishonest employees, errors by employees or lost or stolen computer devices, and Sirius Group may not be able to protect the confidentiality of such information.

Third parties present an additional risk of cyber-related events. Sirius Group outsources certain technological and business process functions to third-party providers. Sirius Group relies on these third parties to maintain and store PII and PHI and other confidential information on their systems. As needed, Sirius Group also transmits such information by e-mail and other electronic means. Sirius Group attempts to establish appropriate controls and secure capabilities to transmit such information and to prevent unauthorized disclosure, but these controls may not be sufficient. Furthermore, third-party providers may not have appropriate controls in place to protect such information.

Sirius Group's computer systems have been and will continue to be the target of cyber-attacks, despite the measures we have taken and may take in the future to address and mitigate cybersecurity and technology risks. We cannot assure you that our systems and networks will not be subject to successful attacks, breaches or interference. While Sirius Group has not experienced a material cybersecurity breach, it has experienced and may experience in the future a cybersecurity incident. For example, in January 2020, IMG, a subsidiary of Sirius Group, experienced a cybersecurity incident and initiated its disaster recovery plan which resulted in an interruption of business. As of the date of this filing, we have found no indication that any customer data or personal information was exfiltrated or accessed by unauthorized parties in connection with the incident. While the cybersecurity incident disrupted the operations of our subsidiary, the cybersecurity incident did not result in a material disruption to Sirius Group's systems. At the time of this filing, Sirius Group has no reasonable basis to determine that IMG's recent cybersecurity incident will result in any material costs to Sirius Group. While we have significant security processes and initiatives in place, Sirius Group and its subsidiaries may be unable to detect or prevent a breach or disruption in the future. Additionally, while Sirius Group has insurance coverage designed to address certain aspects of cyber risks in place, such insurance coverage may be insufficient to cover all losses or all types of claims that may arise.

Sirius Group is also not aware of any third-party vendor having experienced a material cybersecurity breach that impacted Sirius Group's data. The risk of cyber-attack may increase, and Sirius Group may experience more significant attacks in the future. The risks identified above, including with respect to the cybersecurity incident of Sirius Group's subsidiary, IMG, could expose Sirius Group to data breaches, disruptions of service, financial losses and significant increases in compliance costs and reputational harm to Sirius Group, any of which could have a material adverse effect on Sirius Group's business and results of operations.

In addition, a data breach that involves the compromise of PII or PHI could subject Sirius Group to legal liability or regulatory action under data protection and privacy laws and regulations enacted by federal, state and foreign governments, or other regulatory bodies. In particular, Sirius Group is subject to EU, U.S., federal, state and other foreign laws and regulations regarding the protection of personal data and information. These laws and regulations are complex and sometimes conflict. Sirius Group could be subject to fines, penalties, and/or regulatory enforcement actions in one or more jurisdictions if Sirius Group breaches, whether intentionally or negligently, controls intended to protect the personal data of Sirius Group's employees and clients. For example, the regulations adopted by the New York State Department of Financial Services addressing cybersecurity, the GDPR in the EU and the California Consumer Privacy Act require Sirius Group to comply with obligations to identify and secure personal data, among other requirements. Failure to comply could result in significant fines.

Operational risks, including human or systems failures, are inherent in Sirius Group's business.

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

Sirius Group's modeling, underwriting and information technology and application systems are critical to its business and reputation. Moreover, Sirius Group's technology and applications have been an important part of its underwriting process and ability to compete successfully. Such technology is and will continue to be a very important part of the underwriting process. Sirius Group has also licensed certain systems and data from third parties. Sirius Group cannot be certain that it will have access to these, or comparable service providers, or that Sirius Group's technology or applications will continue to operate as intended. In addition, Sirius Group cannot be certain that these service providers or consultants could be replaced without slowing Sirius Group's underwriting response time. A major defect or failure in Sirius Group's internal controls or information technology and application systems could result in management distraction, harm to Sirius Group's reputation, a loss or delay of revenues or increased expense.

Sirius Group may modify its business and strategic plan and these changes could adversely affect Sirius Group and its financial condition and results of operations.

Sirius Group regularly evaluates its business plans and strategies which may result in changes to its business operations. Changes in its business plans and strategic focus require significant management time and effort and may divert management's attention from its core operations and competencies. Modifications to Sirius Group's operations, such as the recent internal reorganization of Sirius Group's global operating structure, may not result in the anticipated benefits immediately or at all, and could have unintended consequences. If our restructuring activities are not executed successfully, it could have a material adverse effect on our business, financial condition and results of operations. In addition, Sirius Group routinely evaluates potential strategic transactions but there can be no assurance that we will successfully consummate any such transaction or that a consummated transaction would succeed financially. Sirius Group's failure to successfully carry out its business plans and/or execute strategic transactions may have a material adverse effect on Sirius Group's long-term results of operations and financial condition.

Sirius Group depends on key personnel to manage the business effectively and they may be difficult to replace.

Sirius Group's performance substantially depends on the efforts and abilities of its management team and other executive officers and key employees. Furthermore, much of Sirius Group's competitive advantage is based on the expertise, experience and know-how of its key management personnel. Sirius Group does not have fixed-term employment agreements with many of its key employees or key-man life insurance and the loss of one or more of these key employees could adversely affect Sirius Group's business, results of operations and financial condition. Sirius Group's success also depends on the ability to hire and retain additional personnel. Difficulty in hiring or retaining personnel could adversely affect Sirius Group's results of operations and financial condition.

Sirius Group faces unforeseen liabilities arising from possible acquisitions and dispositions of businesses or difficulties integrating acquired businesses.

Sirius Group has engaged in acquisitions of businesses in the past, including the acquisitions of Armada and IMG in 2017, and may continue to do so in the future. Any future acquisitions may expose it to operational challenges and risks, including:

- integrating financial and operational reporting systems;
- establishing satisfactory budgetary and other financial controls;
- funding increased capital needs and overhead expenses;
- obtaining management personnel required for expanded operations;
- funding cash flow shortages that may occur if anticipated sales and revenues are not realized or are delayed, whether by general economic or market conditions or unforeseen internal difficulties;
- the value of assets acquired may be lower than expected or may diminish due to credit defaults or changes in interest rates and liabilities assumed may be greater than expected;
- the assets and liabilities acquired by Sirius Group may be subject to foreign currency exchange rate fluctuation; and
- financial exposures in the event that the sellers of the entities acquired are unable or unwilling to meet their indemnification, reinsurance and other obligations to Sirius Group.

Sirius Group's ability to achieve the benefits anticipated from any business acquisition will depend in large part upon its ability to successfully integrate such businesses in an efficient and effective manner. Sirius Group may not be able to integrate such businesses successfully, or the process may take longer than expected. The integration of operations may require the dedication of significant management resources, which may distract management's attention from day-to-day business. If Sirius Group is unable to successfully integrate the operations of such acquired businesses, it may be unable to realize the full benefits it expects to achieve as a result of such acquisitions and Sirius Group's business and results of operations may be lower than expected.

Sirius Group may require additional capital in the future, which may not be available or may only be available on unfavorable terms. Increasing barriers to free trade and the free flow of capital could adversely affect the reinsurance industry and Sirius Group's business.

Sirius Group's future capital requirements depend on many factors, including regulatory requirements, the ability to write new business successfully, the frequency and severity of catastrophic events, and the ability to establish premium rates and reserves at levels sufficient to cover losses. Sirius Group may need to raise additional funds through financings or curtail its growth and reduce its assets. Any equity or debt financing, if available at all, may be on unfavorable terms. Disruption in the financial markets may limit Sirius Group's ability to access capital required to operate its business and Sirius Group may be forced to delay raising capital or bear a higher cost of capital, which could decrease Sirius Group's profitability and significantly reduce its financial flexibility. In addition, if Sirius Group experiences a credit rating downgrade, withdrawal or negative watch/outlook in the future, it could incur higher borrowing costs and may have more limited means to access capital. If Sirius Group cannot obtain adequate capital on favorable terms or at all, its business, results of operations and financial condition could be adversely affected.

In addition, recent political initiatives to restrict free trade and close markets, such as Brexit and the U.S.'s decision to withdraw from the Trans-Pacific partnership and renegotiation and/or potential termination of existing bilateral and multilateral trade arrangements could have a material adverse effect on the reinsurance industry and Sirius Group's business. The reinsurance industry is disproportionately impacted by restraints on the free flow of capital and risk because it may affect Sirius Group's ability to globally diversify risk and grow organically or inorganically.

Sirius Group has incurred losses in the past and may incur losses in the future.

Sirius Group had a comprehensive (loss) of approximately \$(82) million, \$(80) million, and \$(78) million for 2019, 2018, and 2017, respectively. Sirius Group expects to incur increased operating expenses related to its growth initiatives, including those initiatives related to the growth of Armada and a primary insurance platform to support its business. If revenue fails to grow at anticipated rates, or if operating costs rise without a commensurate increase in revenue, then the imbalance between revenue and operating expenses will negatively impact Sirius Group's liquidity as well as its ability to achieve profitability in upcoming quarters. Sirius Group's lack of recent profitability may indicate that it needs to re-evaluate its plan of operations or change its strategies in order to generate a profit. A lack of profitability could adversely affect the price of its common shares and liquidity.

Sirius Group's results of operations may fluctuate significantly from period to period and may not be indicative of its long-term prospects.

Sirius Group's results of operations may fluctuate significantly from period to period. These fluctuations result from a variety of factors, including the seasonality of the insurance and reinsurance business, the volume and mix of reinsurance and insurance products that Sirius Group writes, loss experience on Sirius Group's insurance and reinsurance liabilities, the performance of Sirius Group's investment portfolio and its ability to assess and integrate its risk management strategy effectively. In particular, Sirius Group seeks to underwrite products and make investments to achieve long-term results. As a result, at any given time, Sirius Group's short-term results of operations may not be indicative of its long-term prospects.

Sirius Group is a holding company with no direct operations, and its insurance and reinsurance subsidiaries' ability to pay dividends and other distributions to Sirius Group is restricted by law.

Sirius Group is a holding company and carries out its business through its insurance and reinsurance subsidiaries. Accordingly, Sirius Group is dependent upon receipt of funds from other members of Sirius Group to fulfill its obligations. Sirius Group's subsidiaries may not be able to generate cash flow sufficient to pay a dividend or distribute funds to Sirius Group. In addition, under the insurance laws of certain jurisdictions in which Sirius Group's insurance and reinsurance subsidiaries are domiciled, an insurer or reinsurer is restricted with respect to the timing or the amount of dividends it may pay without prior approval by their relevant regulatory authorities.

Sirius Group's top tier regulated insurance and reinsurance operating subsidiary is Sirius Bermuda. In addition to the voluntary undertaking executed by Sirius Bermuda and Sirius Group in May 2019, Sirius Bermuda's ability to pay dividends is limited under Bermuda law and regulations. Under the Insurance Act, Sirius Bermuda is restricted with respect to the payment of dividends. Sirius Bermuda 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. Accordingly, Sirius Bermuda can pay approximately \$524 million to its parent company, Sirius International Group, Ltd., during 2020 without providing an affidavit to the BMA. Sirius Bermuda indirectly owns Sirius International Insurance Corporation, Sirius America Insurance Company 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.

As of December 31, 2019, Sirius Group and its intermediate holding companies had \$43 million of net unrestricted cash, short-term investments and fixed-maturity investments outside of its regulated and unregulated insurance and reinsurance operating subsidiaries. Management believes that Sirius Group's cash balances, cash flows from operations and cash flows from investments are adequate to meet expected cash requirements for the foreseeable future on both a holding company and operating subsidiary level. However, if Sirius Group's insurance and reinsurance subsidiaries cannot pay dividends in future periods, it may have difficulty servicing its debt and meeting its holding company expenses. Dividend payments and other distributions from Sirius Group's subsidiaries also may be subject to withholding taxes, which would reduce the amount available to service Sirius Group's debt.

The current state of the global economy and capital markets increases the possibility of adverse effects on Sirius Group's financial position and results of operations. Economic downturns could impair Sirius Group's investment portfolio and affect the primary insurance market, which could, in turn, harm Sirius Group's results of operations and reduce the volume of new business.

Global capital markets in the U.S. and Europe, as well as other leading markets, continue to experience volatility. Although conditions may be improving, the longer this economic situation persists, the greater the probability that these risks could have an adverse effect on Sirius Group's financial results. This may be evidenced in several ways including, but not limited to, a potential reduction in Sirius Group's premium income, financial losses in Sirius Group's investment portfolio and decreases in revenue and net income.

Unfavorable economic conditions also could increase Sirius Group's funding costs, limit its access to the capital markets or result in a decision by lenders not to extend credit to Sirius Group. These events could prevent Sirius Group from increasing its underwriting activities and negatively impact Sirius Group's results of operations. In addition, Sirius Group's cedents and other counterparties may be affected by such developments in the financial markets, which could adversely affect their ability to meet their obligations to Sirius Group.

Changes in current accounting principles and practices and financial reporting requirements may materially affect Sirius Group's reported financial results and our reported financial condition.

Sirius Group's financial statements are prepared in accordance with GAAP, which is periodically revised by the Financial Accounting Standards Board ("FASB"), and they are subject to the accounting-related rules and interpretations of the SEC. Sirius Group is required to adopt new and revised accounting standards implemented by the FASB. Unanticipated developments in accounting practices may require us to incur considerable additional expenses to comply with such developments, particularly if we are required to prepare information relating to prior periods for comparative purposes or to apply the new requirements retroactively.

Risks Related to Tax Matters

Sirius Group has significant deferred tax assets, which may become devalued if either Sirius Group does not generate sufficient future taxable income or applicable corporate tax rates are reduced.

Sirius Group's total net deferred tax liability as of December 31, 2019 was \$39 million. Of that amount, \$25 million relates to net deferred tax assets in the U.S. subsidiaries, \$142 million relates to net deferred tax assets in Luxembourg subsidiaries and \$206 million relates to net deferred tax liabilities in Sweden subsidiaries. Net deferred tax assets and liabilities reflect carryforward tax attributes and temporary differences between the book basis and tax basis of various assets and liabilities. Utilization of most deferred tax assets is dependent on generating sufficient future taxable income in the appropriate jurisdiction and/or entity. If it is determined that it is more likely than not that sufficient future taxable income will not be generated, Sirius Group would be required to increase applicable valuation allowance(s). Most of Sirius Group's deferred tax assets are determined by reference to applicable corporate income tax rates, in particular in the U.S., Luxembourg and Sweden. Accordingly, in the event of new legislation that reduces any such corporate income tax rates, the carrying value of certain of Sirius Group's deferred tax assets would decrease. A material devaluation in Sirius Group's deferred tax assets due to either insufficient taxable income or lower corporate income tax rates would have an adverse effect on Sirius Group's results of operations and financial condition.

Two of Sirius Group's Swedish non-insurance subsidiaries are involved in tax disputes.

The Swedish Tax Authority ("STA") has denied deductions claimed by two of Sirius Group's Swedish subsidiaries in certain tax years for interest they paid on intra-group debt instruments. Sirius Group is currently challenging 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 Group has appealed. Sirius Group's reserve for uncertain tax positions has taken into account this and other relevant developments in these tax disputes and in applicable Swedish tax law including recent case law. Sirius Group also has taken into account the Stock Purchase Agreement by which Sirius Group was sold to CMIG International in 2016, pursuant to which the seller agreed to indemnify Sirius Group and the buyer for, among other things, (i) any additional tax liability in excess of Sirius Group's accounting for uncertain tax positions for tax periods prior to the sale of Sirius Group to CMIG International, and (ii) an impairment in Sirius Group's net deferred tax assets resulting from a final determination by a tax authority. While Sirius Group intends to continue challenging the STA's denial based on the technical merits (including the appeal of 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 Group's operating results or balance sheet in connection with these uncertain tax positions or the related indemnification.

Sirius Group may be treated as a PFIC, in which case a U.S. holder of Sirius Group common shares would be subject to disadvantageous rules under U.S. federal income tax laws.

If Sirius Group is considered a passive foreign investment company ("PFIC") for U.S. federal income tax purposes, a U.S. shareholder will be subject to adverse tax consequences, including subjecting the U.S. shareholder to a greater tax liability than might otherwise apply and subjecting the U.S. shareholder to tax on amounts in advance of when tax would otherwise be imposed, in which case its investment in Sirius Group could be materially adversely affected. In addition, if Sirius Group were considered a PFIC, upon the death of any U.S. individual owning shares, such individual's heirs or estate would not be entitled to a "step-up" in the basis of the shares that might otherwise be available under U.S. federal income tax laws. A U.S. shareholder may avoid some of the adverse tax consequences of owning an equity interest in a PFIC by making a qualified electing fund election. If Sirius Group is a PFIC, an electing U.S. shareholder is likely to recognize income in a taxable year in amounts significantly greater than the distributions received from Sirius Group, if any, in such taxable year.

Sirius Group will be treated as a PFIC for U.S. federal income tax purposes in any taxable year for which either (i) at least 75% of Sirius Group's gross income consists of certain types of "passive income" or (ii) at least 50% of the average value of Sirius Group's assets produce, or are held for the production of, "passive income." Unless an exception applies, "passive income" includes dividends, interest, rents and royalties. For these purposes, if Sirius Group owns (directly or indirectly) at least 25% (by value) of the stock of another corporation, for purposes of determining whether Sirius Group is a PFIC, Sirius Group is treated as if it held the proportionate share of the assets of such other corporation, and as if it received directly the proportionate share of the income of such other corporation. Under a specific exception, as amended by the 2017 tax reform known as the Tax Cuts and Jobs Act (Pub. L. 115-97) ("2017 Tax Cuts and Jobs Act"), passive income does not include income derived in the active conduct of an insurance business by a qualifying insurance corporation. Whether an insurance company is a qualifying insurance corporation is determined based on an asset to liability test. The test requires the insurance company to have applicable insurance liabilities in excess of 25% of its total assets as reported on the company's financial statements and there is significant uncertainty regarding how the exception will be interpreted. In July 2019, the U.S. Treasury and IRS issued proposed regulations providing guidance on the active insurance business exception, including the 25% test and calculation of income that is not treated as passive. The proposed regulations are not effective until adopted in final form. The IRS has requested comments on several aspects of the proposed regulations. It is uncertain when the proposed regulations will be finalized, and whether and how the provisions of any final or temporary regulations will vary from proposed regulations.

Based on Sirius Group's assets, income and activities, including those of its subsidiaries engaged in the active conduct of an insurance business, Sirius Group does not expect that it will be treated as a PFIC in 2020; however, this conclusion is not free from doubt and the IRS could take the position that Sirius Group is a PFIC. While Sirius Group expects its insurance subsidiaries will qualify for the active insurance income exception for qualified insurance corporations in light of pending regulations and in the absence of other detailed guidance relating to the interpretations of the 2017 Tax Cuts and Jobs Act, there can be no assurance that Sirius Group's insurance subsidiaries will meet the requirements for this exception. Moreover, PFIC classification is a factual determination made annually, and even if Sirius Group is not a PFIC in 2020, it could become a PFIC in later years. Accordingly, Sirius Group cannot assure you that it will not be treated as a PFIC for 2020 or for any future year.

Sirius Group may become subject to increased taxation in Bermuda and other countries as a result of the OECD's various proposals or as a result of being listed on the EU list of non-cooperative jurisdictions for tax purposes.

The Organisation for Economic Cooperation and Development ("OECD"), with the support of the Group of Twenty ("G20"), initiated the "base erosion and profit shifting" ("BEPS") project in 2013 in response to concerns that international tax standards have not kept pace with changes in global business practices and that changes are needed to international tax laws to address situations where multinational enterprises may pay little or no tax in certain jurisdictions by shifting profits away from jurisdictions where the activities creating those profits may take place. In October 2015, the OECD issued "final reports" in connection with the BEPS project. The final reports were approved for adoption by the G20 finance ministers in November 2015 and provide the basis for international standards for corporate taxation, which are designed to prevent, among other things, treaty-shopping, the artificial shifting of income to tax havens and low-tax jurisdictions, the erosion of the tax base through interest deductions on intercompany debt and the artificial avoidance of permanent establishments (i.e., tax nexus with a jurisdiction). Action 6 (treaty abuse) led to the development of a global multilateral instrument to incorporate and facilitate changes to tax treaties, which was signed on June 7, 2017. Legislation to adopt these standards has been enacted or is currently under consideration in a number of jurisdictions, including country-by-country reporting.

More recently, the OECD also published a "Programme of Work" (organized as two "pillars") and follow-on reports intended to address the tax challenges created by an increasing digitalized economy. Pillar One focuses on global profit allocation and includes proposals for new profit allocation and nexus methodologies. In January 2020, the OECD published a statement suggesting that financial services businesses with commercial customers (including insurance) will be outside the scope of Pillar One. Pillar Two addresses remaining BEPS issues by introducing a global minimum tax and a new tax on base eroding payments. The OECD has announced that it intends to obtain consensus by its participating members during 2020, which could give rise to their respective countries enacting new tax legislation and/or amending tax treaties.

As a result of changes in applicable tax law emanating from the developments discussed above, Sirius Group's earnings may be subject to income tax, or intercompany payments may be subject to withholding tax, in jurisdictions where they are not currently taxed or at higher rates of tax than currently taxed. The applicable tax authorities could also attempt to apply such taxes to past earnings and payments. Any such additional taxes could materially increase Sirius Group's effective tax rate. Also, the adoption of these standards may increase the complexity and costs associated with tax compliance and adversely affect Sirius Group's financial position and results of operations.

On March 12, 2019, the Council of the European Union added Bermuda to the list of non-cooperative jurisdictions for tax purposes. On May 17, 2019, Bermuda was removed from this list and was listed as a cooperative tax jurisdiction that was subject to certain commitments. The Council of European Union has stated that Bermuda has taken positive steps to comply with their requirements but that further technical changes need to be made to address economic substance concerns. Bermuda had until the end of 2019 to address these concerns. If Bermuda is unable to satisfy the EU's concerns then it risks being returned to the list of non-cooperative jurisdictions for tax purposes. On February 18, 2020, Bermuda was completely removed from the list. Therefore, Sirius Group does not currently expect any material adverse effects from these developments. If Bermuda is added back to this list, Sirius Group and its subsidiaries may be subject to certain adverse tax and non-tax consequences, which may depend in part on future changes in tax laws and/or administration of relevant EU countries.

Sirius Group's operations may be affected by the introduction of EU mandatory disclosure rules under DAC 6.

The EU has introduced new rules requiring companies and their respective advisors to disclose information to tax authorities regarding certain cross-border arrangements which satisfy certain conditions, as part of a new Directive widely referred to as "DAC 6". The scope of the arrangements and conditions which may trigger disclosure is very wide, and not limited to aggressive tax planning or indeed (for certain of the conditions) to arrangements which have any tax motive. Although first disclosures are not required until August 2020, the rules will apply retrospectively to any arrangements put in place or made available for implementation on or after June 25, 2018. The obligation to file disclosures under DAC 6 will fall on persons acting as intermediaries, which in many cases may require our advisers and other service providers to file disclosures relating to arrangements we are party to, in the first instance.

Sirius Group intends to operate in compliance with DAC 6 mandatory disclosure rules. Achieving and maintaining compliance is likely to entail some cost to Sirius Group, and any inadvertent failure to comply with Sirius Group's obligations may lead to fines and penalties, which would have an adverse effect on Sirius Group's results. Sirius Group's shareholders and their respective intermediaries could also be subject to certain disclosure obligations in relation to their investment in Sirius Group, and should seek guidance from their own advisors in respect of the potential application of DAC 6 to them.

Sirius Group may become subject to income tax (or an increased amount of income tax) in one or more countries, including the U.S., which could materially reduce Sirius Group's after-tax returns and the value of Sirius Group common shares.

Due to their business operating models, a portion of the income of two of Sirius Group's foreign insurance companies is treated as effectively connected with a U.S. trade or business, and Sirius Group complies with the applicable U.S. income tax filing and payment requirements accordingly. Other than these deemed U.S. businesses, Sirius Group (including its foreign subsidiaries) currently intends to conduct substantially all of its businesses and operations in a manner such that it will not otherwise be engaged in a trade or business in the U.S. and will not be subject to more U.S. income tax than it currently incurs. However, the matter is not free from doubt in light of the applicable tax law and guidance regarding activities that constitute being engaged in a trade or business in the U.S. for U.S. federal income tax purposes. Accordingly, Sirius Group cannot assure you that the IRS will not contend, perhaps successfully, that a foreign entity in Sirius Group is engaged in a trade or business in the U.S. or is subject to more U.S. income tax than it currently incurs. A foreign corporation deemed to be so engaged would be subject to U.S. federal income tax, as well as branch profits tax, on its income that is treated as effectively connected with the conduct of that trade or business unless the corporation is entitled to relief under an applicable tax treaty.

Sirius Group could become subject to income tax in one or more countries, including the U.S., as a result of activities performed by it, adverse developments or changes in law, contrary conclusions by the relevant tax authorities or other causes. The imposition of any of these income taxes could materially reduce Sirius Group's post-tax returns available for distributions on, and consequently the value of, Sirius Group common shares.

The impact of Bermuda's letter of commitment to the OECD to eliminate harmful tax practices is uncertain and could adversely affect Sirius Group's tax status in Bermuda.

The OECD has published reports and launched a global dialogue among member and non-member countries on measures to limit harmful tax competition. These measures are largely directed at counteracting the effects of tax havens and preferential tax regimes in countries around the world. According to the OECD, Bermuda is a jurisdiction that has substantially implemented the internationally agreed tax standard and as such is listed on the OECD "white list". However, Sirius Group is unable to predict whether any changes will be made to this classification or whether any such changes will subject Sirius Group or its Bermuda operations to additional taxes.

An "ownership change" could limit Sirius Group's ability to utilize tax loss and credit carryforwards in the U.S. to offset future taxable income.

As of December 31, 2019, Sirius Group had a deferred tax asset (net of valuation allowance) in the U.S. of approximately \$44 million representing tax attributes including net operating loss carryforwards and tax credit carryforwards. Sirius Group's ability to use the tax attributes underlying such deferred tax asset to offset future taxable income may be significantly limited if Sirius Group experiences an "ownership change" as defined in Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"). In general, an ownership change will occur when the percentage of ownership (by value) of one or more "5-percent shareholders" (as defined in the Code) in Sirius Group common shares has increased by more than 50% over the lowest percentage owned by such shareholders at any time during the prior three years (calculated on a rolling basis). An entity that experiences an ownership change generally will be subject to an annual limitation on its pre-ownership change tax loss and credit carryforwards equal to the equity value of the corporation immediately before the ownership change, multiplied by the long-term, tax-exempt rate posted monthly by the IRS (subject to certain adjustments). The limitation on Sirius Group's ability to utilize tax loss and credit carryforwards arising from an ownership change under Section 382 of the Code would depend on the value of Sirius Group's equity at the time of any ownership change. For example, the CMIG Defaults could result in a situation in which CM Bermuda or other entities in the ownership chain elect or are required to sell or otherwise transfer their holdings in Sirius Group. If Sirius Group were to experience an "ownership change" under Section 382 of the Code it is possible that a significant portion of Sirius Group's tax loss and credit carryforwards could expire before Sirius Group would be able to use them to offset future taxable income. Sirius Group also has a significant amount of tax loss carryforwards and other tax attributes in other countries, including Luxembourg, the U.K., and Sweden. While Sirius Group does not currently expect such tax attributes to be restricted if CM Bermuda transfers its holdings of Sirius Group, the actual consequences will depend on the facts and the law in effect at the time, and no assurance can be made that Sirius Group's non-U.S. tax attributes will not be restricted if CM Bermuda transfers its holdings of Sirius Group in the future.

The ongoing effects of the 2017 Tax Cuts and Jobs Act and BEAT could make Sirius Group's results difficult to predict.

Sirius Group's effective tax rate may fluctuate in the future as a result of the 2017 Tax Cuts and Jobs Act, which included significant enacted changes in U.S. income tax law that had a meaningful impact on Sirius Group's provision for income taxes and requires significant judgments and estimates in the interpretation and calculations. Sirius Group recorded the effects in its financial statements for the year ended December 31, 2019. However, Sirius Group cannot assure that the IRS will apply the new tax law in a way similar to Sirius Group's interpretation.

The enacted tax legislation included, among other new provisions, a reduction in the corporate tax rate, new limitations on the deductibility of net interest, and the Base Erosion and Anti-Abuse Minimum Tax ("BEAT"). Final and proposed regulations interpreting and applying some of these provisions have been issued by the U.S. Department of the Treasury and the IRS, and additional guidance may be forthcoming. It is not possible to predict if, when or in what form such guidance will be provided and whether such guidance will be applied on a retroactive basis. The BEAT levies a significant tax on cross border payments to related group companies. This tax will subject certain intragroup reinsurance arrangements to a base erosion tax on premiums ceded. While Sirius Group intends to operate in a manner that limits its exposure to BEAT, at this time, subject to additional IRS guidance, uncertainty about the financial impact on Sirius Group of this new tax remains and Sirius Group cannot reassure you it will not be subject to material amounts of BEAT in the future. Accordingly, BEAT could materially impact Sirius Group's provision for taxes in the future.

Sirius Group may be subject to tax withholding under FATCA, which may reduce investment returns and distributions to shareholders.

The Hiring Incentives to Restore Employment Act provides that a 30% withholding tax will be imposed on certain payments of U.S. source income and certain payments of proceeds from the sale of property that could give rise to U.S. source interest or dividends unless Sirius Group and the applicable foreign subsidiaries enter into an agreement with the IRS to disclose the name, address and taxpayer identification number of certain U.S. persons that own, directly or indirectly, an interest in Sirius Group as well as certain other information relating to any such interest (these rules are commonly known as the Foreign Account Tax Compliance Act, or "FATCA"). The IRS has released final and proposed regulations and other guidance that provide for the phased implementation of the foregoing withholding and reporting requirements. On December 19, 2013, the U.S. Department of the Treasury signed a Model 2 non-reciprocal intergovernmental agreement (the "Model 2 IGA") with Bermuda. The Model 2 IGA modifies the foregoing requirements but generally requires similar information to be disclosed to the IRS. Although Sirius Group will attempt to satisfy any obligations imposed on it to avoid the imposition of this withholding tax, no assurance can be given that it will be able to satisfy these obligations. If Sirius Group or its subsidiaries become subject to a withholding tax as a result of FATCA, the return of all shareholders may be materially adversely affected.

U.S. tax-exempt organizations who own Sirius Group common shares may recognize unrelated business taxable income.

A U.S. tax-exempt organization may recognize unrelated business taxable income if Sirius Group is a "controlled foreign corporation" (which we also refer to as a "CFC") as discussed below, and the organization is a 10% U.S. Shareholder, or if the related person insurance income ("RPII") inclusion rules above apply. U.S. tax-exempt organizations should consult their own tax advisors regarding the risk of recognizing unrelated business taxable income as a result of the ownership of Sirius Group common shares. A "10% U.S. Shareholder" is a U.S. person who owns (directly, indirectly through foreign entities or constructively) at least 10% of the total combined voting power of Sirius Group's voting shares, or at least 10% of the total value of shares of all classes of stock of such foreign corporation.

Changes in U.S. federal income tax law and other jurisdictions could materially adversely affect an investment in Sirius Group common shares.

The U.S. federal income tax laws and interpretations regarding whether a company is engaged in a trade or business within the U.S. or whether a company is a CFC or PFIC or has RPII are subject to change, possibly on a retroactive basis. Treasury regulations were issued in proposed form regarding the application of the PFIC rules to an insurance company. Additionally, the 2017 Tax Cuts and Jobs Act changed in material ways the tests for whether a foreign insurance company is a PFIC, and while proposed regulations have been issued with respect to these new rules they have not yet been finalized. Additionally, the Treasury regulations regarding RPII are still in proposed form. New Treasury regulations or pronouncements interpreting or clarifying such rules may be forthcoming from the IRS. It is not possible to predict if, when or in what form such guidance will be provided and whether such guidance will be applied on a retroactive basis. Due to the absence of specific authority with respect to these issues, the amount, timing and character of income, gain or loss recognized with respect to a U.S. shareholder could be significantly different from that described herein. Additionally, changes in tax law in non-U.S. jurisdictions may also adversely affect Sirius Group's tax treatment and that of its subsidiaries. You are urged to consult your own tax advisor regarding the tax consequences of owning Sirius Group shares in your particular circumstances.

Reduced U.S. federal income tax rates for qualified dividend income may not be available in the future.

As long as Sirius Group common shares are readily tradable on an established securities market in the U.S. and it is not a PFIC, then under current U.S. law, dividends paid on Sirius Group common shares to U.S. individual shareholders should qualify as "qualified dividend income" and be eligible for reduced U.S. federal income tax rates. The U.S. Congress has, in the past, considered legislation that would exclude shareholders of foreign corporations from this preferential U.S. federal income tax treatment unless either (i) the corporation is organized or created under the laws of a country that has entered into a "comprehensive income tax treaty" with the U.S. or (ii) the stock of such corporation is readily tradable on an established securities market in the U.S. and the corporation is organized or created under the laws of a country that has a "comprehensive income tax system" that the U.S. Secretary of the Treasury determines is satisfactory for this purpose. Sirius Group would likely not satisfy either of these tests and, accordingly, if this or similar legislation were to become law, individual U.S. shareholders would no longer qualify for reduced U.S. federal income tax rates on dividends paid by it.

Sirius Group may be treated as a CFC and might be subject to the rules for related person insurance income, and in either case this may subject a U.S. holder of Sirius Group common shares to disadvantageous rules under U.S. federal income tax laws.

A CFC for U.S. federal income tax purposes is any foreign corporation if, on any day of the taxable year, 10% U.S. Shareholders own (directly, indirectly through foreign entities or by attribution by application of certain constructive ownership rules) more than 50% (25% in the case of certain insurance companies) of the total combined voting power of all classes of that corporation's voting shares, or more than 50% (25% in the case of certain insurance companies) of the total value of all the corporation's shares. If Sirius Group is a CFC, each 10% U.S. Shareholder must annually include in its income its pro rata share of Sirius Group's "subpart F income," and its "global intangible low-taxed income" even if no distributions are made.

If, with respect to any of Sirius Group's non-U.S. insurance subsidiaries, (i) 20% or more of the gross income in any taxable year is attributable to insurance or reinsurance policies of which the direct or indirect insureds are direct or indirect U.S. shareholders of Sirius Group (regardless of the number of shares owned by those shareholders) or persons related to such U.S. shareholders and (ii) direct or indirect insureds, whether or not U.S. persons, and persons related to such insureds own directly or indirectly 20% or more of the voting power or value of Sirius Group's shares, any U.S. person who owns any shares directly or indirectly on the last day of the taxable year would most likely be required to include its allocable share of the RPII of the applicable subsidiary for the taxable year in its income, even if no distributions are made. Sirius Group believes it is not likely that these conditions will be satisfied. However, Sirius Group cannot assure you that this will be the case. Consequently, Sirius Group cannot assure you that a person who is a direct or indirect U.S. shareholder will not be required to include amounts in its income in respect of RPII in any taxable year.

Sirius Group may become subject to taxes in Bermuda after March 31, 2035, which may have a material adverse effect on its results of operations and your investment.

The Bermuda Minister of Finance, under the Exempted Undertakings Tax Protection Act 1966 of Bermuda, as amended, has given Sirius Group and each of its Bermuda incorporated subsidiaries an assurance that if any legislation is enacted in Bermuda that would impose tax computed on profits or income, or computed on any capital asset, gain or appreciation, or any tax in the nature of estate duty or inheritance tax, then the imposition of any such tax will not be applicable to any such entity or any of its operations, shares, debentures or other obligations until March 31, 2035, except insofar as such tax applies to persons ordinarily resident in Bermuda or to any taxes payable by it in respect of real property owned or leased by it in Bermuda. Given the limited duration of the Bermuda Minister of Finance's assurance, there can be no assurance that Sirius Group will not be subject to any Bermuda tax after March 31, 2035.

U.S. Treasury regulations may limit Sirius Group's ability to make acquisitions of U.S.-domiciled companies using corporate stock.

On April 4, 2016 and July 12, 2018, the IRS and the Treasury Department issued final and temporary regulations on corporate inversions. Among other provisions, the regulations provide for a "cash box rule" that in general reduces a foreign corporation's value by the percentage of passive assets it holds for the purpose of applying the inversion ownership test. Failure of such test could result in the acquiring corporation being taxed as a U.S. corporation. As a result of these regulations, the size of any U.S. company that Sirius Group could acquire for stock may need to be dramatically reduced to avoid severe adverse tax consequences. Sirius Group would need to monitor its passive assets to avoid such adverse tax consequences.

Risks Related to Sirius Group Common Shares and Ownership

There can be no assurance that Sirius Group will be able to comply with the continued listing standards of Nasdaq.

Sirius Group is required to demonstrate compliance with Nasdaq's continued listing requirements in order to continue to list its common shares on Nasdaq. If Nasdaq delists Sirius Group common shares from trading on its exchange for failure to meet the continued listing requirements, Sirius Group and its shareholders could face significant material adverse consequences including:

- a limited availability of market quotations for Sirius Group securities;
- a determination that Sirius Group common shares are a "penny stock," which will require brokers trading in Sirius Group common shares to adhere to more stringent rules, possibly resulting in a reduced level of trading activity in the secondary trading market for Sirius Group common shares;
- a limited amount of analyst coverage; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

The National Securities Markets Improvement Act of 1996, which is a federal statute, prevents or preempts the states from regulating the sale of certain securities, which are referred to as "covered securities." If Nasdaq delists Sirius Group common shares, the common shares would not be covered securities and Sirius Group would be subject to regulation in each state in which it offers its securities.

Sirius Group has limited experience complying with the reporting and other requirements of a publicly traded company. Fulfilling Sirius Group's obligations incident to being a public company, including with respect to the requirements of the Sarbanes-Oxley Act of 2002, will be expensive and time consuming, and any delays or difficulties in satisfying these obligations could have a material adverse effect on Sirius Group's future results of operations and share price.

Prior to the completion of the Merger in November 2018, Sirius Group had operated as a private company, and prior to April 2016 as a subsidiary of a public company, and had not been subject to the same financial and other reporting and corporate governance requirements as a public company. As a result of the completion of the Merger, as a public company, Sirius Group is required, among other things, to:

- prepare and file periodic reports in compliance with the federal securities laws;
- define and expand the roles and the duties of its board of directors and its committees;
- institute more comprehensive compliance, investor relations and internal audit functions; and
- evaluate and maintain its system of internal control over financial reporting, and report on management's assessment thereof, in compliance with rules and regulations of the SEC.

The changes necessitated by becoming a public company require a significant commitment of additional resources and management oversight, which has increased Sirius Group's operating costs and may divert attention away from the day-to-day management of the business. These changes also place significant additional demands on Sirius Group's finance and accounting staff, as they adjust to working for a newly public company, and on Sirius Group's financial accounting and information systems. Other expenses associated with being a public company include, but are not limited to, increases in auditing, accounting and legal fees and expenses, investor relations expenses, increased directors' fees and director and officer liability insurance costs, registrar and transfer agent fees and listing fees. The costs and time commitments of Sirius Group's staff could be substantially more than we currently expect. Therefore, our historical consolidated financial statements may not be indicative of our future costs and performance as a stand-alone public company. Moreover, if our finance and accounting personnel are unable for any reason to respond adequately to the increased demands resulting from being an independent public company, the quality and timeliness of our financial reporting may suffer, and we could experience significant deficiencies or material weaknesses in our disclosures.

In particular, the Sarbanes-Oxley Act of 2002 requires Sirius Group to document and test the effectiveness of its internal control over financial reporting in accordance with an established internal control framework, and to report on management's conclusions as to the effectiveness of its internal controls. In addition, Sirius Group is required under the Exchange Act to maintain disclosure controls and procedures and internal control over financial reporting. Sirius Group's operating results could be harmed or we may not be able to meet our reporting obligations if we fail to implement required new or improved controls, or encounter difficulties in their implementation. If management is unable to conclude that Sirius Group has effective internal control over financial reporting, investors could lose confidence in the reliability of its financial statements. This could result in a decrease in the value of Sirius Group common shares. Failure to comply with the Sarbanes-Oxley Act of 2002 could potentially subject Sirius Group to sanctions or investigations by the SEC, Nasdaq or other regulatory authorities.

A significant percentage of the outstanding Sirius Group common shares are held by a single shareholder, which could impact your liquidity, and future sales of Sirius Group common shares by this shareholder may lower the trading price of Sirius Group common shares.

CM Bermuda, a direct wholly owned subsidiary of CMIG International, owns approximately 96.0% of the outstanding Sirius Group common shares as of February 14, 2020. Continuation of this concentrated ownership would result in a limited amount of shares being available to be traded in the market, resulting in reduced liquidity. The shares held by CM Bermuda are restricted securities within the meaning of Rule 144 under the Securities Act of 1933, as amended (the "Securities Act") and are eligible for resale in the public market without registration subject to volume, manner of sale and holding period limitations under Rule 144 under the Securities Act. Further, pursuant to the Registration Rights Agreement, dated as of November 5, 2018, between the Company, CM Bermuda and Easterly Acquisition Sponsor, LLC, all of the common shares owned by CM Bermuda are eligible to be registered under the Securities Act, subject to certain limitations set forth in the registration rights agreement, and may be offered and sold to the public from time to time after the effectiveness of the related registration statement. Sirius Group has also filed a registration statement with respect to the resale of certain of its securities held by other holders, which has been declared effective by the SEC. CM Bermuda could at any time elect to require Sirius Group to file a registration statement to register any or all of its common shares, including in order to gain liquidity following the CMIG Defaults. Upon effectiveness of such registration statements, CM Bermuda or other holders may sell large amounts of Sirius Group common shares in the open market or in privately negotiated transactions, which could have the effect of increasing the volatility in Sirius Group common share price or putting significant downward pressure on the price of Sirius Group common shares. Sales of substantial amounts of Sirius Group common shares in the public market, or the perception that such sales will occur, could adversely affect the market price of Sirius Group common shares and make it difficult for it to raise funds through securities offerings in the future.

On February 25, 2020, CM Bermuda Ltd., the Company's controlling shareholder, executed a written resolution which may prohibit the Board from issuing any shares and taking certain other actions with respect to the shares without the prior approval of holders of the common shares of the Company representing at least 75% of the shareholder voting rights ("CMB Resolution"). The CMB Resolution could prevent the Company from performing a number of matters necessary to the operation of its business, including raising capital, even if necessary to meet regulatory or rating agency capital requirements, to finance its operations or to increase its public float, as well as incentivizing employees using shares of the Company, and completing equity-based financing of transactions, without the approval of CM Bermuda Ltd. If Sirius Group is unable to obtain such approval to complete financing, strategic or other transactions due to Sirius Group's inability to issue additional shares or securities convertible into or exercisable for shares, Sirius Group's financial condition and business prospects may be materially harmed, which may have a material adverse effect on its business and results from operations.

Sirius Group's bye-laws permit the Board to issue any authorized but unissued shares on such terms and conditions as it may determine, subject in some instances to a resolution of its shareholders to the contrary. The CMB Resolution states that the Board shall not exercise its powers to issue any common or preference shares, warrants, options or other forms of share equity, or to confer any new share rights or implement any rights plan, or to amend or vary or alter any rights attaching to any existing shares, in each case without the prior approval of holders of the common shares of the Company representing at least 75% of the shareholder voting rights (the "Shareholder Approval"), except for any shares or rights that the Company is contractually required to issue or amendments the Company is contractually required to make under a contract executed prior to February 25, 2020.

The CMB Resolution may have a material adverse effect on the Company's results from operations, including prohibiting the Board from conducting capital raises without the Shareholder Approval and demonstrating financial strength and independence to its rating agencies. This may lead to a downgrade and/or withdrawal of the financial strength ratings of Sirius Group by A.M. Best and/or Standard & Poor's. The CMB Resolution also jeopardizes the ability of the Board to act independently and free from the control and direction of CM Bermuda Ltd. on matters that are customarily overseen by the Board or a committee thereof, such as issuances of shares pursuant to authority previously granted to the Board under the bye-laws of the Company and granting long-term incentive compensation to employees in the form of equity-based awards pursuant to the Omnibus Incentive Plan previously approved by CM Bermuda Ltd. prior to the Company being publicly listed on Nasdaq.

There is no assurance that CM Bermuda Ltd., which as of the date of this report is the only shareholder with sufficient voting rights under the CMB Resolution to approve the matters restricted thereby, would approve any requested share issuances. If Sirius Group is unable to raise capital or finance strategic transactions with its common shares or any other form of equity, it may not be able to satisfy the capital requirements of its regulators and rating agencies, finance its operations and/or take actions to increase its public float.

The CMB Resolution may also result in Sirius Group becoming the subject of lawsuits initiated by minority shareholders, including lawsuits claiming that they are being unfairly oppressed by Sirius Group's controlling shareholder. In addition, the prohibition on issuance of shares without CM Bermuda Ltd.'s approval may prevent Sirius Group from receiving funds and/or credit as a borrower from a financial institution in order to support its business and operations.

Any of the foregoing events could have a material adverse effect on Sirius Group's business, prospects, financial condition, results from operations, liquidity and share price.

Sirius Group has become aware of recent announcements by CMIG regarding the CMIG Defaults. The CMIG Defaults may have financial, legal, regulatory, contractual and other implications that could have a material adverse effect on Sirius Group's business, prospects, financial condition, results from operations, liquidity and share price.

CMIG International, which is approximately 82% owned by CMIG, indirectly holds approximately 87% of the voting control over the Sirius Group equity securities as of December 31, 2019, through CMIG International's wholly-owned Bermuda holding company, CM Bermuda. In April 2019, subsidiaries of CMIG announced the existence of certain asset freeze orders relating to CMIG's Chinese subsidiaries and cross-defaults, relating to, among others, approximately US\$300 million and US\$500 million on certain of CMIG's subsidiaries' bonds not within the chain of control of Sirius Group. Since then, the US\$300 million bonds were subsequently accelerated and repaid in full, and the noteholders agreed to extend the maturity date of the US\$500 million notes from August 2, 2019 to August 2, 2020 and reduce the total aggregate principal amount to US\$450 million in connection with the payment of a US\$50 million mandatory partial redemption. In addition, on October 28, 2019, CMIG, through one of its subsidiaries, informed the holders of the US\$500 million notes that are now due in 2020 that CMIG has been progressing with investment and asset dispositions with respect to certain non-core businesses and investment projects and expects to use the proceeds from these dispositions to repay the notes and redeem an aggregate principal amount of US\$130 million of the notes with any interest accrued and unpaid thereon by June 2020. CMIG previously announced in mid-2019 that it was uncertain that certain super and short-term commercial paper obligations in the amount of approximately US\$220 million and US\$113 million would be timely repaid. However, these obligations were eventually repaid in full five and three days after the maturity date, respectively. In early 2019, a CMIG subsidiary announced that a previously declared US\$30 million dividend would be delayed due to concerns regarding a possible cash shortfall following the payment of the dividend. There were also previous public announcements by CMIG during 2019 that disclosed that an onshore creditors committee had been formed to stabilize the current situation and maintain the operations of CMIG.

Risks and uncertainties associated with the CMIG Defaults include the actions that CMIG may take to resolve its liquidity issues (such as a sale of Sirius Group), potential opposition to such actions from CMIG's creditors and other parties in interest and potential opposition to such actions from Sirius Group's other shareholders and stakeholders, potential disagreements between Sirius Group and CMIG regarding contractual indemnitees, as well as the actions that CMIG's creditors and government authorities may take (such as additional freezes on CMIG's assets, including directly or indirectly the Sirius Group common shares held by CM Bermuda, or involuntary bankruptcy or liquidation proceedings of CMIG). For more information about how the CMIG Defaults may impact Sirius Group, see the following risk factors elsewhere in this Item 1.A.: *"Sirius Group is reliant on financial strength and creditworthiness ratings, and any downgrade and/or change in outlook may have a material adverse effect on Sirius Group's business, prospects, financial condition and results from operations," "Sirius Group is subject to certain legal and regulatory restrictions concerning its ownership and control which could be violated in connection with CMIG or its creditors' plans to address the CMIG Defaults," "An 'ownership change' could limit Sirius Group's ability to utilize tax loss and credit carryforwards in the U.S. to offset future taxable income," "A significant percentage of the outstanding Sirius Group common shares are held by a single shareholder, which could impact your liquidity, and future sales of Sirius Group common shares by this shareholder may lower the trading price of Sirius Group common shares," and "The trading price of Sirius Group's securities is volatile and subject to wide fluctuations in response to various factors, some of which are beyond Sirius Group's control."*

In addition, as a result of these heightened risks and uncertainties, Sirius Group may be unable to enter into new relationships or preserve its existing relationships with third parties that are critical to maintaining its business. For example, Sirius Group has lost and may in the future lose business opportunities which may have been or could have been accretive to the long-term growth of the business. Clients and other business partners may seek to engage with other insurance and reinsurance companies that are not experiencing the same degree of uncertainty as Sirius Group. These circumstances could have a material adverse impact on Sirius Group's ability to maintain its existing business, to generate new business or to identify future partners to develop and expand its business. Sirius Group's ability to hire and retain qualified personnel has been and may in the future be similarly affected.

Although the CMIG Defaults do not trigger any defaults under Sirius Group's credit facilities, a change of control of Sirius Group as a result of the CMIG Defaults could trigger defaults under Sirius Group's credit facilities, and other effects of the CMIG Defaults could ultimately trigger redemption provisions of Sirius Group's Series B preference shares. In the event of acceleration of Sirius Group's debt obligations under and the termination of its credit facilities or a mandatory redemption of the Series B preference shares, Sirius Group may face challenges in refinancing its indebtedness on acceptable terms or at all, and may be unable to raise additional capital to fund the redemption payment or support its business, particularly as Sirius Group's credit ratings have been placed on a negative watch/outlook or if they are downgraded. In addition, due to the CMIG Defaults, CMIG International's status as a controlling shareholder could limit Sirius Group's ability to raise new equity and debt capital or execute on strategic objectives, including bolt-on acquisitions and strategic mergers & acquisitions. Any of the foregoing events could have a material adverse effect on Sirius Group's business, prospects, financial condition, results from operations, liquidity and share price.

Sirius Group's shareholders will be subject to significant dilution upon the occurrence of certain events, which could result in a decrease in the Sirius Group common share price.

In connection with the Merger, Sirius Group issued warrants to certain investors that may be exercised for an aggregate of 5.4 million common shares at an exercise price of \$21.53 per share, and converted warrants to the former Easterly stockholders that may be exercised for an aggregate of 6.1 million common shares at an exercise price of \$18.89 per share. In addition, Sirius Group has 14.1 million common shares reserved or designated for future issuance pursuant to the Sirius Group Long Term Incentive Plan and 2018 Omnibus Incentive Plan.

Sales of substantial amounts of Sirius Group common shares into the public markets by the holders of these warrants and equity grants following their exercise or vesting will be dilutive to Sirius Group's existing shareholders and could result in a decrease in the Sirius Group common share price.

Future issuances of any equity securities may dilute the interests of Sirius Group's shareholders and decrease the trading price of Sirius Group common shares.

Any future issuance of equity securities could dilute the interests of Sirius Group's shareholders and could substantially decrease the trading price of Sirius Group common shares. Sirius Group may issue equity or equity-linked securities in the future for a number of reasons, including to finance Sirius Group's operations and business strategy (including in connection with acquisitions and other transactions), to adjust Sirius Group's ratio of debt to equity, to satisfy its obligations upon the exercise of then-outstanding options or other equity-linked securities, if any, or for other reasons.

The trading price of Sirius Group's securities is volatile and subject to wide fluctuations in response to various factors, some of which are beyond Sirius Group's control.

The trading price of Sirius Group's securities is volatile and subject to wide fluctuations in response to various factors, some of which are beyond Sirius Group's control. Any of the factors listed below could have a material adverse effect on your investment in Sirius Group's securities and Sirius Group's securities may trade at prices significantly below the price paid for such securities. In such circumstances, the trading price of Sirius Group's securities may not recover and may experience a further decline.

Factors affecting the trading price of Sirius Group's securities may include:

- actual or anticipated fluctuations in Sirius Group's periodic financial results or the financial results of companies perceived to be similar to Sirius Group;
- changes in the market's expectations about Sirius Group's operating results;
- Sirius Group's operating results failing to meet the expectation of securities analysts or investors in a particular period;
- changes in financial estimates and recommendations by securities analysts concerning Sirius Group or its industry in general;
- operating and stock price performance of other companies that investors deem comparable to Sirius Group;
- changes in laws and regulations affecting Sirius Group's business;
- Sirius Group's ability to meet compliance requirements;
- commencement of litigation involving Sirius Group;
- changes in Sirius Group's capital structure, such as future issuances of securities or the incurrence of additional debt;
- the volume of Sirius Group common shares available for public sale;
- any major change in Sirius Group's board of directors or management;
- sales of substantial amounts of common shares by Sirius Group's directors, executive officers or significant shareholders or the perception that such sales could occur;
- the pendency of the CMIG Defaults, and actions taken by CMIG or its creditors in relation thereto; and
- general economic and political conditions such as recessions, interest rates, international currency fluctuations and acts of war or terrorism or other catastrophes.

Broad market and industry factors may materially harm the market price of Sirius Group's securities irrespective of its operating performance. The stock market in general, and Nasdaq in particular, has experienced price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of the particular companies affected. The trading prices and valuations of these stocks, and of Sirius Group's securities, may not be predictable. A loss of investor confidence in the market for insurance securities or the stocks of other companies which investors perceive to be similar to Sirius Group could depress Sirius Group's share price regardless of Sirius Group's business, prospects, financial conditions or results of operations. A decline in the market price of Sirius Group's securities also could adversely affect Sirius Group's ability to issue additional securities and its ability to obtain additional financing in the future.

Securities class action litigation is often brought against a public company following periods of volatility in the market price of its securities. Due to volatility in Sirius Group's share price, the depressed price of Sirius Group's common shares and the overhang of Sirius Group's controlling shareholder, including any actions taken in connection therewith by CMIG, CMIG's creditors and other parties in interest, Sirius Group, CM Bermuda or Sirius Group's other shareholders, regulators, ratings agencies or other stakeholders. Sirius Group may be the target of securities litigation in the future. Securities litigation could result in substantial uninsured costs and divert management's attention and Sirius Group's resources, and result in unexpected outcomes that may materially impact Sirius Group's business or operations.

Sirius Group's controlling shareholder, CM Bermuda, has significant influence over Sirius Group, which could limit your ability to influence the outcome of key transactions, including a change of control. CM Bermuda's interests may not be aligned with your interests on any matter requiring shareholder approval, and actions taken by CMIG International, CM Bermuda's controlling shareholder, could be adverse to Sirius Group and its other shareholders.

As of February 28, 2020, CM Bermuda beneficially owns, and is entitled to vote, approximately 87% of the voting power of Sirius Group's issued and outstanding equity securities. As a result, subject to the terms of the Shareholders Agreement dated November 5, 2018 and Sirius Group's bye-laws, CM Bermuda has the ability to elect all the members of Sirius Group's board of directors and thereby controls its business and affairs, including any determinations with respect to mergers or other business combinations, the acquisition or disposition of assets, the incurrence of indebtedness, the issuance of any additional common shares or other equity securities, the repurchase or redemption of common shares and the payment of dividends. In addition, CM Bermuda is able to determine the outcome of all matters requiring shareholder approval and, subject to the terms of the Shareholders Agreement, may cause or prevent a change of control of Sirius Group and could preclude any unsolicited acquisition of Sirius Group or any other strategic transaction involving Sirius Group that you may consider to be in your best interest. CM Bermuda's interests may not be aligned with your interests on any matter requiring shareholder approval. In addition, the concentration of ownership could deprive you of an opportunity to receive a premium for your common shares as part of a sale of Sirius Group, and may ultimately affect the market price of Sirius Group common shares.

Under Bermuda law, CM Bermuda may be able to acquire compulsorily the common shares of minority holders by a procedure under the Companies Act known as a "scheme of arrangement." A scheme of arrangement could be effected by obtaining the agreement of Sirius Group and of holders of common shares, representing in the aggregate a majority in number and at least 75% in value of the common shareholders present and voting at a court ordered meeting held to consider the scheme of arrangement. The scheme of arrangement must then be sanctioned by the Bermuda Supreme Court. If a scheme of arrangement receives all necessary agreements and sanctions, upon the filing of the court order with the Registrar of Companies in Bermuda, all holders of common shares could be compelled to sell their shares under the terms of the scheme of arrangement. As of the date of this Annual Report on Form 10-K, CM Bermuda owns in excess of 75% of Sirius Group's common shares and, therefore, CM Bermuda could choose to implement a scheme of arrangement.

As a "controlled company" within the meaning of Nasdaq rules, Sirius Group qualifies for exemptions from certain corporate governance requirements. Sirius Group has the opportunity to elect any of the exemptions afforded a controlled company, but has not made any such election as of the date of this Annual Report on Form 10-K.

Because CM Bermuda controls more than a majority of the total voting power for the election of directors, Sirius Group is a "controlled company" within the meaning of Nasdaq rules. Under these rules, a company of which more than 50% of the voting power is held by another person or group of persons acting together is a "controlled company" and may elect not to comply with certain stock exchange rules regarding corporate governance, including:

- the requirement that a majority of its board of directors consist of independent directors;
- the requirement that its director nominees be selected or recommended for the board's selection by a majority of the board's independent directors in a vote in which only independent directors participate or by a nominating committee comprised solely of independent directors, in either case, with a formal written charter or board resolutions, as applicable, addressing the nominations process and such related matters as may be required under the federal securities laws; and
- the requirement that its compensation committee be composed entirely of independent directors with a written charter addressing the committee's purpose and responsibilities.

Sirius Group does not currently rely on any of these exemptions, but there is no assurance that it will not rely on these exemptions in the future. If Sirius Group were to utilize some or all of these exemptions, you may not have the same protections afforded to shareholders of companies that are subject to all of the Nasdaq rules regarding corporate governance, and the trading price of Sirius Group common shares may be materially adversely affected.

As a "foreign private issuer" under the rules and regulations of the SEC, Sirius Group is permitted to file less or different information with the SEC than a company incorporated in the U.S. or otherwise subject to these rules, and to follow certain home country corporate governance practices in lieu of certain Nasdaq requirements applicable to U.S. issuers. Sirius Group has the opportunity to elect any of these exemptions afforded a foreign private issuer, but has not made any such election as of the date of this Annual Report on Form 10-K.

Sirius Group is considered a "foreign private issuer" under the rules and regulations of the SEC. Accordingly, Sirius Group is not required to file periodic reports and financial statements with the SEC as frequently or within the same time frames as U.S. companies with securities registered under the Exchange Act. In addition, Sirius Group is not required to comply with other regulations applicable to U.S. companies, including Regulation FD, which imposes restrictions on the selective disclosure of material information to shareholders. Furthermore, as a "foreign private issuer" whose common shares are listed on Nasdaq, Sirius Group is permitted to follow certain home country corporate governance practices in lieu of certain Nasdaq requirements.

Sirius Group does not currently rely on the scaled disclosure practices permitted by the SEC or the alternate governance practices permitted by Nasdaq, but there is no assurance that it will not rely on these exemptions in the future. If Sirius Group were to utilize some or all of these exemptions, you may not be provided with the same disclosures or have the same protections afforded to shareholders of companies that are subject to all of the SEC's disclosure requirements and Nasdaq rules regarding corporate governance, and the trading price of Sirius Group common shares may be materially adversely affected.

Sirius Group relies principally on dividends and other distributions on equity paid by Sirius Group's operating subsidiaries and limitations on their ability to pay dividends to Sirius Group could adversely impact shareholders' ability to receive dividends on Sirius Group common shares.

Dividends and other distributions on equity paid by Sirius Group's operating subsidiaries are Sirius Group's principal source for cash in order for Sirius Group to be able to pay any dividends and other cash distributions to its shareholders. If Sirius Group's operating subsidiaries incur debt on their own behalf in the future, the instruments governing the debt may restrict their ability to pay dividends or make other distributions to Sirius Group.

You will have limited ability to bring an action against Sirius Group or against Sirius Group's directors and officers, or to enforce a judgment against Sirius Group or them, because Sirius Group is incorporated in Bermuda and because certain of Sirius Group's directors and officers reside outside the U.S.

Sirius Group is incorporated in Bermuda and conducts much of its operations outside the U.S. Certain of Sirius Group's officers and directors reside outside the U.S. and a substantial portion of the assets of those persons are located outside of the U.S. As a result, it could be difficult or impossible for you to bring an action against Sirius Group or against these individuals in Bermuda in the event that you believe that your rights have been infringed under the applicable securities laws or otherwise. Even if you are successful in bringing an action of this kind, the laws of Bermuda could render you unable to enforce a judgment against Sirius Group's assets or the assets of Sirius Group's directors and officers.

In addition, class actions and derivative actions are generally not available to shareholders under Bermuda law. The Bermuda courts, however, would ordinarily be expected to permit a shareholder to commence an action in the name of a company to remedy a wrong to the company where the act complained of is alleged to be beyond the corporate power of the company or illegal, or would result in the violation of the company's memorandum of association or bye-laws, including any breach of fiduciary duty claims in cases where the actions from which such claims arise have not been ratified by a majority of the shareholders.

As a result of the above, Sirius Group shareholders may have more difficulty in protecting their interests in the face of actions taken by management, members of the board of directors or controlling shareholders than they would as public shareholders of a U.S. company.

If securities or industry analysts do not publish or cease publishing research or reports about Sirius Group, its business or its industry, or if they change their recommendations regarding Sirius Group common shares adversely, the price and trading volume of the common shares could decline.

The trading market for Sirius Group common shares is influenced by the research and reports that industry or securities analysts may publish about Sirius Group, its business, its industry or its competitors. Securities and industry analysts are not required to publish research on Sirius Group. If any of the analysts who may cover Sirius Group change their recommendation regarding Sirius Group common shares adversely, or provide more favorable relative recommendations about Sirius Group's competitors, the price of Sirius Group common shares would likely decline. If any analyst who may cover Sirius Group were to cease coverage of Sirius Group or fail to regularly publish reports on it, Sirius Group could lose visibility in the financial markets, which in turn could cause its share price or trading volume to decline.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Sirius Group maintains a professional office, which we lease, located at 14 Wesley Street, Hamilton, Bermuda, which also serves as our headquarters and our registered office. We and our subsidiaries lease office space throughout the United States, Canada, Europe and Asia. We believe that our office space is sufficient for us to conduct our operations for the foreseeable future.

Item 3. Legal Proceedings

Sirius Group, 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 Group's estimates of the costs of settling matters routinely encountered in claims activity are reflected in the reserves for unpaid loss and LAE.

Although the ultimate outcome of claims and non-claims-related litigation and arbitration, and the amount or range of potential loss at any particular time, is often inherently uncertain, management does not believe that the ultimate outcome of such claims and non-claims-related litigation and arbitration will have a material adverse effect on Sirius Group's financial condition, results of operations or cash flows. See Note 22 "*Commitments and Contingencies—Legal Proceedings*" in Sirius Group's audited financial statements included elsewhere this Annual Report on Form 10-K.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information and Number of Holders

Our common shares have been listed on the Nasdaq Global Select Market under the symbol "SG" since November 5, 2018. Prior to that time, there was no public market for our common shares.

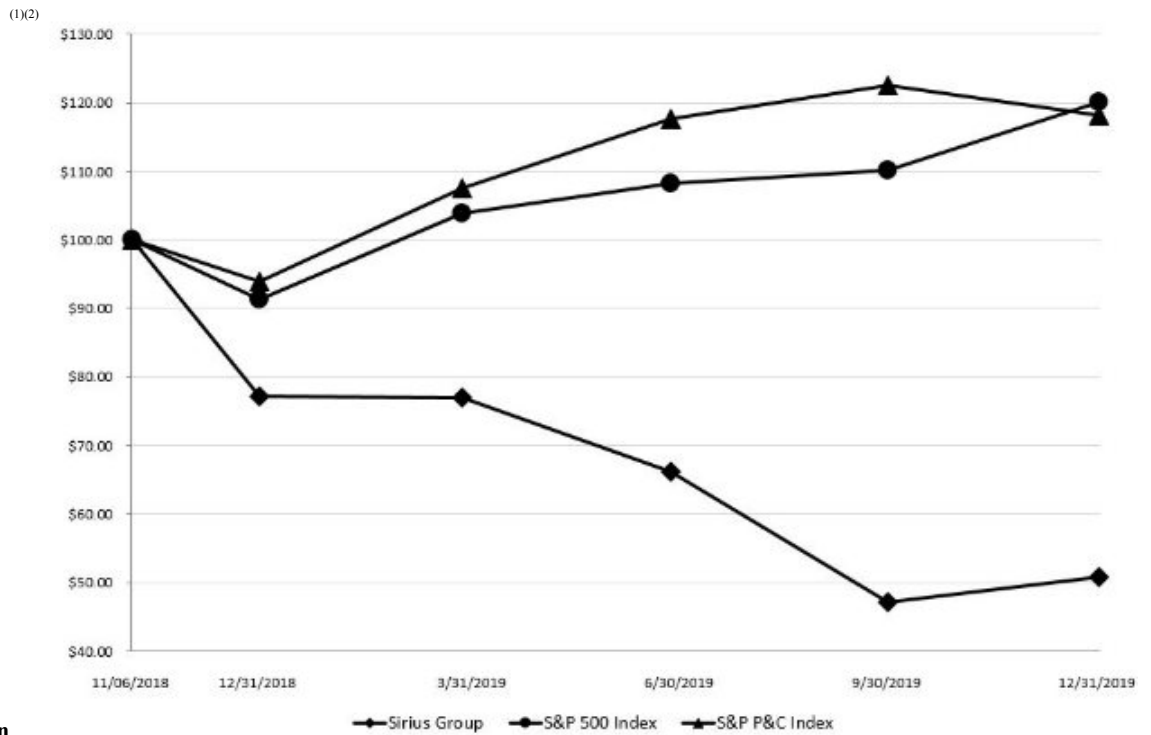
On January 31, 2020, there were 387 shareholders of record of our common shares.

Dividend Policy

As of December 31, 2019, we have not paid any dividends to our public shareholders. While we expect to pay cash dividends in the future, the declaration and payment of future dividends will be at the discretion of our Board of Directors and will depend upon many factors, including our earnings, financial condition, business needs, capital and surplus requirements of our operating subsidiaries and regulatory and contractual restrictions, including those set forth in our credit facilities. For additional information regarding our liquidity and capital resources refer to Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources".

Performance Graph

The following graph compares cumulative total shareholder return on our common shares since November 6, 2018 (first day of trading) through December 31, 2019 to the cumulative total return, assuming reinvestment of dividends, of S&P 500 Composite Stock Index ("S&P 500 Index") and the S&P 500 Property & Casualty Insurance Index ("S&P P&C Index"). The graph assumes that \$100 was invested on November 5, 2018. The share price performance presented below is not necessarily indicative of future results.



Cumulative Total Shareholder Return

⁽¹⁾Stock price appreciation plus dividends.

⁽²⁾This graph is not "soliciting material" is not deemed filed with the SEC, and is not to be incorporated by reference in any filing by us under the Securities Act of 1933 or the Securities and Exchange Act of 1934.

Unregistered Sales of Equity Securities

Not applicable.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

Not applicable.

Item 6. Selected Financial Data

The following table sets forth selected consolidated historical financial information derived from Sirius Group's (i) audited financial statements included elsewhere in this Annual Report on Form 10-K as of December 31, 2019 and 2018 and for the years ended December 31, 2019, 2018, and 2017, (ii) audited financial statements not included elsewhere in this Annual Report on Form 10-K as of December 31, 2017 and 2016 and for the years ended December 31, 2016 and 2015, and (iii) unaudited financial statements not included elsewhere in this Annual Report on Form 10-K as of December 31, 2015. You should read the following selected financial information in conjunction with the sections entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Financial Statements and Supplementary Data".

	For the Years Ended December 31,				
	2019	2018	2017	2016	2015
	(in millions, except for share and per share amounts)				
Selected Statement of (Loss) Income Data:					
Net earned insurance and reinsurance premiums	\$ 1,441.6	\$ 1,262.3	\$ 1,035.3	\$ 890.1	\$ 847.0
Net investment income	84.7	71.4	56.8	56.2	39.9
Net realized investment gains (losses)	56.7	2.3	(27.2)	288.3	138.5
Net unrealized investment gains (losses)	80.6	(23.2)	(10.5)	(238.2)	102.5
Other revenue	55.1	112.7	21.7	9.1	(2.4)
Loss and loss adjustment expenses	1,170.3	900.0	811.2	519.3	422.7
Insurance and reinsurance acquisition expenses	288.7	255.4	197.2	210.3	189.8
Other underwriting expenses	138.2	146.2	106.1	107.3	107.9
General and administrative expenses	109.8	77.9	91.9	85.1	27.1
Interest expense on debt	31.0	30.8	22.4	34.6	26.6
Net (loss) income attributable to Sirius Group's common shareholders	(38.1)	(43.3)	(156.1)	32.5	291.2
Comprehensive (loss) income attributable to Sirius Group	(82.4)	(80.0)	(78.3)	(33.6)	196.2
Per Common Share Data:					
Basic earnings per common share and common share equivalent	\$ (0.33)	\$ (0.36)	\$ (1.30)	\$ 0.27	\$ 2.43
Diluted earnings per common share and common share equivalent	\$ (0.37)	\$ (0.36)	\$ (1.30)	\$ 0.27	\$ 2.43
Cash dividends declared per common share	\$ —	\$ —	\$ —	\$ 0.23	\$ —
Basic weighted average number of common shares and common shares equivalents outstanding ⁽¹⁾	115,234,105	119,253,924	120,000,000	120,000,000	120,000,000
Diluted weighted average number of common shares and common share equivalents outstanding ⁽²⁾	127,135,775	119,253,924	120,000,000	120,000,000	120,000,000
Operating Ratios:					
Loss and loss adjustment expense ratio ⁽³⁾	81.2%	71.3%	78.4%	58.3%	49.9%
Acquisition expense ratio ⁽⁴⁾	20.0%	20.2%	19.0%	23.6%	22.4%
Other underwriting expense ratio ⁽⁵⁾	9.6%	11.6%	10.2%	12.1%	12.7%
Combined ratio ⁽⁶⁾	110.8%	103.1%	107.6%	94.0%	85.0%

	As of December 31,				
	2019	2018	2017	2016	2015
	(in millions, except for share and per share amounts)				
Selected Balance Sheet Data:					
Total investments and cash	\$ 3,668.8	\$ 3,541.9	\$ 3,604.3	\$ 3,814.5	\$ 3,678.2
Reinsurance recoverable on unpaid losses	410.3	350.2	319.7	291.5	283.1
Total assets	6,413.8	6,007.7	5,823.6	5,166.5	5,091.9
Loss and loss adjustment expense reserves	2,331.5	2,016.7	1,898.5	1,620.1	1,644.4
Unearned insurance and reinsurance premiums	708.0	647.2	506.8	398.0	342.2
Debt	685.2	696.8	723.2	396.2	403.0
Total common shareholders' equity	1,640.4	1,704.5	1,917.0	1,988.1	1,959.1
Book value per common share	\$ 14.23	\$ 14.80	\$ 15.98	\$ 16.57	\$ 16.33
Common shares outstanding	115,299,341	115,151,251	120,000,000	120,000,000	120,000,000

⁽¹⁾On April 27, 2016, Sirius Group split its 12,000 common shares by a multiple of 10,000 resulting in 120,000,000 common shares and changed the par value of the common shares from \$1.00 per share to \$0.01 per share. Sirius Group's basic and diluted earnings per share calculations have been retrospectively adjusted for all periods presented to reflect the change in capital structure.

⁽²⁾As of December 31, 2019 and 2018, Sirius Group had 6,088,535 warrants issued to former Easterly shareholders and 5,418,434 warrants issued to Series B preference shareholders outstanding. The Company also granted incentive compensation awards which provides for certain employees to purchase fully-vested common shares and be issued performance unit shares, which would give rise to potential additional Sirius Group shares outstanding. See Note 3 ("Significant transactions"), Note 14 ("Employee benefit plans and compensation plans"), and Note 16 ("Earnings per share") in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for additional information.

⁽³⁾The loss and loss adjustment expense ratio is calculated by dividing loss and loss adjustment expenses by net earned insurance and reinsurance premiums.

⁽⁴⁾The acquisition expense ratio is calculated by dividing insurance and reinsurance acquisition expenses by net earned insurance and reinsurance premiums.

⁽⁵⁾The other underwriting expense ratio is calculated by dividing other underwriting expenses by net earned insurance and reinsurance premiums.

⁽⁶⁾The combined ratio is calculated by combining the loss and loss adjustment ratio, the acquisition expense ratio, and the other underwriting expense ratio.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following is management's discussion and analysis ("MD&A") of the Company's audited consolidated results of operations for the years ended December 31, 2019 and 2018 and the Company's consolidated financial condition, liquidity and capital resources as of and for the year ended December 31, 2019. This discussion and analysis should be read in conjunction with the Company's audited consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP").

Pursuant to the FAST Act Modernization and Simplification of Regulation S-K, discussions related to the results of operations for the year ended December 31, 2018 in comparison to the year ended December 31, 2017 have been omitted. For such omitted discussions, refer to Item 7 "Management's Discussion and Analysis of Consolidated Results of Operations and Financial Condition" in Part II of the Company's Annual Report on Form 10-K for the year ended December 31, 2018.

The following MD&A includes forward-looking statements, which are subject to risks, uncertainties and other factors that could cause our actual results to differ materially from those expressed or implied by our forward-looking statements. See "Cautionary Note Regarding Forward-Looking Statements."

Index to Management's Discussion and Analysis of Financial Condition and Results of Operations

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Overview

The Company is a Bermuda exempted company that provides multi-line insurance and reinsurance on a worldwide basis through its wholly owned subsidiaries. Sirius Group's key insurance and reinsurance subsidiaries include Sirius Bermuda Insurance Company Ltd. ("Sirius Bermuda"), Sirius International Insurance Corporation ("Sirius International"), Sirius America Insurance Company ("Sirius America"), Sirius International Corporate Member Limited, a Lloyd's of London ("Lloyd's") Corporate Member, and Sirius Global Solutions Holding Company ("Sirius Global Solutions"). In addition, Sirius International sponsors Lloyd's Syndicate 1945 ("Syndicate 1945") and Sirius International Corporate Member participates in the Lloyd's market, which in turn provides underwriting capacity to Syndicate 1945. In addition to the key insurance and reinsurance subsidiaries, we own two managing general underwriters ("MGUs"), International Medical Group, Inc. ("IMG") and ArmadaCorp Capital, LLC ("Armada").

On November 5, 2018, Sirius Group merged (the "Merger") with Easterly Acquisition Corp. ("Easterly") pursuant to a definitive agreement and plan of merger, which resulted in Sirius Group becoming a publicly listed company. Following the Merger, the Company's common shares are traded on the Nasdaq Global Select Market ("Nasdaq") under the symbol "SG." See Note 3 "*Significant Transactions*" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for further details on the Easterly merger.

Reportable Segments

As of December 31, 2019, our business consisted of the following reportable segments:

- Global Property, which offers other property insurance and reinsurance, property catastrophe excess reinsurance, and agriculture reinsurance products on a worldwide basis;
- Global A&H, which consists of Sirius Group's Global A&H insurance and reinsurance underwriting unit along with IMG and Armada, which provide supplemental healthcare and medical travel insurance products as well as related administration services;
- Specialty & Casualty, which offers insurance and reinsurance specialty & casualty product lines consisting of Aviation & Space, Marine, Trade Credit, Contingency, Casualty, Surety and Environmental specialty lines on a worldwide basis; and
- Runoff & Other, which is comprised of asbestos risks, environmental risks, and other long-tailed liability exposures, in addition to results from Sirius Global Solutions.

On December 31, 2019, the Company completed an internal reorganization to optimize the Company's operations, better serve its clients and make the Company more nimble and efficient, resulting in a change in reportable segments beginning with the first quarter of 2020. See Item 1 "*Business*" for additional information.

Marketplace Trends

The global insurance and reinsurance marketplace is highly competitive, cyclical, and evolving. Around the globe, we increasingly see the impacts of climate change, such as rising sea levels, increased rainfall and flooding, and intensifying hurricanes. Catastrophe events appear to be increasing in frequency and severity, and more often are coming from non-, or under-, modeled zones.

Recent years have been characterized by decreasing margins, particularly in the property business where there has been an influx of capital into the industry. Post-event loss emergence has increased with recent events, notably in Japan and the Florida hurricanes since 2017. Later recognition of losses has also impacted the casualty business, with "social inflation" as a significant contributor. Social inflation is also causing increased severity. These trends are likely to lead to a continued erosion of industry reserves. Depending upon class of business, recent loss history, and geography, the aforementioned stresses have led to overall increased rates during the year, and a challenging retrocessional market, as reinsurers have been more thoughtful in allocating capital.

With these varying market conditions, it is helpful to have different "tools in the toolkit" to expand into, and pull back from, various markets as appropriate. For example, we have a unique pro-rata outwards retrocessional program which fosters partnerships that mutually benefit each other's books of business and adds diversification. Sirius Group has seasoned underwriting teams throughout our extensive global branch network allowing us to foster "local" relationships across the globe helping us to succeed throughout different underwriting cycles. Underneath it all, Sirius Group has a disciplined underwriting culture that focuses on carefully deploying capital to achieve underwriting profitability.

The global insurance and reinsurance industry, which has historically been slow to evolve relative to other industries, is becoming more innovative. Lloyd's, for example, is working hard to execute upon its Future at Lloyd's strategy. Significant capital has flown into technology start-ups, which is prompting legacy carriers to implement more efficient back-end processes and find innovative ways to deliver value to their clients. We believe that delivery of services to clients will become increasingly digitally enabled as time progresses. During 2019, we began to push forward organizational changes to globalize and unify the various businesses, and transform functions, including technology, that service these businesses.

As loss reserves become stressed, and with recent entrants to the reinsurance industry failing to gain scale on underwriting operations, we believe that there will be opportunities for further consolidation. The modern Sirius Group was built through a series of accretive M&A transactions in the 1990s through 2004, when Sirius International was acquired, and in 2017, when Armada and IMG were purchased. Sirius Group has the experience and tools to execute growth in intrinsic value in this fashion going forward.

We have a strong reputation in the insurance and reinsurance industry and a knowledgeable and experienced management team. We will opportunistically react as the industry evolves, adding underwriting teams who value our underwriting-comes-first culture during a time of market consolidation. We have the resources, skill-set, and innovative mentality to provide insurance and reinsurance solutions to a variety of customers.

Executive Summary

Years Ended December 31, 2019 and 2018

Sirius Group ended 2019 with net (loss) attributable to common shareholders of \$(38) million. Basic earnings per common share was \$(0.33) and diluted earnings per common share was \$(0.37). This compares to a net (loss) attributable to common shareholders of \$(43) million and basic and diluted earnings per common share of \$(0.36) in 2018. The decrease was primarily due to higher net realized and unrealized investment gains, partially offset by net unfavorable prior year loss reserve development and higher current accident year losses in the Global Property and Specialty & Casualty segments. In both 2019 and 2018, Sirius Group recorded catastrophe losses, net of reinsurance and reinstatement premiums, of \$194 million. Catastrophe losses, net of reinsurance and reinstatement premiums, for 2019 included \$65 million for Typhoon Hagibis, \$53 million for Typhoon Faxai, and \$40 million for Hurricane Dorian, whereas catastrophe losses in 2018, net of reinsurance and reinstatement premiums, included \$91 million for Typhoon Jebi, \$36 million for Hurricane Michael, \$12 million for the California wildfires, and \$9 million for Typhoon Trami. The 2019 results included \$104 million of net unfavorable prior year loss reserve development compared to \$7 million of net favorable prior year loss reserve development in 2018.

Sirius Group's combined ratio was 111% for the year ended December 31, 2019 compared to 103% for the year ended December 31, 2018. The increase in the combined ratio was driven primarily by net unfavorable prior year loss reserve development and higher current accident year losses in the Global Property and Specialty & Casualty segments. Sirius Group's 2019 combined ratio was impacted by 7 points of net unfavorable prior year loss reserve development compared to 1 point of net favorable prior year loss reserve development in 2018. The combined ratio included 13 points of catastrophe losses, net of reinsurance and reinstatement premiums, compared to 15 points for 2018.

Book Value Per Share

Sirius Group ended 2019 with book value per common share of \$14.23 compared to \$14.80 as of December 31, 2018, a decrease of 3.9% due to the comprehensive (loss) of \$(82) million recognized for 2019. Total common shareholders' equity at the end of 2019 was \$1,640 million compared to \$1,704 million as of December 31, 2018.

Return on equity

Return on equity ("ROE"), calculated by dividing Net (loss) attributable to Sirius Group's common shareholders for the period by beginning common shareholders' equity, was (2.2)% for 2019 compared to (2.3)% for 2018 due to a lower net (loss) recognized.

Adjusted Book Value Per Share

Sirius Group ended 2019 with Adjusted book value per share of \$14.57, which assumes that the Series B preference shares will convert into common shares on a one-for-one basis, and also incorporates the impact of dilution arising from share-based compensation programs, compared to \$15.24 as of December 31, 2018, a decrease of 4.4% due to the comprehensive (loss) recognized. For 2019, Adjusted book value and Adjusted book value per share include the earned effects of share-based compensation awards issued during 2019.

See "Non-GAAP Financial Measures" for an explanation and calculation of Adjusted book value and Adjusted book value per share.

Adjusted Tangible Book Value Per Share

Sirius Group ended 2019 with Adjusted tangible book value per share of \$10.22, which is derived by subtracting Goodwill, Intangible assets, and Net deferred tax liability on intangible assets from Adjusted book value, and also incorporates the impact of dilution arising from share-based compensation programs, compared to \$10.76 as of December 31, 2018, a decrease 5.0% due to the comprehensive (loss) recognized.

See "Non-GAAP Financial Measures" for an explanation and calculation of Adjusted tangible book value and Adjusted tangible book value per share.

Operating (loss) attributable to common shareholders

For the year ended December 31, 2019, Operating (loss) attributable to common shareholders was \$(162) million compared to \$(56) million for the year ended December 31, 2018, primarily due to a higher net underwriting (loss) recognized for the year ended December 31, 2019.

See "Non-GAAP Financial Measures" for an explanation and calculation of Operating (loss) attributable to common shareholders.

Consolidated Results of Operations – Years Ended December 31, 2019, 2018, and 2017
(Expressed in millions of U.S. dollars, except ratios, share, and per share information)

Years ended December 31,	2019	2018	2017
Revenues			
Gross written premiums	\$ 1,902.7	\$ 1,821.0	\$ 1,439.3
Net written premiums	\$ 1,502.6	\$ 1,357.1	\$ 1,090.2
Net earned insurance and reinsurance premiums	\$ 1,441.6	\$ 1,262.3	\$ 1,035.3
Net investment income	84.7	71.4	56.8
Net realized investment gains (losses)	56.7	2.3	(27.2)
Net unrealized investment gains (losses)	80.6	(23.2)	(10.5)
Net foreign exchange gains	7.7	22.7	9.2
Revaluation of contingent consideration	(6.3)	9.6	48.8
Other revenue	55.1	112.7	21.7
Total revenues	1,720.1	1,457.8	1,134.1
Expenses			
Loss and loss adjustment expenses ("LAE")	1,170.3	900.0	811.2
Insurance and reinsurance acquisition expenses	288.7	255.4	197.2
Other underwriting expenses	138.2	146.2	106.1
General and administrative expenses	109.8	77.9	91.9
Intangible asset amortization expenses	15.8	15.8	10.2
Impairment of intangible assets	—	8.0	5.0
Interest expense on debt	31.0	30.8	22.4
Total expenses	1,753.8	1,434.1	1,244.0
Pre-tax (loss) income	(33.7)	23.7	(109.9)
Income tax (expense)	(11.9)	(40.4)	(26.4)
Net (loss)	(45.6)	(16.7)	(136.3)
Income attributable to non-controlling interests	(1.7)	(1.4)	(13.7)
Net (loss) attributable to Sirius Group	(47.3)	(18.1)	(150.0)
Accrued dividends on Series A redeemable preference shares	—	(2.6)	(6.1)
Change in carrying value of Series B preference shares	9.2	(36.4)	—
Redemption of Series A redeemable preference shares	—	13.8	—
Net (loss) attributable to Sirius Group's common shareholders	\$ (38.1)	\$ (43.3)	\$ (156.1)
Comprehensive (loss)			
Net (loss)	\$ (45.6)	\$ (16.7)	\$ (136.3)
Other comprehensive (loss) income, net of tax			
Change in foreign currency translation, net of tax	(35.1)	(61.9)	71.7
Total other comprehensive (loss) income	(35.1)	(61.9)	71.7
Comprehensive (loss)	(80.7)	(78.6)	(64.6)
Income attributable to non-controlling interests	(1.7)	(1.4)	(13.7)
Comprehensive (loss) attributable to Sirius Group	\$ (82.4)	\$ (80.0)	\$ (78.3)
Ratios:			
Loss ratio ⁽¹⁾	81.2 %	71.3 %	78.4 %
Acquisition expense ratio ⁽²⁾	20.0 %	20.2 %	19.0 %
Other underwriting expense ratio ⁽³⁾	9.6 %	11.6 %	10.2 %
Combined ratio⁽⁴⁾	110.8 %	103.1 %	107.6 %
Selected financial data:			
Basic earnings per common share and common share equivalent	\$ (0.33)	\$ (0.36)	\$ (1.30)
Diluted earnings per common share and common share equivalent	\$ (0.37)	\$ (0.36)	\$ (1.30)
Basic weighted average number of common shares and common share equivalents outstanding	115,234,105	119,253,924	120,000,000
Diluted weighted average number of common shares and common share equivalents outstanding	127,135,775	119,253,924	120,000,000
Return on equity ⁽⁵⁾	(2.2)%	(2.3)%	(7.9)%
Operating (loss) attributable to common shareholders ⁽⁶⁾	\$ (161.7)	\$ (56.4)	\$ (128.4)
⁽¹⁾ The loss ratio is calculated by dividing loss and LAE expenses by net earned insurance and reinsurance premiums. ⁽²⁾ The acquisition expense ratio is calculated by dividing insurance and reinsurance acquisition expenses by net earned insurance and reinsurance premiums. ⁽³⁾ The other underwriting expense ratio is calculated by dividing other underwriting expenses by net earned insurance and reinsurance premiums. ⁽⁴⁾ The combined ratio is calculated by combining the loss ratio, the acquisition expense ratio, and the other underwriting expense ratio. ⁽⁵⁾ Return on equity is calculated by dividing Net (loss) attributable to Sirius Group's common shareholders for the period by beginning common shareholders' equity. ⁽⁶⁾ Operating (loss) attributable to common shareholders is a non-GAAP financial measure. See "Non-GAAP Financial Measures" for an explanation and calculation of Operating (loss) attributable to common shareholders.			
Selected balance sheet data:			
Book value per common share ⁽¹⁾	\$ 14.23	\$ 14.80	

Adjusted book value per share ⁽²⁾	\$	14.57	\$	15.24
Adjusted tangible book value per share ⁽²⁾	\$	10.22	\$	10.76

⁽¹⁾Book value per common share is calculated by dividing Total common shareholders' equity by the total number of Common shares outstanding.

⁽²⁾Adjusted book value per share and Adjusted tangible book value per share are non-GAAP financial measures. See "Non-GAAP Financial Measures" for an explanation and calculation of Adjusted book value per share and Adjusted tangible book value per share.

Years Ended December 31, 2019 and 2018

Gross written premiums – Gross written premiums in 2019 were \$1,903 million, an increase of \$82 million or 5% compared to gross written premiums of \$1,821 million in 2018, with Specialty & Casualty up 41%, Global A&H up 18%, and Global Property down 12%. Absent the effect of a single fronting arrangement within the Global Property segment, gross written premiums increased 8% compared to the prior year. See "Results of Reportable Segments" below.

Net written premiums – Net written premiums in 2019 were \$1,503 million, an increase of \$146 million or 11% compared to net written premiums of \$1,357 million in 2018, with Specialty & Casualty up 42%, Global A&H up 21%, and Global Property down 4%. See "Results of Reportable Segments" below.

Net earned insurance and reinsurance premiums – Net earned insurance and reinsurance premiums in 2019 were \$1,442 million, an increase of \$180 million or 14% compared to net earned insurance and reinsurance premiums of \$1,262 million in 2018, with Specialty & Casualty up 50%, Global A&H up 24%, and Global Property flat. See "Results of Reportable Segments" below.

Net investment income, Net realized investment gains (losses), Net unrealized investment gains (losses) and Net foreign exchange gains – Net investment income increased 20% to \$85 million in 2019 from \$71 million in 2018 due primarily to a higher interest rate environment at the time of reinvestment. Sirius Group reported net realized investment gains of \$57 million in 2019, which included \$50 million of net realized foreign currency gains, compared to net realized investment gains of \$2 million in 2018, which included \$17 million of net realized foreign currency gains. Net unrealized investment gains were \$81 million in 2019, which included \$(6) million of net unrealized foreign currency (losses), compared to net unrealized investment (losses) of \$(23) million in 2018, which included \$36 million of net unrealized foreign currency gains. See "Summary of Investment Results" below. Additionally, Sirius Group recorded \$8 million of non-investment related foreign exchange gains in 2019 compared to \$23 million of non-investment related foreign exchange gains in 2018. Included in the 2019 amount is \$13 million of favorable currency movement compared to \$28 million of favorable foreign currency movement in 2018 on the SEK Subordinated Notes (as defined herein). See "Foreign Currency Translation" below.

Revaluation of contingent consideration – Revaluation of contingent consideration was \$(6) million and \$10 million in 2019 and 2018, respectively, due to the revaluation of contingent consideration related to the remeasurement of the contingent earnouts in connection with each of the acquisitions of IMG and Armada (the "IMG Earnout" and the "Armada Earnout," respectively).

Other revenue – Other revenue decreased to \$55 million in 2019 from \$113 million in 2018. The decrease in other revenue was primarily attributable to a change in management's estimate of a right of indemnification against a third party in connection with an uncertain tax position that was recorded in 2018.

Loss and loss adjustment expenses – Loss and loss adjustment expenses increased 30% to \$1,170 million in 2019 from \$900 million in 2018 primarily due to net unfavorable prior year loss reserve development and increased net earned insurance and reinsurance premiums. See "Results of Reportable Segments" below.

Insurance and reinsurance acquisition expenses – Insurance and reinsurance acquisition expenses increased 13% to \$289 million in 2019 from \$255 million in 2018 primarily due to an increase in net earned insurance and reinsurance premiums for the Specialty & Casualty and Global A&H segments, partially offset by lower acquisition expenses for Global Property, primarily due to business mix. See "Results of Reportable Segments" below.

Other underwriting expenses – Other underwriting expenses decreased 5% to \$138 million in 2019 from \$146 million in 2018 primarily due to increased allocation of operating expenses to General and administrative expenses for corporate related activities in 2019. See "Results of Reportable Segments" below.

General and administrative expenses – General and administrative expenses increased 41% to \$110 million in 2019 from \$78 million in 2018 due to an increase in professional fees and expenses related to IMG.

Impairment of intangible assets – In 2018, Sirius Group recognized an impairment of \$8 million related to trade names acquired as part of the acquisition of IMG. No impairment was recognized in 2019.

Summary of Investment Results

Pre-Tax return on investments

Total return on investments includes investment income, net realized gains and losses, and the change in unrealized gains and losses generated by the investment portfolio including equity method eligible investments for which we have made a fair value election. Total return is calculated on a pre-tax basis and includes the impact of investment related foreign exchange gains or losses whether reflected in pre-tax income or other comprehensive income, unless otherwise noted. Returns are calculated on average investments for the period displayed and presented gross of separately managed account fees as well as internal expenses in order to produce a better comparison to benchmark returns that exclude an expense load.

Sirius Group maintains an equity portfolio that consists of equity securities and other long-term investments, including hedge funds, private equity funds, and direct investments in privately held common equity securities investments. From time to time, Sirius Group may also invest in exchange-traded funds ("ETFs") and mutual funds. For return purposes, investments in fixed-income ETFs and mutual funds are included in the fixed income results and excluded from equity portfolio results. Returns exclude the impact of third-party currency forwards and/or swaps.

The following is a summary of Sirius Group's total pre-tax net investment results and performance metrics for the years ended 2019, 2018, and 2017:

(Millions)	Years Ended December 31,		
	2019	2018	2017
Pre-tax investment results			

Net investment income	\$	84.7	\$	71.4	\$	56.8
Net realized and unrealized investment gains (losses) ⁽¹⁾		137.3		(20.9)		(37.7)
Change in foreign currency translation on investments recognized through other comprehensive income ⁽²⁾		(43.6)		(96.6)		83.9
Net pre-tax investment gains (losses)	\$	178.4	\$	(46.1)	\$	103.0

⁽¹⁾Includes foreign exchange gains (losses) for the years ended December 31, 2019, 2018, and 2017 of \$44.7 million, \$53.0 million, and \$(70.8) million, respectively.

⁽²⁾Excludes non-investment related foreign exchange gains for the years ended December 31, 2019, 2018, and 2017 of \$7.7 million, \$22.7 million, and \$9.2 million, respectively.

	Years Ended December 31,		
	2019	2018	2017
Performance metrics			
Total fixed income investment returns:			
In U.S. dollars	3.5%	0.4 %	2.9 %
In local currencies	3.7%	1.5 %	1.8 %
<i>Bloomberg Barclays U.S. Agg 1-3 Year Total Return Value Unhedged USD</i>	4.0%	1.6 %	0.9 %
<i>OMX Stockholm OMRX Total Bond Index</i>	1.1%	1.0 %	0.3 %
<i>Bloomberg Barclays Pan-European Aggregate: Corp 1-3 Years Total Return</i>	2.3%	(0.2)%	(0.1)%
Total equity securities and other long-term investments returns:			
In U.S. dollars	13.3%	(6.7)%	16.8 %
In local currencies	12.5%	(5.1)%	13.8 %
<i>S&P 500 Index (total return)</i>	31.5%	(4.4)%	21.8 %
Total consolidated portfolio			
In U.S. dollars	5.2%	(0.9)%	4.1 %
In local currencies	5.2%	0.3 %	2.9 %

Years Ended December 31, 2019 and 2018

Sirius Group's pre-tax total gross return on invested assets was 5.2% in 2019 compared to (0.9)% in 2018; currency had no impact on the 2019 investment result. The investment result for 2018 was adversely impacted by the strengthening of the U.S. dollar which reduced our return by (1.2)%.

Net investment income was \$85 million for 2019 compared to \$71 million for 2018. The increase was driven by higher earned income from our fixed income securities and other long term investments. In addition, the increase was driven by a higher interest rate environment at the time of reinvestment.

Net realized and unrealized investment gains (losses), excluding foreign currency, were \$93 million in 2019 compared to \$(74) million in 2018. The increase was driven by unrealized investment gains consistent with overall market performance.

Fixed income results (including short-term investments)

As of December 31, 2019, the fixed income portfolio duration was approximately 1.6 years compared to 1.7 years as of December 31, 2018. The average credit quality of the fixed income portfolio, including short-term investments, was AA as of December 31, 2019 and 2018. As of December 31, 2019 and 2018, Sirius Group held \$341million and \$361 million, respectively, of non-U.S. denominated fixed income securities.

The fixed income portfolio return in 2019 was 3.5% on a U.S. dollar basis and 3.7% in original currencies. Our U.S. portfolio returned 4.1% versus the Barclays, 1-3 Year Aggregate ("BarcAg 1-3") of 4.0%. Our non-U.S. portfolio gained 0.3% in original currencies, which compares to the OMX Stockholm OMRX Total Return Bond Index ("OMRX") of 1.1%. Despite a strong performance of our Canadian dollar ("CAD") fixed income holdings, a weak performance of our Swedish Krona ("SEK") denominated fixed income holdings in conjunction with the longer duration of the comparative indices versus our portfolio impacted the return.

The fixed income portfolio return in 2018 was 0.4% on a U.S. dollar basis and 1.5% in original currencies. Our U.S. portfolio returned 1.5% versus the BarcAg 1-3 of 1.6%. Our non-U.S. portfolio gained 1.3% in original currencies, which compares to the OMRX of 1.0%. This was driven by a strong performance of our CAD and SEK-denominated fixed income holdings.

Equity securities and other long-term investments results

As of December 31, 2019, the equity and other long-term investments portfolio included \$482 million of U.S. dollar and \$187 million of non-U.S. dollar denominated securities.

In 2019, the equity portfolio returned 13.3% on a U.S. dollar basis and 12.5% on a local currency basis. The S&P 500 returned 31.5% for the same period. 2019 performance lagged the S&P 500 in part due to the private equity portfolios which are still in the early stages of investment.

As of December 31, 2018, the equity and other long-term investments portfolio included \$439 million of U.S. dollar and \$149 million of non-U.S. dollar denominated securities.

In 2018, the equity portfolio returned (6.7)% on a U.S. dollar basis and (5.1)% on a local currency basis. The S&P 500 returned (4.4)% for the same period. Performance lagged the S&P 500 in 2018 given the performance of our non-U.S. dollar exposure as well as our private equity and hedge fund portfolios that are in the early stages of investment.

Foreign Currency Translation

Impact of foreign currency translation

The U.S. dollar is the functional currency for Sirius Group's businesses except for Sirius International, Syndicate 1945, several subsidiaries of IMG, and the Canadian reinsurance operations of Sirius America. Sirius Group 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 into U.S. dollars are reported in common shareholders' equity and in Accumulated other comprehensive (loss). As of December 31, 2019 and 2018, Sirius Group had net unrealized foreign currency translation losses of \$238 million and \$202 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 (loss) in the period in which they arise within Net realized investment gains (losses), Net unrealized investment gains (losses), and Net foreign exchange gains.

The following rates of exchange for the U.S. dollar have been used for translation of assets and liabilities whose functional currency is not the U.S. dollar as of December 31, 2019 and 2018:

Currency	Closing Rate 2019	Closing Rate 2018
Swedish kronor	9.3210	8.9397
British pound	0.7568	0.7850
Euro	0.8912	0.8734
Canadian dollar	1.3003	1.3614

Sirius International holds a large portfolio of investments that are denominated in U.S. dollars, but its functional currency is the SEK. When Sirius International prepares its stand-alone GAAP financial statements, it remeasures its U.S. dollar-denominated investments to SEK and recognizes the related foreign currency remeasurement gains or losses through pre-tax income (loss). When Sirius Group consolidates Sirius International, it translates Sirius International's stand-alone GAAP financial statements to U.S. dollars and recognizes the related foreign currency translation gains or losses through other comprehensive income (loss). Since Sirius Group reports its financial statements in U.S. dollars, there is no net effect to book value per common share or to investment returns from foreign currency translation on its U.S. dollar-denominated investments at Sirius International. However, net realized and unrealized investment gains (losses), other revenues, net income (loss), earnings per share and other comprehensive income (loss) can be significantly affected during periods of high volatility in the foreign exchange rate between the U.S. dollar and other currencies, especially the SEK.

A summary of the impact of foreign currency translation on Sirius Group's consolidated financial results for the years ended December 31, 2019, 2018, and 2017 was as follows:

<i>(Millions)</i>	Years Ended December 31,		
	2019	2018	2017
Net realized investment gains (losses) - foreign currency ⁽¹⁾	\$ 50.4	\$ 17.3	\$ (19.1)
Net unrealized investment (losses) gains - foreign currency ⁽²⁾	(5.7)	35.7	(51.7)
Net realized and unrealized investment gains (losses) - foreign currency	44.7	53.0	(70.8)
Net foreign exchange gains - foreign currency translation gains ⁽³⁾	13.9	16.0	20.7
Net foreign exchange gains (losses) - currency swaps ⁽³⁾	4.2	6.9	(11.3)
Net foreign exchange (losses) - currency forwards ⁽³⁾	(10.4)	—	—
Net foreign exchange (losses) - other ⁽³⁾	—	(0.2)	(0.2)
Income tax expense	0.9	2.0	3.3
Total foreign currency remeasurement gains (losses) recognized through net (loss), after tax	53.3	77.7	(58.3)
Change in foreign currency translation on investments recognized through other comprehensive (loss) income, after tax	(43.6)	(96.6)	83.9
Change in foreign currency translation on non-investment net liabilities recognized through other comprehensive (loss) income, after tax	8.5	34.7	(12.2)
Total foreign currency translation (losses) gains recognized through other comprehensive (loss) income, after tax	(35.1)	(61.9)	71.7
Total foreign currency gains recognized in comprehensive (loss), after tax	\$ 18.2	\$ 15.8	\$ 13.4

⁽¹⁾ Component of Net realized investment gains (losses) on the Consolidated Statements of (Loss)

⁽²⁾ Component of Net unrealized investment (losses) on the Consolidated Statements of (Loss)

⁽³⁾ Component of Net foreign exchange gains on the Consolidated Statements of (Loss)

As of December 31, 2019, the following currencies represented the largest exposure to foreign currency risk as a percentage of Sirius Group's common shareholders' equity: the Japanese Yen 9% (short) and the SEK 3% (long).

As of December 31, 2018 the following currencies represented the largest exposure to foreign currency risk as a percentage of Sirius Group's common shareholders' equity: the SEK 13% (short) and the Israeli shekel 4% (long).

Investment portfolio composition by currency

As of December 31, 2019 and 2018, Sirius Group's investment portfolio included approximately \$484 million and \$468 million in non-U.S. dollar denominated investments, most of which is denominated in Swedish kronor, Euro, Canadian dollar, Israeli shekel, and British pound. The investment values in this portfolio are impacted by changes in the exchange rate between the U.S. dollar and those currencies.

Set forth below is the carrying value of our investment holdings in U.S. dollars and foreign currencies as of December 31, 2019 and 2018:

Currency (Millions)	2019		2018	
	Local Currency	USD	Local Currency	USD
U.S. dollar	3,034.1	\$ 3,034.1	2,941.6	\$ 2,941.6
Swedish kronor	1,513.7	162.4	1,348.1	150.8
Euro	78.2	87.7	105.2	120.5
Canadian dollar	113.1	87.0	84.0	61.7
Israeli shekel	264.8	76.6	232.7	62.1
British pound	8.5	11.2	8.2	10.4
Other	—	59.2	—	62.6
Total investments		\$ 3,518.2		\$ 3,409.7

Results of Reportable Segments

Global Property

Global Property consists of Sirius Group's underwriting lines of business which offer other property insurance and reinsurance, property catastrophe excess reinsurance, and agriculture reinsurance on a worldwide basis.

Global Property (Millions) Years ended December 31,	2019	2018	2017
Gross written premiums	\$ 848.4	\$ 962.4	\$ 732.1
Net written premiums	625.7	655.0	556.2
Net earned insurance and reinsurance premiums	635.9	636.0	564.4
Loss and allocated LAE	(582.7)	(518.2)	(499.5)
Insurance and reinsurance acquisition expenses	(107.3)	(121.1)	(112.9)
Technical (loss)	\$ (54.1)	\$ (3.3)	\$ (48.0)
Unallocated LAE	(11.4)	(10.5)	(12.9)
Other underwriting expenses	(63.9)	(68.2)	(63.3)
Underwriting (loss)	\$ (129.4)	\$ (82.0)	\$ (124.2)
Ratios:			
Loss ratio ⁽¹⁾	93.4%	83.1%	90.8%
Acquisition expense ratio ⁽²⁾	16.9%	19.0%	20.0%
Other underwriting expense ratio ⁽³⁾	10.0%	10.7%	11.2%
Combined ratio ⁽⁴⁾	120.3%	112.8%	122.0%

⁽¹⁾The loss ratio is calculated by dividing the sum of loss and allocated LAE and Unallocated LAE expenses by net earned insurance and reinsurance premiums.

⁽²⁾The acquisition expense ratio is calculated by dividing insurance and reinsurance acquisition expenses by net earned insurance and reinsurance premiums.

⁽³⁾The other underwriting expense ratio is calculated by dividing other underwriting expenses by net earned insurance and reinsurance premiums.

⁽⁴⁾The combined ratio is calculated by combining the loss ratio, the acquisition expense ratio, and the other underwriting expense ratio.

Underwriting Results

2019 vs. 2018:

Gross written premiums decreased 12% to \$848 million in 2019 from \$962 million in 2018. Absent the effect of a single fronting arrangement, gross written premiums decreased 7% compared to the prior period. This was due to a decrease in Other Property (\$146 million) primarily driven by reduced treaty participations and non-renewals of certain accounts, partially offset by an increase in Property Catastrophe Excess (\$27 million). Net written premiums decreased 4% to \$626 million in 2019 from \$655 million in 2018 due primarily to a decrease in Other Property (\$78 million), partially offset by an increase in Property Catastrophe Excess (\$42 million). The Other Property fronting arrangement did not impact Global Property's net written or earned insurance and reinsurance premiums for either the 2019 or 2018 periods.

Global Property produced a net combined ratio of 120% for 2019 compared to 113% for 2018. The increase in the combined ratio was driven by higher net unfavorable prior year loss reserve development and higher current accident year losses in the Other Property and Agriculture lines of business.

Global Property recorded an underwriting (loss) of \$(129) million for 2019 compared to an underwriting (loss) of \$(82) million for 2018. For both 2019 and 2018, catastrophe losses, net of reinsurance and reinstatement premiums, were \$192 million (30 points). Catastrophe losses, net of reinsurance and reinstatement premiums, for 2019 were primarily from Typhoon Hagibis (\$65 million), Typhon Faxai (\$53 million), and Hurricane Dorian (\$40 million). Catastrophe losses, net of reinsurance and reinstatement premiums, for 2018 were primarily from Typhoon Jebi (\$91 million), Hurricane Michael (\$36 million), the California wildfires (\$12 million), and Typhoon Trami (\$9 million). Net unfavorable prior year loss reserve development was \$92 million (14 points) for 2019 primarily related to Other Property (\$73 million) and Property Catastrophe Excess (\$17 million). The unfavorable loss reserve development in Global Property for 2019 was driven by higher losses from recent accident years mainly Typhoon Jebi and Hurricanes Michael, Florence, and Irma. A portion of this unfavorable loss reserve development is due to projected increased costs for claims adjusting associated with insureds' assignment of benefits to third parties, primarily associated with Hurricanes Irma and Michael exposures. Net unfavorable prior year loss reserve development for 2018 was \$44 million (7 points), primarily related to Other Property (\$35 million) and Property Catastrophe Excess (\$13 million), resulting from higher than expected loss reporting from recent accident years, including \$21 million from Hurricanes Harvey, Irma, and Maria.

Global Property gross written premiums

Global Property (Millions) Years ended December 31,		2019		2018		2017
Other property	\$	476.5	\$	623.0	\$	405.2
Property catastrophe excess		301.9		275.3		255.3
Agriculture		70.0		64.1		71.6
Total	\$	848.4	\$	962.4	\$	732.1

2019 vs. 2018:

Global Property's gross written premiums decreased 12% to \$848 million for 2019 from \$962 million in 2018. The decrease in Other Property was due to lower premium volume on an Other Property fronting arrangement (\$55 million), reduced treaty participations, and non-renewals of certain accounts. This decrease was partially offset by an increase in Property Catastrophe Excess (\$27 million).

Global Property net earned insurance and reinsurance premiums

Global Property (Millions) Years ended December 31,		2019		2018		2017
Other property	\$	357.3	\$	396.7	\$	337.5
Property catastrophe excess		211.0		180.5		159.6
Agriculture		67.6		58.8		67.3
Total	\$	635.9	\$	636.0	\$	564.4

2019 vs. 2018:

Global Property's net earned insurance and reinsurance premiums was \$636 million for both 2019 and 2018. Decreases in Other Property (\$40 million) were partially offset by increases in Property Catastrophe Excess (\$30 million) and Agriculture (\$9 million). The Other Property fronting arrangement did not impact Global Property's net earned insurance and reinsurance premiums for either the 2019 or 2018 periods.

Global A&H

Global A&H, which consists of Sirius Group's Global A&H insurance and reinsurance underwriting unit along with IMG and Armada, which provide supplemental healthcare and medical travel insurance products as well as related administration services.

Global A&H (Millions) Years ended December 31,	2019	2018	2017
Gross written premiums	\$ 593.4	\$ 500.6	\$ 494.6
Net written premiums	458.1	379.8	341.5
Net earned insurance and reinsurance premiums	443.3	357.6	306.8
Loss and allocated LAE	(271.3)	(189.0)	(175.0)
Insurance and reinsurance acquisition expenses	(125.8)	(109.7)	(89.6)
Technical profit	\$ 46.2	\$ 58.9	\$ 42.2
Unallocated LAE	(7.4)	(5.9)	(4.8)
Other underwriting expenses	(23.7)	(27.4)	(23.4)
Underwriting income	\$ 15.1	\$ 25.6	\$ 14.0
Service fee revenue	124.2	115.7	65.9
MGU unallocated LAE	(17.3)	(14.0)	—
MGU other underwriting expenses	(13.5)	(16.1)	—
MGU general and administrative expenses	(66.9)	(53.6)	(44.8)
Underwriting income, including net service fee income	\$ 41.6	\$ 57.6	\$ 35.1
Ratios:			
Loss ratio ⁽¹⁾	62.9%	54.5%	58.6%
Acquisition expense ratio ⁽²⁾	28.4%	30.7%	29.2%
Other underwriting expense ratio ⁽³⁾	5.3%	7.7%	7.6%
Combined ratio⁽⁴⁾	96.6%	92.9%	95.4%

⁽¹⁾The loss ratio is calculated by dividing the sum of loss and allocated LAE and Unallocated LAE expenses by net earned insurance and reinsurance premiums.

⁽²⁾The acquisition expense ratio is calculated by dividing insurance and reinsurance acquisition expenses by net earned insurance and reinsurance premiums.

⁽³⁾The other underwriting expense ratio is calculated by dividing other underwriting expenses by net earned insurance and reinsurance premiums.

⁽⁴⁾The combined ratio is calculated by combining the loss ratio, the acquisition expense ratio, and the other underwriting expense ratio.

Underwriting Results

2019 vs. 2018:

Gross written premiums increased 18% to \$593 million in 2019 from \$501 million in 2018 due to higher writings for risks primarily originating from the U.S. Net written premiums increased 21% to \$458 million in 2019 from \$380 million in 2018 due to higher writings for risks primarily originating from the U.S. as well as higher retentions.

Global A&H produced a net combined ratio of 97% in 2019 compared to 93% in 2018. For 2019, net favorable prior year loss reserve development was \$1 million (less than 1 point) compared to \$15 million (4 points) of net favorable prior year loss reserve development in 2018. The decrease in the acquisition expense ratio from 2018 was due to business mix as increased primary insurance writings for risks originating from the U.S. are recorded at lower net commission ratios. Additionally, net earned insurance and reinsurance premiums increased 24% to \$443 million in 2019 from \$358 million in 2018.

Underwriting income, including net service fee income, for Global A&H was \$42 million in 2019 compared to \$58 million in 2018. The decrease of \$16 million was primarily driven by lower net favorable prior year loss reserve development and Armada Health. For 2019 and 2018, underwriting income, including net service fee income, included net losses of \$6 million and \$4 million, respectively, relating to Armada Health.

Specialty & Casualty

Specialty & Casualty offers insurance and reinsurance specialty & casualty product lines consisting of Aviation & Space, Marine, Trade Credit, Contingency, Casualty, Surety and Environmental specialty lines on a worldwide basis.

Specialty & Casualty (Millions) Years ended December 31,	2019	2018	2017
Gross written premiums	\$ 456.7	\$ 325.1	\$ 218.1
Net written premiums	416.3	292.7	193.0
Net earned insurance and reinsurance premiums	360.2	239.5	163.2
Loss and allocated LAE	(271.6)	(142.9)	(99.6)
Insurance and reinsurance acquisition expenses	(98.8)	(65.5)	(41.1)
Technical (loss) profit	\$ (10.2)	\$ 31.1	\$ 22.5
Unallocated LAE	(9.3)	(5.9)	(5.3)
Other underwriting expenses	(31.2)	(28.2)	(16.5)
Underwriting (loss) income	\$ (50.7)	\$ (3.0)	\$ 0.7
Ratios:			
Loss ratio ⁽¹⁾	78.0%	62.1%	64.3%
Acquisition expense ratio ⁽²⁾	27.4%	27.3%	25.2%
Other underwriting expense ratio ⁽³⁾	8.7%	11.8%	10.1%
Combined ratio⁽⁴⁾	114.1%	101.2%	99.6%

⁽¹⁾The loss ratio is calculated by dividing the sum of loss and allocated LAE and Unallocated LAE expenses by net earned insurance and reinsurance premiums.

⁽²⁾The acquisition expense ratio is calculated by dividing insurance and reinsurance acquisition expenses by net earned insurance and reinsurance premiums.

⁽³⁾The other underwriting expense ratio is calculated by dividing other underwriting expenses by net earned insurance and reinsurance premiums.

⁽⁴⁾The combined ratio is calculated by combining the loss ratio, the acquisition expense ratio, and the other underwriting expense ratio.

Underwriting Results

2019 vs. 2018:

Gross written premiums increased 41% to \$457 million in 2019 from \$325 million in 2018 due primarily to increases in Casualty lines (\$106 million), Aviation & Space (\$22 million), and Environmental (\$11 million), partially offset by a decrease in Contingency (\$12 million). Net written premiums increased 42% to \$416 million in 2019 from \$293 million in 2018 due to increases in the same lines of business as gross written premiums.

Specialty & Casualty produced a net combined ratio of 114% in 2019 compared to 101% in 2018. The higher net combined ratio was due to a higher loss ratio driven by net unfavorable prior year loss reserve development and higher current accident year losses in Aviation & Space (including \$12 million from the Ethiopian Airlines plane crash) and Casualty lines.

Specialty & Casualty recorded an underwriting (loss) of \$(51) million in 2019 compared to an underwriting (loss) of \$(3) million in 2018. Specialty & Casualty had \$12 million (3 points) of net unfavorable prior year loss reserve development in 2019, primarily driven by unfavorable loss reserve development in the Casualty Reinsurance line (\$13 million) due to early reporting of large claims coupled with steady reporting of less severe claims. In 2018, Specialty & Casualty recorded \$18 million (8 points) of favorable prior year loss reserve development, primarily driven by Aviation & Space (\$8 million) and Marine (\$7 million). Catastrophe losses, net of reinsurance and reinstatement premiums, were each \$2 million (less than 1 point) in 2019 and 2018. These results included \$12 million and \$8 million in underwriting losses from growth initiatives in the primary Surety, Environmental, and Workers Compensation lines for 2019 and 2018, respectively.

Specialty & Casualty gross written premiums

Specialty & Casualty (Millions) Years ended December 31,	2019	2018	2017
Casualty Reinsurance	\$ 203.9	\$ 131.9	\$ 38.2
Aviation & Space	95.1	72.5	65.7
Trade Credit	53.7	48.1	39.7
Primary Workers Compensation	37.7	4.5	—
Marine	31.5	34.7	56.1
Environmental	20.5	10.1	—
Surety	9.3	6.7	—
Contingency	5.0	16.6	18.4
Total	\$ 456.7	\$ 325.1	\$ 218.1

2019 vs. 2018:

Gross written premiums increased 40% to \$457 million in 2019 from \$325 million in 2018. Increases in Casualty lines (\$106 million), Aviation & Space (\$22 million), and Environmental (\$11 million) drove the increase, partially offset by a decrease in Contingency (\$12 million).

Specialty & Casualty net earned insurance and reinsurance premiums

Specialty & Casualty (Millions) Years ended December 31,	2019	2018	2017
Casualty Reinsurance	\$ 181.0	\$ 78.7	\$ 15.0
Aviation & Space	67.2	60.4	53.8
Trade Credit	47.3	42.5	32.6
Primary Workers Compensation	20.7	2.1	—
Marine	28.7	36.2	46.6
Environmental	3.6	0.9	—
Surety	6.0	3.7	—
Contingency	5.7	15.0	15.2
Total	\$ 360.2	\$ 239.5	\$ 163.2

2019 vs. 2018:

Net earned insurance and reinsurance premiums increased 50% to \$360 million in 2019 from \$240 million in 2018. Casualty lines (\$121 million) were the main drivers of the increase from prior year.

Runoff & Other

Runoff & Other is comprised of asbestos risks, environmental risks, and other long-tailed liability exposures, in addition to results from Sirius Global Solutions.

Runoff & Other (Millions) Years ended December 31,	2019	2018	2017
Gross written premiums	\$ 4.2	\$ 32.9	\$ (5.5)
Net written premiums	2.5	29.6	(0.5)
Net earned insurance and reinsurance premiums	2.2	29.2	0.9
Loss and allocated LAE	(1.8)	(13.0)	(11.0)
Insurance and reinsurance acquisition expenses	(2.9)	(2.8)	3.5
Technical (loss) profit	\$ (2.5)	\$ 13.4	\$ (6.6)
Unallocated LAE	(1.0)	(1.6)	(3.1)
Other underwriting expenses	(5.9)	(6.3)	(2.9)
Underwriting (loss) income	\$ (9.4)	\$ 5.5	\$ (12.6)
General and administrative expenses	(3.7)	(3.1)	(4.0)
Underwriting (loss) income , net of service fee income	\$ (13.1)	\$ 2.4	\$ (16.6)

Underwriting Results

2019 vs. 2018:

Runoff & Other recorded \$4 million of gross written premiums in 2019 compared to \$33 million of gross written premiums in 2018. Gross written premiums in 2018 related primarily to premiums from two loss portfolio transfers and a quota share.

Runoff & Other recorded an underwriting (loss) of \$(13) million in 2019 compared to underwriting income of \$2 million in 2018. Runoff & Other recorded \$1 million of net favorable prior year loss reserve development in 2019 compared to \$18 million of net favorable prior year loss reserve development in 2018. The net favorable prior year loss reserve development in 2018 was primarily due to reductions in World Trade Center claims in response to revised information received by the Company and runoff Casualty reserves.

Reinsurance Protection

The following tables display Sirius Group's underwriting ratios prior to cessions to reinsurers ("Gross"), cessions to reinsurers ("Ceded") and after cessions to reinsurers ("Net") basis for the years ended December 31, 2019, 2018, and 2017. See "Policies with Respect to Certain Activities - Reinsurance Protection" in Item 1 "Business" for further information.

Gross, Ceded, and Net Combined Ratios Year ended December 31, 2019	Global Property	Global A&H	Specialty & Casualty	Total
Gross ratios:				
Loss ratio	83.4%	61.7%	83.9%	77.5%
Acquisition expense ratio	19.7%	26.8%	26.0%	20.9%
Other underwriting expense ratio	7.4%	4.1%	7.9%	7.5%
Gross Combined ratio	110.5%	92.6%	117.8%	105.9%
Ceded ratios:				
Loss ratio	55.8%	57.7%	145.7%	64.4%
Acquisition expense ratio	27.6%	21.6%	11.2%	24.1%
Ceded Combined ratio	83.4%	79.3%	156.9%	88.5%
Net ratios:				
Loss ratio	93.4%	62.9%	78.0%	81.2%
Acquisition expense ratio	16.9%	28.4%	27.4%	20.0%
Other underwriting expense ratio	10.0%	5.3%	8.7%	9.6%
Net Combined ratio	120.3%	96.6%	114.1%	110.8%

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Sirius Group's net combined ratio was 5 points higher than the gross combined ratio primarily due to the costs of retrocessional protections with limited ceded loss recoveries for 2019, driven by Global Property. Within Specialty & Casualty, the lower net combined ratio was primarily due to ceded loss recoveries in Aviation & Space.

Gross, Ceded, and Net Combined Ratios Year ended December 31, 2018	Global Property	Global A&H	Specialty & Casualty	Total
Gross ratios:				
Loss ratio	71.3%	54.6%	56.7%	64.6%
Acquisition expense ratio	22.0%	28.3%	25.8%	21.6%
Other underwriting expense ratio	7.6%	5.8%	10.5%	8.8%
Gross Combined ratio	100.9%	88.7%	93.0%	95.0%
Ceded ratios:				
Loss ratio	42.6%	54.9%	10.5%	44.2%
Acquisition expense ratio	29.3%	21.0%	12.4%	25.8%
Ceded Combined ratio	71.9%	75.9%	22.9%	70.0%
Net ratios:				
Loss ratio	83.1%	54.5%	62.1%	71.3%
Acquisition expense ratio	19.0%	30.7%	27.3%	20.2%
Other underwriting expense ratio	10.7%	7.7%	11.8%	11.6%
Net Combined ratio	112.8%	92.9%	101.2%	103.1%

Sirius Group's net combined ratio was 8 points higher than the gross combined ratio due to the costs of retrocessional protections with limited ceded loss recoveries. An Other Property fronting arrangement, which records offsetting gross and ceded loss and commission results, less a margin to Sirius Group, also impacted the gross and ceded loss and commission ratios in 2018.

Gross, Ceded, and Net Combined Ratios Year ended December 31, 2017	Global Property	Global A&H	Specialty & Casualty	Total
Gross ratios:				
Loss ratio	80.0%	60.1%	68.9%	74.6%
Acquisition expense ratio	20.0%	28.5%	23.4%	20.1%
Other underwriting expense ratio	8.8%	5.5%	8.7%	7.9%
Gross Combined ratio	108.8%	94.1%	101.0%	102.6%
Ceded ratios:				
Loss ratio	40.9%	64.0%	94.3%	61.5%
Acquisition expense ratio	20.1%	26.6%	13.4%	23.6%
Ceded Combined ratio	61.0%	90.6%	107.7%	85.1%
Net ratios:				
Loss ratio	90.8%	58.6%	64.3%	78.4%
Acquisition expense ratio	20.0%	29.2%	25.2%	19.0%
Other underwriting expense ratio	11.2%	7.6%	10.1%	10.2%
Net Combined ratio	122.0%	95.4%	99.6%	107.6%

Non-GAAP Financial Measures

In presenting Sirius Group's results, management has included and discussed the following non-GAAP financial measures: Adjusted book value, Adjusted book value per share, Adjusted tangible book value, Adjusted tangible book value per share and Operating (loss) attributable to common shareholders. The Company believes that these non-GAAP financial measures, which may be defined and calculated differently by other companies, better explain and enhance the understanding of the Company's results of operations. However, these measures should not be viewed as a substitute for those determined in accordance with GAAP.

Adjusted book value, Adjusted book value per share, Adjusted tangible book value, and Adjusted tangible book value per share

Adjusted book value, Adjusted book value per share, Adjusted tangible book value, and Adjusted tangible book value per share are non-GAAP financial measures. Adjusted book value and Adjusted book value per share are used to show the Company's total worth on a per-share basis and are useful to management and investors in analyzing the intrinsic value of the Company. Adjusted tangible book value and Adjusted tangible book value per share are useful to investors because they measure the realizable value of shareholder returns, excluding the impact of goodwill, intangible assets, and net deferred liability on intangible assets.

Adjusted shares outstanding is derived by summing Common shares outstanding, Series B preference shares outstanding, and the earned portion of share-based compensation awards. Adjusted book value is derived by summing Total common shareholders' equity, the Series B preference share amount reflected in mezzanine equity, and the Earned portion of future proceeds from stock option awards. Outstanding warrants are excluded as they are anti-dilutive as of the respective reporting dates. Adjusted tangible book value is derived by subtracting Goodwill, Intangible assets and Net deferred tax liability on intangible assets from Adjusted book value.

At December 31, 2019, Adjusted book value, Adjusted book value per share, Adjusted tangible book value, and Adjusted tangible book value per share include the earned effects of share-based compensation awards issued during 2019.

Adjusted book value per share is derived by dividing the Adjusted book value by the Adjusted shares outstanding. Adjusted tangible book value per share is derived by dividing Adjusted tangible book value by the Adjusted shares outstanding.

The reconciliation to Total common shareholders' equity and Book value per common share, the most directly comparable GAAP measures, are presented in the table below.

	As of December 31,	
	2019	2018
<i>(Expressed in millions of U.S. dollars, except share and per share amounts)</i>		
Common shares outstanding	115,299,341	115,151,251
Series B preference shares outstanding	11,901,670	11,901,670
Earned share-based compensation awards, excluding stock options	629,716	—
Earned portion of Stock option awards issued	381,929	—
Adjusted shares outstanding	128,212,656	127,052,921
Total common shareholders' equity	\$ 1,640.4	\$ 1,704.5
Series B preference shares	223.0	232.2
Earned portion of future proceeds from stock option awards	4.9	—
Adjusted book value	\$ 1,868.3	\$ 1,936.7
Goodwill	(400.8)	(400.6)
Intangible assets	(179.8)	(195.6)
Net deferred tax liability on intangible assets	22.8	26.3
Adjusted tangible book value	\$ 1,310.5	\$ 1,366.8
Book value per common share	\$ 14.23	\$ 14.80
Adjusted book value per share	\$ 14.57	\$ 15.24
Adjusted tangible book value per share	\$ 10.22	\$ 10.76

Operating (loss) attributable to common shareholders

The Company uses Operating (loss) attributable to common shareholders as a measure to evaluate the underlying fundamentals of its operations and believes it to be a useful measure of its core performance. Operating (loss) attributable to common shareholders as used herein differs from net (loss) attributable to common shareholders, which the Company believes is the most directly comparable GAAP measure, by the exclusion of net realized and unrealized gains and losses on investments, net foreign exchange gains (losses) and the associated income tax expense or benefit. The Company's management believes that Operating (loss) attributable to common shareholders is useful to investors because it is more reflective of the Company's core business, as it removes the variability arising from fluctuations in the Company's fixed maturity investment portfolio, equity investments trading, investments-related derivatives, and net foreign exchange gains (losses) and the associated income tax expense or benefit of those fluctuations. The following is a reconciliation of net (loss) attributable to common shareholders to Operating (loss) attributable to common shareholders:

<i>(Expressed in Millions of U.S. dollars)</i>	Years Ended December 31,		
	2019	2018	2017
Net (loss) attributable to common shareholders	\$ (38.1)	\$ (43.3)	\$ (156.1)
Adjustment for net realized and unrealized losses (gains) on investments	(137.3)	20.9	37.7
Adjustment for net foreign exchange (gains)	(7.7)	(22.7)	(9.2)
Adjustment for income tax expense (benefit) ⁽¹⁾	21.4	(11.3)	(0.8)
Operating (loss) attributable to common shareholders	\$ (161.7)	\$ (56.4)	\$ (128.4)

⁽¹⁾ Adjustment for income tax expense (benefit) represents the income tax expense (benefit) associated with the adjustment for net realized and unrealized losses (gains) on investments and the income tax expense (benefit) associated with the adjustment for net foreign exchange gains (losses). The income tax impact is estimated by applying the statutory rates of applicable jurisdictions, after consideration of other relevant factors.

Liquidity and Capital Resources

Liquidity is a measure of a company's ability to generate cash flows sufficient to meet short-term and long-term cash requirements of its business operations. Sirius Group'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. Sirius Group manages its liquidity needs primarily through the maintenance of a short duration and high quality fixed income portfolio.

Dividend Capacity

Sirius Group's top tier regulated insurance and reinsurance operating subsidiary is Sirius Bermuda. Sirius Bermuda's ability to pay dividends is limited under Bermuda law and regulations. Under the Insurance Act 1978, Sirius Bermuda is restricted with respect to the payment of dividends. Sirius Bermuda 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 Bermuda Monetary Authority ("BMA") an affidavit stating that it will continue to meet the required margins following the declaration of those dividends. As of December 31, 2019, Sirius Bermuda could pay approximately \$524 million to its parent company, Sirius International Group, Ltd., during 2020. Sirius Bermuda 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, which is approximately 82% owned by CMIG, indirectly holds approximately 87% of the voting control over the Sirius Group equity securities as of December 31, 2019, through CMIG International's wholly-owned Bermuda holding company, 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 Group. On May 3, 2019, in connection with the CMIG Defaults, Sirius Bermuda and Sirius Group entered into a voluntary undertaking with the BMA to provide further comfort to the BMA as the group supervisor of Sirius Group and primary regulator of Sirius Bermuda, the designated insurer for group supervisory purposes regarding the potential risks to Sirius Group in connection with the CMIG Defaults. Pursuant to the voluntary undertaking, each of Sirius Group and Sirius Bermuda have agreed, until May 3, 2020, (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 Sirius Bermuda, (ii) the Minimum Liquidity Ratio as defined in the Insurance Act 1978 in the case of Sirius Bermuda; 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 Sirius Group and Sirius Bermuda, and a summary description of the use proceeds from such declaration or dividend or capital distribution within Sirius Group or Sirius Bermuda; (b) not to enter into any guarantees, keepwells, loans or other financial arrangements between Sirius Group 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 2019, Sirius Bermuda paid \$80 million of dividends to its immediate parent.

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 Swedish Financial Supervisory Authority (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, 2019, Sirius International had \$402 million (based on the December 31, 2019 SEK to USD exchange rate) of unrestricted equity on a parent account basis (the lower of the two approaches) available to pay dividends in 2020. 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 Sirius International UK Holdings Ltd. group, as well as 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 2019, Sirius International did not declare a dividend and paid SEK 167 million (or \$18 million on date of payment) of dividends declared prior to 2018.

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 ordinary dividend capacity as of December 31, 2019, without prior regulatory approval. As of December 31, 2019, Sirius America had \$522 million of statutory surplus and \$89 million of earned surplus. During 2019, Sirius America did not pay any dividends to its immediate parent.

During 2019 and 2018, Sirius Group did not pay any dividends to its shareholders. As of December 31, 2019, Sirius Group had \$43 million of net unrestricted cash, short-term investments, and fixed maturity investments outside of its regulated and unregulated insurance and reinsurance operating subsidiaries.

Capital Maintenance

Effective August 27, 2019, the capital maintenance agreement between Sirius International and Sirius America, which obligated Sirius International to make contributions to Sirius America's surplus in order for Sirius America to maintain surplus equal to at least 125% of the company action level risk-based capital as defined in the National Association of Insurance Commissioners' Property/Casualty Risk-Based Capital Report was terminated. Sirius International did not make any contributions to the surplus of Sirius America up to and including the termination date.

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 Group's financial strength.

As of December 31, 2019, Sirius International's Safety Reserve amounted to SEK 10.2 billion, or \$1.1 billion (based on the December 31, 2019 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 (\$226 million based on the December 31, 2019 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 enacted in Sweden in June 2018, the tax rate applicable to Swedish corporations decreased to 21.4% effective as of January 1, 2019, and then will further reduce 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 2019 is SEK 11 million, or \$1 million (based on the December 31, 2019 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, 2019, Sirius International has recorded an additional deferred tax liability as of December 31, 2019 in the amount of SEK 131 million, or \$14 million (based on the December 31, 2019 SEK to USD exchange rate).

Insurance Float

Insurance float is an important aspect of Sirius Group's insurance and reinsurance operations. Insurance float represents funds that an insurance or reinsurance company holds for a limited time. In an insurance or reinsurance operation, float arises because premiums are collected before losses are paid. This interval can extend over many years. During that time, the insurer or reinsurer invests the funds. When the premiums that an insurer or reinsurer collects do not cover the losses and expenses it eventually must pay, the result is an underwriting loss, which can be considered as the cost of insurance float.

Insurance float can increase in a number of ways, including through acquisitions of insurance and reinsurance operations, organic growth in existing insurance and reinsurance operations and recognition of losses that do not immediately cause a corresponding reduction in investment assets. Conversely, insurance float can decrease in a number of other ways, including sales of insurance and reinsurance operations, shrinking or runoff of existing insurance and reinsurance operations, the acquisition of operations that do not have substantial investment assets (e.g., an agency) and the recognition of gains that do not cause a corresponding increase in investment assets. It is Sirius Group's intention to generate low-cost float over time through a combination of acquisitions and organic growth in its existing insurance and reinsurance operations.

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Certain operational leverage metrics can be measured with ratios that are calculated using insurance float. There are many activities that do not change the amount of insurance float at an insurance or reinsurance company but can have a significant impact on Sirius Group's operational leverage metrics. For example, investment gains and losses, foreign currency translation gains and losses, debt issuances and repurchases/repayments, common and preference share issuances and repurchases and dividends paid to shareholders are all activities that do not change insurance float but can meaningfully impact operational leverage metrics that are calculated using insurance float. During 2019, insurance float increased by \$140 million due to higher premium volume and major catastrophe losses incurred in 2019, primarily from Typhoon Hagibis, Typhoon Faxai, and Hurricane Dorian. These catastrophe losses increase Sirius Group's insurance float when they are first recorded but will decrease insurance float as the catastrophe losses are paid or reserve reduced.

The following table illustrates Sirius Group's consolidated insurance float position as of December 31, 2019 and 2018:

<i>(Expressed in Millions, except multiples)</i>	2019	2018
Loss and LAE reserves	\$ 2,331.5	\$ 2,016.7
Unearned insurance and reinsurance premiums	708.0	647.2
Ceded reinsurance payable	244.7	206.9
Funds held under reinsurance treaties	169.1	110.6
Deferred tax liability on safety reserve	239.4	261.1
Float liabilities	3,692.7	3,242.5
Cash	136.3	119.4
Reinsurance recoverable on paid and unpaid losses	484.2	405.2
Insurance and reinsurance premiums receivable	730.1	630.6
Funds held by ceding companies	293.9	186.8
Deferred acquisition costs	148.2	141.6
Ceded unearned insurance and reinsurance premiums	162.0	159.8
Float assets	1,954.7	1,643.4
Insurance float	\$ 1,738.0	\$ 1,599.1
Insurance float as a multiple of total capital ⁽¹⁾	0.7x	0.6x
Insurance float as a multiple of common shareholders' equity	1.1x	0.9x

⁽¹⁾See calculation of total capital below in the "Financing" table.

Financing

Sirius Group can provide no assurance that, if needed, it would be able to obtain additional debt or equity financing on satisfactory terms, if at all. In particular, as discussed in Item 1A, "Risk Factors," the CMB Resolution may prohibit the Board from issuing any common or preference shares, warrants, options or other forms of share equity, or to confer any new share rights or implement any rights plan, or to amend or vary or alter any rights attaching to any existing shares, in each case without the prior approval of holders of the common shares of the Company representing at least 75% of the shareholder voting rights. The approval of holders of the common shares of the Company representing at least 75% of the shareholder voting rights cannot be assured. As such, the CMB Resolution may prevent Sirius Group from performing a number of matters necessary to the operation of its business, including raising capital, even if necessary to meet regulatory or rating agency capital requirements, to finance its operations or to increase its public float, as well as incentivizing employees using shares of the Company, and completing equity-based financing of transactions without the prior approval of holders of the common shares of the Company representing at least 75% of the shareholder voting rights.

The following table summarizes Sirius Group's capital structure as of December 31, 2019 and 2018:

<i>(Expressed in Millions, except ratios)</i>	2019	2018
2017 SEK Subordinated Notes	\$ 291.2	\$ 303.6
2016 SIG Senior Notes	394.0	393.2
Total debt	685.2	696.8
Series B preference shares	223.0	232.2
Common shareholders' equity	1,640.4	1,704.5
Total capital	\$ 2,548.6	\$ 2,633.5
Total debt to total capital	27%	26%
Total debt and Series B preference shares to total capital	36%	35%

2017 SEK Subordinated Notes

On September 22, 2017, Sirius Group issued floating rate callable subordinated notes denominated in SEK in the amount of SEK 2,750 million (or \$346 million on date of issuance) at a 100% issue price ("2017 SEK Subordinated Notes"). The 2017 SEK Subordinated Notes were issued in an offering that was exempt from the registration requirements of the Securities Act of 1933 (the "Securities Act"). The 2017 SEK Subordinated Notes bear interest on their principal amount at a floating rate equal to the applicable Stockholm Interbank Offered Rate ("STIBOR") for the relevant interest period plus an applicable margin, payable quarterly in arrears on March 22, June 22, September 22, and December 22 in each year commencing on December 22, 2017, until maturity in September 2047. A portion of the proceeds were used to fully redeem the outstanding \$250 million Sirius International Group, Ltd. ("SIG") Preference Shares ("SIG Preference Shares").

See Note 11 "Debt and standby letters of credit facilities" and Note 15 "Common shareholder's equity, mezzanine equity, and non-controlling interests" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for further details and discussion with respect to the 2017 SEK Subordinated Notes.

2016 SIG Senior Notes

On November 1, 2016, Sirius Group issued \$400 million face value of senior unsecured notes ("2016 SIG Senior Notes") at an issue price of 99.209% for net proceeds of \$392 million after taking into effect both deferrable and non-deferrable issuance costs. The 2016 SIG Senior Notes were issued in an offering that was exempt from the registration requirements of the Securities Act. The 2016 SIG Senior Notes bear an annual interest rate of 4.6%, payable semi-annually in arrears on May 1, and November 1, in each year commencing on May 1, 2017, until maturity in November 2026.

See Note 11 "Debt and standby letters of credit facilities" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for further details and discussion with respect to the 2016 SIG Senior Notes.

Series B Preference Shares

In connection with the closing of the Merger, Sirius Group issued 11,901,670 of the 15,000,000 authorized Series B preference shares, with a par value of \$0.01 per share, to the Preference Share Investors as part of the Sirius Group Private Placement. The Series B preference shares contain both a mandatory conversion and optional redemption features, with the optional redemption features allowing for settlement in either common shares or cash. Sirius Group accounts for the Series B preference shares outside of permanent equity as mezzanine equity in the Consolidated Balance Sheets as its ability to settle in common shares cannot be assured, and thus we presume that Sirius Group will be required to settle the Series B preference shares in cash, as if it were a redemption feature.

The Series B preference shares rank senior to common shares with respect to dividend rights, rights of liquidation, winding-up, or dissolution of the Company and junior to all of the Company's existing and future policyholder obligations and debt obligations. Without the consent of the holders of the Series B preference shares, the Company may not issue any class or series of shares that rank senior or pari passu with the Series B preference shares as to the payment of dividends or as to distribution of assets upon any voluntary or involuntary liquidation, winding-up or dissolution of the Company, if the aggregate gross proceeds from the issuance of all such senior or pari passu shares equals or exceeds \$100 million.

The Company adjusts the carrying value of the Series B preference shares to equal the redemption value at the end of each reporting period. As of December 31, 2019 and 2018, the balance of the Series B preference shares was \$223 million and \$232 million, respectively.

Standby letter of credit facilities

On November 6, 2019, Sirius International agreed to renew two standby letter of credit facility agreements totaling \$125 million to provide capital support for Lloyd's Syndicate 1945. The first letter of credit is a \$90 million facility with Nordea Bank Abp, London Branch, which is issued on an unsecured basis. The second letter of credit is a \$35 million facility with DNB Bank ASA, Sweden Branch, \$25 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 International has other secured letter of credit and trust arrangements with various financial institutions to support its insurance operations. As of December 31, 2019 and 2018, these secured letter of credit and trust arrangements were collateralized by pledged assets and assets in trust of SEK 3.4 billion and SEK 2.9 billion, or \$363 million and \$321 million (based on the December 31, 2019 and 2018 SEK to USD exchange rates, respectively). As of December 31, 2019 and 2018, Sirius America's trust arrangements were collateralized by pledged assets and assets in trust of \$58 million and \$56 million, respectively. As of December 31, 2019 and 2018, Sirius Bermuda's trust arrangements were collateralized by pledged assets and assets in trust of \$784 million and \$320 million, respectively.

Revolving credit facility

In February 2018, Sirius Group, through its indirectly wholly-owned subsidiary SIG entered into a three-year, \$300 million senior unsecured revolving credit facility (the "Facility"). The Facility provides access to loans for working capital and general corporate purposes, and letters of credit to support obligations under insurance and reinsurance agreements and retrocessional agreements. The Facility is subject to various affirmative, negative and financial covenants that Sirius Group considers to be customary for such borrowings, including certain minimum net worth, maximum debt to capitalization and financial strength rating standards. As of December 31, 2019, there were no outstanding borrowings under the Facility.

Debt and standby letter of credit facility covenants

As of December 31, 2019, Sirius Group was in compliance with all of the covenants under the 2017 SEK Subordinated Notes, the 2016 SIG Senior Notes, the Nordea Bank Abp, London Branch facility, and the DNB Bank ASA, Sweden Branch facility. In addition, as of December 31, 2019, Sirius Group was in compliance with all of the covenants under the Facility.

Off-Balance Sheet Arrangements

Sirius Group is not party to any off-balance sheet transaction, agreement or other contractual arrangement as defined by Item 303(a)(4) of Regulation S-K to which an entity unconsolidated with Sirius Group is a party that management believes is reasonably likely to have a current or future effect on its financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that Sirius Group believes is material to investors.

Contractual Obligations and Commitments

Below is a schedule of Sirius Group's material contractual obligations and commitments as of December 31, 2019:

<i>(Millions)</i>		Due in One Year or Less		Due in Two to Three Years		Due in Four to Five Years		Due After Five Years		Total
Debt (including interest payments) ⁽¹⁾	\$	30.4	\$	60.7	\$	60.7	\$	1,003.7	\$	1,155.5
Loss and LAE reserves ⁽²⁾		885.3		591.1		309.3		545.8		2,331.5
Long-term incentive compensation ⁽³⁾		21.0		9.8		—		—		30.8
Projected pension benefit obligation ⁽⁴⁾		0.5		0.8		0.9		3.1		5.3
Operating leases ⁽⁵⁾		9.3		15.1		6.4		0.8		31.6
Total contractual obligations⁽⁶⁾⁽⁷⁾⁽⁸⁾⁽⁹⁾	\$	946.5	\$	677.5	\$	377.3	\$	1,553.4	\$	3,554.7

⁽¹⁾ The amounts in the table above reflect Sirius Group's contractual obligations with respect to the principal and interest payments on Sirius Group's outstanding debt. Refer to Note 11 "Debt and Standby Letters of Credit Facilities" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for further details and discussion on the debt and financing arrangements of Sirius Group.

⁽²⁾ We are obligated to pay claims for specified loss events covered by the insurance and reinsurance contracts we write. Such loss payments represent our most significant future payment obligation. The total amount in the table above reflects our best estimate of our reserve for losses and loss expenses, refer to "Critical Accounting Estimates – Loss and LAE Reserves" for further details. The timing of claim payments is subject to significant uncertainty. Sirius Group maintains a portfolio of marketable investments with varying maturities and a substantial amount of short-term investments to provide adequate liquidity for the payment of claims. We have not taken into account corresponding reinsurance recoverable amounts that would be due to us.

⁽³⁾ Sirius Group grants incentive awards to certain key employees of Sirius Group and its subsidiaries. This includes awards that primarily consist of performance units. Awards earned are subject to the attainment of pre-specified performance goals at the end of a three-year period or as otherwise determined. Refer to Note 14 "Employee benefit plans and compensation plans" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for further details and discussion on incentive plan obligations.

⁽⁴⁾ 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. Refer to Note 14 "Employment benefit plans and compensation plans" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for further details describing the projected pension benefit obligation.

⁽⁵⁾ In the ordinary course of business, we renew and enter into new leases for office space which expire at various dates. There are no provisions within Sirius Group's operating leasing agreements that would trigger acceleration of future lease payments. Sirius Group does not finance its operations through the securitization of its trade receivables, through special purpose entities or through synthetic leases. Further, Sirius Group has not entered into any material arrangements requiring it to guarantee payment of third-party debt or lease payments or to fund losses of an unconsolidated special purpose entity.

⁽⁶⁾ Letters of credit outstanding, the IMG Earnout, and the Armada Earnout are excluded from the table above.

⁽⁷⁾ Sirius Group has future binding commitments to fund certain other long-term investments. These commitments totaled \$60 million as of December 31, 2019. These commitments do not have fixed funding dates. Therefore, these commitments are excluded from the table above.

⁽⁸⁾ Starting in 2018, the Company has issued equity incentives for certain employees and other non-employee independent directors under the 2018 Omnibus Incentive Plan. Obligations arising from these incentives are excluded from the table above. Refer to Note 14 "Employee benefit plans and compensation plans" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for further details and discussion on these incentive plan obligations.

⁽⁹⁾ The Series B preference shares contain both a mandatory conversion and optional redemption features, with the optional redemption features allowing for settlement in either common shares or cash. Sirius Group accounts for the Series B preference shares outside of permanent equity as mezzanine equity in the Consolidated Balance Sheets as its ability to settle in common shares cannot be assured. Obligations arising from these incentives are excluded from the table above.

Cash Flows

Sirius Group primarily derives cash from the net inflow of premiums less claim payments related to underwriting activities, from fee income, and from net investment income. The insurance and reinsurance business inherently provides liquidity, as premiums are received in advance of the time claims are paid. However, the amount of cash required to fund claim payments can fluctuate significantly from period to period, due to the low frequency and high severity nature of certain types of business we write. Sirius Group's remaining cash flows are generally reinvested in our investment portfolio. In addition, as previously disclosed, Sirius Group has access to the \$300 million Facility that provides access to loans for working capital and general corporate purposes, and letters of credit to support obligations under insurance and reinsurance agreements and retrocessional agreements.

The following table summarizes our consolidated cash flows from operating, investing, and financing activities for 2019, 2018, and 2017:

<i>(Millions)</i>	For the Years Ended December 31,		
	2019	2018	2017
Net cash provided from (used for) ⁽¹⁾			
Operations	\$ 109.8	\$ 108.0	\$ (36.0)
Investing activities	(77.7)	(189.9)	66.0
Financing activities	(8.0)	(6.6)	53.6
Effect of exchange rate changes on cash	(5.7)	(9.9)	9.9
Increase (decrease) in cash during year	\$ 18.4	\$ (98.4)	\$ 93.5

⁽¹⁾ Refer to the Consolidated Statements of Cash Flows in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for further details and discussion on the debt and financing arrangements of Sirius Group.

Cash flows from operations for the years ended December 31, 2019 and 2018

Net cash provided from operations were \$110 million and \$108 million for the years ended 2019 and 2018, respectively.

Long-term compensation items affecting cash flows from operations

During 2019 and 2018, Sirius Group made long-term incentive payments totaling \$2 million and \$6 million, respectively.

Cash flows from investing and financing activities for the years ended December 31, 2019 and 2018

Cash flows (used for) investing activities were \$(78) million and \$(190) million for the years ended December 31, 2019 and 2018, respectively. From 2018 to 2019, cash flows (used for) investing activities decreased \$112 million due to lower net purchases of common equity securities, partially offset by higher net purchases of short-term investments.

Cash flows (used for) financing activities were \$(8) million and \$(7) million for 2019 and 2018, respectively.

Cash flows from investing and financing activities for the year ended December 31, 2019***Financing and other capital activities***

On July 9, 2019, Sirius Group paid \$7 million to IMG Acquisition Holdings, LLC ("IMGAH") for the contingent payment for the 2018 calendar year. See Note 3 "Significant Transactions" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for a more detailed discussion.

During 2019, Sirius Group paid \$18 million of interest on the 2016 SIG Senior Notes and \$11 million of interest on the 2017 SEK Subordinated Notes.

Cash flows from investing and financing activities for the year ended December 31, 2018

Financing and other capital activities

On November 5, 2018, the Company completed the Merger and the Sirius Group Private Placement. Gross proceeds of the Sirius Group Private Placement, together with cash in the Easterly Trust Account assumed by Sirius Group upon the closing of the Merger and the Employee Share Purchase Plan ("ESPP"), discussed below, aggregated to \$268 million. See Note 3 "*Significant Transactions*" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for a more detailed discussion.

In connection with the Merger, Sirius Group implemented the ESPP, which provided all employees of Sirius Group with a one-time opportunity to purchase between 100 and 1,000 Company common shares at a price equal to 85% of market value for the first 100 shares and 100% of market value for the next 900 shares. Gross proceeds of the ESPP amounted to \$3 million. See Note 3 "*Significant Transactions*" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for a more detailed discussion.

On November 16, 2018, in connection with the Merger, the Company paid CM Bermuda \$164 million to redeem certain common shares. See Note 3 "*Significant Transactions*" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for a more detailed discussion.

On November 16, 2018, in connection with the Merger, the Company completed a post-closing adjustment that was settled in cash to CM Bermuda. Based on the reported book value per share of \$16.44 as of September 30, 2018, pursuant to the Merger Agreement, Sirius Group paid \$1.6 million to CM Bermuda. See Note 3 "*Significant Transactions*" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for a more detailed discussion.

On November 5, 2018, in connection with the Merger, the Company paid IMGAAH \$95 million to redeem all of the outstanding Series A redeemable preference shares, which were held by IMGAAH. In addition, the parties agreed that any remaining contingent consideration in respect of the IMG acquisition would be paid in cash, not in Series A redeemable preference shares as was previously contemplated in the IMG acquisition agreement. On November 8, 2018, the Company paid \$4 million to IMGAAH for the contingent payment for the 2017 calendar year. See Note 3 "*Significant Transactions*" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for a more detailed discussion.

During 2018, Sirius Group paid \$9 million of certain contractual costs associated with the Merger and \$7 million of various legal, advisory, and other consulting costs for the Sirius Group Private Placement.

During 2018, Sirius Group paid \$18 million of interest on the 2016 SIG Senior Notes and \$12 million of interest on the 2017 SEK Subordinated Notes.

During 2018, as stipulated in the stock purchase agreement between CMIG International and White Mountains, White Mountains paid Sirius Group \$1 million for certain long-term incentive payments that Sirius Group paid to its employees.

Acquisitions and dispositions

On August 16, 2018, Sirius Group purchased 100% of Cedar Insurance Company for \$17 million from WRM America Indemnity Holding Company, LLC. See Note 3 "*Significant Transactions*" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for a more detailed discussion.

Summary of Critical Accounting Estimates

Loss and LAE Reserves

General Description

Sirius Group 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 Group also obtains reinsurance whereby another reinsurer contractually agrees to indemnify Sirius Group for all or a portion of the reinsurance risks underwritten by Sirius Group. Such arrangements, where one reinsurer provides reinsurance to another reinsurer, are usually referred to as "retrocessional reinsurance" arrangements. Sirius Group 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 risk factors which give rise to inherent uncertainties in establishing insurance 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 or reinsurers, (2) the diversity of loss development patterns among different types of reinsurance treaties, facultative contracts or primary 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 part of its risk management process, management periodically engages external actuarial and claims consultants to independently evaluate the adequacy of the net carried loss and LAE reserves. These analyses generally include assessments of special liabilities such as asbestos and environmental claims. Management considers the results of the independent analysis as a supplement to internal recommendations when determining carried loss and LAE reserve amounts.

Loss and LAE Reserves by Reportable Segment

The following table summarizes the net loss and LAE reserves, separated between (i) case reserves for claims reported ("Case") and (ii) incurred but not reported ("IBNR") reserves for losses that have occurred but for which claims have not yet been reported and for expected future development on case reserves as of December 31, 2019 and 2018.

Net loss and LAE reserves by class of business (Millions)	2019		
	Case	IBNR	Total
Global Property	\$ 597.3	\$ 263.6	\$ 860.9
Global A&H	69.4	112.9	182.3
Specialty & Casualty	176.3	263.2	439.5
Runoff & Other	187.6	250.9	438.5
Total	\$ 1,030.6	\$ 890.6	\$ 1,921.2

Net loss and LAE reserves by class of business (Millions)	2018		
	Case	IBNR	Total
Global Property	\$ 487.8	\$ 264.3	\$ 752.1
Global A&H	76.6	76.3	152.9
Specialty & Casualty	149.5	129.7	279.2
Runoff & Other	210.6	271.7	482.3
Total	\$ 924.5	\$ 742.0	\$ 1,666.5

In order to reduce the potential uncertainty of loss reserve estimation, Sirius Group obtains information from numerous sources to assist in the reserving process. Sirius Group's underwriters and pricing actuaries devote considerable effort to understanding and analyzing a ceding company's operations and loss history during the underwriting of the business, using a combination of client and industry statistics. Such statistics normally include historical premium and loss data by class of business, individual claim information for larger claims, distributions of insurance limits provided and the risk characteristics of the underlying insureds, loss reporting and payment patterns and rate change history. This analysis is used to project expected loss ratios for each treaty or contract during the upcoming contract period. These expected ultimate loss ratios are aggregated across all treaties and are input directly into the loss reserving process. For primary business, a similar portfolio analysis is performed for each MGU program that takes into account expected changes in the aggregated risk profile of the policyholders within each program. The aggregation of risks yields a more stable indication of expected losses that is used to estimate ultimate losses and thus IBNR for recently written business.

Sirius Group's expected annual loss reporting assumptions are updated at least once a year. Expected loss ratios underlying the recent underwriting years are updated quarterly.

Sirius Group relies heavily on information reported by MGUs and ceding companies, as discussed above. In order to determine the accuracy and completeness of such information, Sirius Group underwriters, actuaries, and claims personnel perform audits of certain MGUs and ceding companies, where customary. Generally, ceding company audits are not customary outside the United States. In such cases, Sirius Group reviews information from ceding companies for unusual or unexpected results. Any material findings are discussed with the ceding companies. Sirius Group sometimes encounters situations where it is determined that a claim presentation from a ceding company is not in accordance with contract terms. Most situations are resolved without the need for litigation or arbitration. However, in the infrequent situations where a resolution is not possible, Sirius Group vigorously defends its position in such arbitration or litigation.

To reduce volatility in underwriting income and protect capital, Sirius Group generally obtains reinsurance whereby another reinsurer contractually agrees to indemnify Sirius Group for all or a portion of the risks underwritten by Sirius Group. Sirius Group establishes estimates of amounts recoverable from reinsurers on its primary business and retrocessional reinsurance on its reinsurance business in a manner consistent with the loss and LAE liability associated with reinsurance contracts offered to its customers, net of an allowance for uncollectible amounts, if any. Net reinsurance loss reserves represent loss and LAE reserves reduced by ceded reinsurance recoverable on unpaid losses.

The following table details our prior year loss reserve development of liability for net unpaid claims and claim expenses for the years ended December 31, 2019, 2018, and 2017.

Development by reportable segment (Millions)	Years Ended December 31,		
	2019	2018	2017
	(Favorable) unfavorable development	(Favorable) unfavorable development	(Favorable) unfavorable development
Global Property	\$ 91.5	\$ 43.6	\$ 2.2
Global A&H	(1.2)	(15.0)	(4.0)
Specialty & Casualty	12.4	(18.3)	(12.1)
Runoff & Other	1.1	(17.6)	13.3
Total net (favorable) development	\$ 103.8	\$ (7.3)	\$ (0.6)

Loss and LAE development—2019

During the year ended December 31, 2019, Sirius Group had net unfavorable loss reserve development of \$104 million. Increases in loss reserve estimates were recorded in Global Property (\$92 million), Specialty & Casualty (\$12 million), and Runoff & Other (\$1 million). The unfavorable loss reserve development in Global Property was primarily attributable to prior year catastrophe events, including Typhoon Jebi and Hurricanes Michael, Florence, and Irma. The unfavorable loss reserve development in Specialty & Casualty was primarily driven by unfavorable loss reserve development in the Casualty Reinsurance line (\$13 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 Group had net favorable prior year loss reserve development of \$7 million. During 2018, Sirius Group strengthened its Global Property loss reserves by \$44 million in Other Property (\$35 million) and Property Catastrophe Excess (\$13 million), resulting from higher than expected loss reporting from recent accident years, including \$21 million from Hurricanes Harvey, Irma, and Maria. Specialty & Casualty had net favorable loss reserve development of \$18 million, primarily driven by Aviation & Space (\$8 million) and Marine (\$7 million). The net favorable prior year loss reserve development of \$18 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 million of net favorable loss reserve development due to lower than expected claims activity.

Global Property

Actual Results vs. Initial Estimates

Generally, initial actuarial estimates of IBNR reserves not related to a specific large event are based on the loss ratio method applied to each class of business. Sirius Group 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 assumptions.

For major events, particularly natural catastrophe, Sirius Group develops assessments of the ultimate losses associated with each individual event. Estimates are based on information from ceding companies, third party and internal catastrophe models, and by applying overall estimates of insured industry losses to Sirius Group's exposure information.

Changes in all estimates will be recorded in the period in which the changes occur. In accident years where the updated estimates are lower than our initial estimates, we experience favorable development. Conversely, in accident years where the revised estimates are higher than our original estimates, there is adverse development on prior accident year reserves.

Potential Variability in Loss Reserve Estimates

There are possible variations from current estimates of loss reserves due to changes in key assumptions. In order to quantify the potential volatility in the loss reserve estimates for Global Property, Sirius Group employs a stochastic simulation approach to produce a range of results around the central estimate and estimated probabilities of possible outcomes. Both the probabilities and the related modeling are subject to inherent uncertainties. The simulation relies on a significant number of assumptions, such as variation in historical loss development patterns and industry losses for major events, potential mis-estimation of the initial expected loss ratios during the pricing process, and unanticipated inflation.

Global A&H

Actual Results vs. Initial Estimates

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 Group 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 assumptions.

Changes in all estimates will be recorded in the period in which the changes occur. In accident years where the updated estimates are lower than our initial estimates, we experience favorable development. Conversely, in accident years where the revised estimates are higher than our original estimates, there is adverse development on prior accident year reserves.

Potential Variability in Loss Reserve Estimates

There are possible variations from current estimates of loss reserves due to changes in key assumptions. In order to quantify the potential volatility in the loss reserve estimates for Global A&H, Sirius Group employs a stochastic simulation approach to produce a range of results around the central estimate and estimated probabilities of possible outcomes. Both the probabilities and the related modeling are subject to inherent uncertainties. The simulation relies on a significant number of assumptions, such as variation in historical loss development patterns, individual claims estimates, potential mis-estimation of the initial expected loss ratios during the pricing process, and unanticipated inflation.

Specialty & Casualty

Actual Results vs. Initial Estimates

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 Group 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 assumptions.

For major events, Sirius Group develops assessments of the ultimate losses associated with each individual event. Estimates are based on information from ceding companies and by applying overall estimates of insured industry losses to Sirius Group's exposure information.

Changes in all estimates will be recorded in the period in which the changes occur. In accident years where the updated estimates are lower than our initial estimates, we experience favorable development. Conversely, in accident years where the revised estimates are higher than our original estimates, there is adverse development on prior accident year reserves.

Potential Variability in Loss Reserve Estimates

There are possible variations from current estimates of loss reserves due to changes in key assumptions. In order to quantify the potential volatility in the loss reserve estimates for Specialty & Casualty lines, Sirius Group employs a stochastic simulation approach to produce a range of results around the central estimate and estimated probabilities of possible outcomes. Both the probabilities and the related modeling are subject to inherent uncertainties. The simulation relies on a significant number of assumptions, such as variation in historical loss development patterns, individual claims estimates, potential mis-estimation of the initial expected loss ratios during the pricing process, and unanticipated inflation.

Runoff & Other

Runoff & Other consists of results from Sirius Global Solutions, which specializes in the acquisition and management of runoff liabilities for insurance and reinsurance companies, along with other portfolios of business that Sirius Group is currently not writing.

Actual Results vs. Initial Estimates

Sirius Group 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, and market and exposure analyses. Estimates of the 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, review of judicial and economic trends, 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 assumptions.

Changes in all estimates will be recorded in the period in which the changes occur. In accident years where the updated estimates are lower than our initial estimates, we experience favorable development. Conversely, in accident years where the revised estimates are higher than our original estimates, there is adverse development on prior accident year reserves.

Potential Variability in Loss Reserve Estimates

There are possible variations from current estimates of loss reserves due to changes in key assumptions. In order to quantify the potential volatility in the loss reserve estimates for Runoff & Other, Sirius Group employs a stochastic simulation approach to produce a range of results around the central estimate and estimated probabilities of possible outcomes. Both the probabilities and the related modeling are subject to inherent uncertainties. The simulation relies on a significant number of assumptions, such as variation in historical loss development patterns, individual claims estimates, litigation and judicial trends, and unanticipated inflation.

Asbestos and Environmental ("A&E") Reserves

Included in Sirius Group's Runoff & Other are A&E loss reserves. Sirius Group'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, the exposures arise almost entirely from old assumed reinsurance contracts having small limits of liability.

Net incurred loss activity for asbestos and environmental for the years ended December 31, 2019, 2018, and 2017 was as follows:

Net incurred loss and LAE activity (Millions)	Years Ended December 31,		
	2019	2018	2017
Asbestos	\$ —	\$ (6.9)	\$ 59.0
Environmental	0.7	4.0	6.1
Total	\$ 0.7	\$ (2.9)	\$ 65.1

During 2019, Sirius Group did not record any asbestos-related incurred losses and LAE on its asbestos reserves and recorded a decrease of \$7 million in asbestos-related incurred losses and LAE in 2018. The decrease of \$7 million for 2018 was driven by favorable loss reserve development, primarily due to benign claims activity on the Sirius Global Solutions portfolio.

Sirius Group recorded \$1 million and \$4 million of environmental losses in 2019 and 2018, respectively, on its already existing reserves.

Sirius Group's net reserves for A&E losses were \$187 million and \$200 million as of December 31, 2019 and 2018, respectively. Sirius Group's asbestos three-year net paid survival ratio was 11.5 years and 10.2 years as of December 31, 2019 and 2018, respectively. Sirius Group's environmental three-year net paid survival ratio was approximately 4.0 years and 4.2 years as of December 31, 2019 and 2018, respectively.

Sirius Group's reserves for A&E losses as of December 31, 2019 represent management's best estimate of its ultimate liability based on information currently available. However, as case law expands, and medical and clean-up costs increase and industry settlement practices change, Sirius Group may be subject to asbestos and environmental losses beyond currently estimated amounts. Sirius Group 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 tables show gross and net loss and LAE payments for A&E exposures for the years ended December 31, 2010 through December 31, 2019:

<i>(Millions)</i> Years Ended December 31	Asbestos paid loss and LAE		Environmental paid loss and LAE	
	Gross	Net	Gross	Net
2010	\$ 14.5	\$ 12.1	\$ 0.8	\$ 0.9
2011	20.4	15.6	3.2	3.6
2012	34.7	29.4	2.3	1.5
2013	25.9	20.3	1.8	1.8
2014	21.9	16.8	1.5	1.5
2015	22.0	19.4	4.2	3.6
2016	21.8	20.1	3.4	3.3
2017	24.7	20.8	4.7	4.0
2018	15.5	13.3	4.0	4.0
2019	12.2	11.1	2.9	2.6

A&E Claims Activity

Sirius Group utilizes specialized claims-handling processes on A&E exposures, including management notification of claims development, and a quarterly monitoring meeting. The issues presented by these types of claims require expertise and an awareness of the various trends and developments in relevant jurisdictions. Generally, Sirius Group sets up claim files for each reported claim by each cedent for each individual insured. In many instances, a single claim notification from a cedent could involve several years and layers of coverage resulting in a file being set up for each involvement. Precautionary claim notices are submitted by the ceding companies in order to preserve their right to pursue coverage under the reinsurance contract. Such notices do not contain an incurred loss amount. Accordingly, an open claim file is not established.

As of December 31, 2019, Sirius Group had 1,691 open claim files for asbestos and 376 open claim files for environmental exposures. Sirius Group's A&E claim activity for the last three years is illustrated in the table below:

A&E Claims Activity	Years Ended December 31,		
	2019	2018	2017
Asbestos			
Total asbestos claims at the beginning of the year	1,722	1,741	1,935
Asbestos claims reported during the year	134	193	180
Asbestos claims closed during the year	(165)	(212)	(374)
Total asbestos claims at the end of the year	1,691	1,722	1,741
Environmental			
Total environmental claims at the beginning of the year	372	357	361
Environmental claims reported during the year	33	88	80
Environmental claims closed during the year	(29)	(73)	(84)
Total environmental claims at the end of the year	376	372	357
Total			
Total A&E claims at the beginning of the year	2,094	2,098	2,296
A&E claims reported during the year	167	281	260
A&E claims closed during the year	(194)	(285)	(458)
Total A&E claims at the end of the year	2,067	2,094	2,098

Fair Value Measurements

General

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 of 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. 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 and 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 Group determines when transfers between levels have occurred as of the beginning of the period.

Valuation techniques

Sirius Group uses outside pricing services to assist in determining fair values for its investments. For investments in active markets, Sirius Group uses the quoted market prices provided by outside pricing services to determine fair value. The outside pricing services Sirius Group 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 Group 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 Group's fixed maturity investments. See Note 9 "*Fair value measurements*" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for the techniques and inputs specific to asset classes within Sirius Group's fixed maturity investments for Level 2 securities that use observable inputs.

Level 3 Investments

Level 3 valuations are generated from techniques that use assumptions not observable in the market. These unobservable assumptions reflect Sirius Group'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 Group 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 Group'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 Group'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 Group'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. 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 Group 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 Group with respect to the underlying investments, as necessary.

See Note 9 "Fair value measurements" in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K for a summary of fair value measurements for investments as of December 31, 2019 and 2018 by level.

Other Long-Term Investments

As of December 31, 2019, Sirius Group's other long-term investments accounted for at fair value include \$128 million in hedge funds and \$142 million in private equity funds versus \$118 million in hedge funds and \$183 million in private equity funds as of December 31, 2018. As of December 31, 2019, Sirius Group held investments in nine hedge funds and 29 private equity funds versus investments in nine hedge funds and 27 private equity funds as of December 31, 2018.

The largest investment in a single fund was \$52 million and \$55 million as of December 31, 2019 and 2018, respectively. The fair value of Sirius Group's investments in hedge funds and private equity funds is based upon Sirius Group's proportionate interest in the underlying fund's net asset value, which is deemed to approximate fair value. Sirius Group employs a number of procedures to assess the reasonableness of the fair value measurements for its other long-term investments, including obtaining and reviewing each fund's audited financial statements and discussing each fund's pricing with the fund's manager. However, since the fund managers do not provide sufficient information to independently evaluate the pricing inputs and methods for each underlying investment, the inputs are considered to be unobservable.

In circumstances where the underlying investments are publicly traded, such as the investments made by hedge funds, the fund manager uses current market prices to determine fair value. In circumstances where the underlying investments are not publicly traded, such as the investments made by private equity funds, the private equity fund managers generally consider the need for a liquidity discount on each of the underlying investments when determining the fund's NAV. In the event Sirius Group believes that the valuation provided by the fund manager differs from its expectations due to illiquidity or other factors associated with its investment in the fund, Sirius Group will adjust the fund manager's NAV to more appropriately represent the fair value of its interest in the investment.

Sensitivity analysis of likely returns on hedge fund and private equity fund investments

Sirius Group's investment portfolio includes investments in hedge funds and private equity funds. As of December 31, 2019, the value of investments in hedge funds and in private equity funds was \$128 million and \$142 million, respectively. The underlying investments are typically publicly traded and private equity securities and, as such, are subject to market risks that are similar to Sirius Group's equity securities. The following illustrates the estimated effect on December 31, 2019 fair value resulting from a 10% change and a 30% change in market value:

<i>(Millions)</i> Fund Type	Change in fair value		Change in fair value	
	10% decline	10% increase	30% decline	30% increase
Hedge funds	\$ (12.8)	\$ 12.8	\$ (38.3)	\$ 38.3
Private equity funds	\$ (14.2)	\$ 14.2	\$ (42.5)	\$ 42.5

Goodwill

Goodwill represents the excess of purchase price over the fair value of net assets acquired from the acquisitions of IMG and Armada.

Sirius Group early adopted Accounting Standards Update ("ASU") No. 2017-04, *Simplifying the Test for Goodwill Impairment*, which eliminates Step Two from the goodwill impairment test. Under the new standard, to the extent the carrying amount of a reporting unit exceeds the fair value, an impairment charge should be recorded that is equal to the difference. The impairment charge recognized should not exceed the total amount of goodwill allocated to the reporting unit. Goodwill is assessed for impairment on an annual basis or more frequently if events or changes in circumstances indicate that it is more likely than not that an impairment exists. Such events or circumstances may include an economic downturn in a geographic market or change in the assessment of future operations.

In the absence of any indications of potential impairment, the evaluation of goodwill is performed during the fourth quarter of each year and when events or changes in circumstances indicate that it is more likely than not that the asset is impaired. Sirius Group primarily uses two approaches to value goodwill: the income approach, which converts future estimates of cash flows by reporting unit to a single (discounted) current value and the market approach, which uses prices and other information from transactions for identical or similar assets or liabilities. If goodwill is impaired, it is written down to its fair value with a corresponding expense reflected in the Consolidated Statements of (Loss) and Comprehensive (Loss) in the period in which the determination is made.

Sirius Group recognized goodwill of \$278 million and \$123 million from the 2017 acquisitions of IMG and Armada, respectively. These amounts represent the fair value of the consideration paid, less the aforementioned identified and valued intangible assets. IMG's goodwill balance is primarily attributed to IMG's assembled workforce and access to the supplemental health care and medical travel insurance market. Armada's goodwill balance is primarily attributed to Armada's assembled workforce and access to the supplemental healthcare insurance market, and additional synergies to be realized in the future.

During 2019 and 2018, Sirius Group determined that the Global A&H operating segment was appropriate for purposes of testing goodwill for impairment. The Global A&H operating segment produces discrete financial information that management regularly reviews and its components have similar economic characteristics. The components of the Global A&H operating segment have similar economic characteristics including (1) the nature of the products and services; (2) the nature of the production processes; (3) the type or class of customer for their products and services; (4) the methods used to distribute the products or providing services; and (5) the nature of the regulatory environment. Based on management's consideration of these five factors, it was determined that all of the components of the Company's Global A&H operating segment have similar economic characteristics in that all components primarily write accident and health insurance products ranging from disability, travel medical, stop-loss, accident and ex-pat health coverage written on a global basis. The acquisitions of both Armada and IMG were executed with the long term goal of generating insurance operating results by moving the business written by these MGUs to Sirius Group's insurance carriers, supplemented in the near term by the fee based revenue produced through the brokering of this business that is currently being underwritten by external insurance carriers.

In the fourth quarter of 2019, Sirius Group performed goodwill impairment testing for the Global A&H. Management calculated a range of fair values using the income approach and market approach and compared the concluded fair values to the carrying value of Global A&H. The lower end of the range of fair values exceeded the carrying value of Global A&H by 21%. The fair value midpoint exceeded the carrying value by 26%. Expected future cash flows and/or earnings may be materially and negatively impacted as a result of, among other things, a decrease in renewals and new business, loss of key personnel, lower-than-expected yields or higher-than-expected claims activity and incurred losses as well as other general economic factors.

There was no evidence of potential impairment of goodwill as of December 31, 2019.

Premiums

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. Unearned premiums represent the portion of premiums written that are applicable to future insurance or reinsurance coverage provided by policies or treaties in force. Sirius Group also charges fees on certain insurance policies.

Sirius Group writes primary insurance business ("primary business" or "insurance"), as well as treaty and facultative reinsurance business ("assumed business"). The majority of Sirius Group's treaty reinsurance premiums are derived from pro-rata ("proportional") and excess of loss ("non-proportional") reinsurance contracts, which in 2019 amounted to 45% and 28%, respectively, of its total gross written premiums. Primary business represented 27% of total gross written premiums.

Primary Business

Sirius Group's primary business is predominantly Accident and Health insurance. In recent years, we have expanded our primary business capabilities in the United States. During 2017, Sirius Group acquired IMG and Armada to further expand its Accident and Health business. Both acquired entities are MGUs. Sirius Group further expanded its primary insurance platform launching its primary Surety and Environmental insurance platforms in the U.S. in late 2017. In mid-2018, we began writing primary Casualty insurance through Pie Insurance, a start-up specializing in a data driven approach to workers compensation insurance, where we also have a minority investment and carrier relationship.

Assumed Business

Sirius Group's assumed business is derived from a broad spectrum of ceding companies, including national, regional, specialty, and excess and surplus lines writers, both internationally and in the United States and is written on a proportional and non-proportional basis. Sirius Group re-entered the broker market for U.S. casualty reinsurance treaties written on a proportional and excess of loss basis in 2017.

The following table summarizes Sirius Group's gross written premiums for primary and assumed business for the years ended December 31, 2019, 2018, and 2017:

(Millions)	Years Ended December 31,					
	2019		2018		2017	
	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total	Gross Written Premiums	% of Total
Primary						
Global Property	\$ 14.4	1%	\$ 47.9	3%	\$ 31.1	2%
Global A&H	414.2	22%	364.6	20%	390.7	27%
Specialty & Casualty	82.6	4%	42.0	2%	33.0	2%
Runoff & Other	—	—%	—	—%	(4.6)	—%
Total primary	\$ 511.2	27%	\$ 454.5	25%	\$ 450.2	31%
Assumed						
Proportional						
Global Property	\$ 418.5	22%	\$ 508.3	27%	\$ 327.1	23%
Global A&H	133.5	7%	97.4	5%	57.9	4%
Specialty & Casualty	296.4	16%	229.6	13%	142.9	10%
Runoff & Other	4.2	—%	33.0	2%	(0.7)	—%
Total proportional	\$ 852.6	45%	\$ 868.3	47%	\$ 527.2	37%
Non-proportional						
Global Property	\$ 415.5	22%	\$ 406.1	22%	\$ 373.9	26%
Global A&H	45.7	2%	38.6	2%	46.0	3%
Specialty & Casualty	77.7	4%	53.5	4%	42.2	3%
Runoff & Other	—	—%	—	—%	(0.2)	—%
Total non-proportional	\$ 538.9	28%	\$ 498.2	28%	\$ 461.9	32%
Total assumed	1,391.5	73%	1,366.5	75%	989.1	69%
Gross written premiums	\$ 1,902.7	100%	\$ 1,821.0	100%	\$ 1,439.3	100%

Premium Estimates

The nature of the insurance and reinsurance business requires Sirius Group to record premium estimates due to a time lag from the point when premium and related commission and expense activity is recorded by a ceding company and the point when such information is reported by the ceding company to Sirius Group. This time lag can vary from one to several contractual reporting periods (i.e., quarterly / monthly). This lag is common in the reinsurance business and is slightly longer when a reinsurance intermediary is involved.

As a result of this time lag in reporting, Sirius Group estimates a portion of its written premium and related commissions and expenses. Given the nature of Sirius Group's business, estimated premium balances, net of related commissions and expenses, comprise a large portion of total premium balances receivable. The estimation process begins by identifying which major accounts have not reported activity at the most recent period end. In general, premium estimates for excess of loss business are based on expected premium income included in the contractual terms. For proportional business, Sirius Group's estimates are derived from expected premium volume based on contractual terms or ceding company reports and other correspondence and communication with underwriters, intermediaries, and ceding companies. Once premium estimates are determined, related commission and expense estimates are derived using contractual terms.

Sirius Group closely monitors its estimation process on a quarterly basis and adjusts its estimates as more information and actual amounts become known. There is no assurance that the amounts estimated by Sirius Group will not deviate from the amounts reported by the ceding company or reinsurance intermediary. Any such deviations are reflected in the results of operations when they become known.

The following table summarizes Sirius Group's premium estimates and related commissions and expenses as of December 31, 2019 and 2018:

	2019			
	Gross Premium Estimates	Net Premium Estimates	Net Commission and Expense Estimates	Net Amount Included in Reinsurance Balances Receivable
<i>(Millions)</i>				
Global Property	\$ 459.3	\$ 268.7	\$ (36.6)	\$ 232.1
Global A&H	205.0	165.4	(53.4)	112.0
Specialty & Casualty	212.6	197.5	(52.5)	145.0
Runoff & Other	2.8	2.8	0.6	3.4
Total	\$ 879.7	\$ 634.4	\$ (141.9)	\$ 492.5
	2018			
	Gross Premium Estimates	Net Premium Estimates	Net Commission and Expense Estimates	Net Amount Included in Reinsurance Balances Receivable
<i>(Millions)</i>				
Global Property	\$ 450.5	\$ 249.5	\$ (41.3)	\$ 208.2
Global A&H	177.3	139.7	(52.5)	87.2
Specialty & Casualty	180.0	170.2	(49.2)	121.0
Runoff & Other	3.3	3.3	2.7	6.0
Total	\$ 811.1	\$ 562.7	\$ (140.3)	\$ 422.4

Income Taxes

Sirius Group 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, Sirius Group 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. Sirius Group 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 Sirius Group's subsidiaries and branches are subject to tax are Australia, Belgium, Canada, Denmark, Germany, Gibraltar, Hong Kong (China), Ireland, Luxembourg, Malaysia, Shanghai (China), Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

Recoverability of Net Deferred Tax Asset

Sirius Group 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 Group 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 Group's deferred tax assets and tax expense.

For a more detailed discussion of our net deferred tax asset and our framework for assessing its recoverability, see Note 12 *"Income taxes"* in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K.

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 Group 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.

The Swedish Tax Authority ("STA") has denied deductions claimed by two of our Swedish subsidiaries in certain tax years for interest they paid on intra-group debt instruments. We have challenged the STA's denial in court based on the technical merits. Our reserve for uncertain tax positions has taken into account relevant developments in these tax disputes and in applicable Swedish tax law including recent case law. We also have taken into account the Stock Purchase Agreement by which Sirius Group was sold to CMIG International in 2016. Pursuant to such Agreement, the seller agreed to indemnify Sirius Group and the buyer for, among other things, (1) any additional tax liability in excess of our accounting for uncertain tax positions for tax periods prior to the sale of Sirius Group to CMIG International, and (2) an impairment in our net deferred tax assets resulting from a final determination by a tax authority.

With few exceptions, Sirius Group is no longer subject to U.S. federal, state or non-U.S. income tax examinations by tax authorities for years before 2015.

For a more detailed discussion of our uncertain tax positions, see Note 12 *"Income taxes"* in Sirius Group's audited financial statements included elsewhere in this Annual Report on Form 10-K.

Earnings of Certain Subsidiaries

Sirius Group 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 us or our subsidiaries, as dividends or otherwise, they may be subject to income or withholding taxes. Sirius Group generally intends to operate, and manage its capital and liquidity, in a tax-efficient manner. However, the applicable tax laws in the relevant countries are subject to change, possibly with retroactive effect, including in response to Organisation for Economic Cooperation and Development ("OECD") guidance. 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 also attempt to apply income or withholding tax to past earnings or payments.

U.S. Tax Reform

The Tax Cut and Jobs Act (“TCJA”) was enacted into law in the U.S. in December 2017. The Act includes a new base erosion and anti-abuse tax (“BEAT”). Final and proposed regulations interpreting and applying these provisions have been issued by the U.S. Department of the Treasury and the IRS, and additional guidance may be forthcoming. It is not possible to predict if, when or in what form such guidance will be provided and whether such guidance will be applied on a retroactive basis. The BEAT levies a significant tax on cross border payments to related group companies. This tax will subject certain intragroup reinsurance arrangements to a base erosion tax on premiums ceded. While Sirius Group intends to operate in a manner that limits its exposure to BEAT, at this time, subject to additional IRS guidance, uncertainty about the financial impact on Sirius Group of this new tax remains and no assurance can be given that Sirius Group will not be subject to material amounts of BEAT in the future. Accordingly, BEAT could materially impact our provision for taxes in the future.

Recent accounting pronouncements

See Note 2 “*Summary of Significant Accounting Policies—Significant Accounting Policies*” in Sirius Group’s audited financial statements included elsewhere in this Annual Report on Form 10-K for a summary of recent accounting pronouncements impacting Sirius Group.

Item 7A. Quantitative and Qualitative Disclosure About Market Risk

Sirius Group’s consolidated balance sheet includes a substantial amount of assets and liabilities whose fair values are subject to market risk. The term market risk refers to the risk of loss arising from adverse changes in interest rates, credit spreads, equity markets prices, and other relevant market rates and prices. Due to Sirius Group’s sizable investment portfolio, market risk can have a significant effect on Sirius Group’s consolidated financial position.

Interest Rate Risk of Fixed Maturity Investments

In connection with Sirius Group’s consolidated insurance and reinsurance subsidiaries, Sirius Group invests in interest rate sensitive securities, primarily debt securities. Sirius Group generally manages the interest rate risk associated with its portfolio of fixed maturity investments by monitoring the average of investment-grade corporate securities; U.S. government and agency securities; foreign government, agency and provincial obligations; preferred stocks; asset-backed and mortgage-backed securities; and municipal obligations.

Increases and decreases in prevailing interest rates generally translate into decreases and increases in fair values of fixed maturity investments, respectively. Additionally, fair values of interest rate sensitive instruments may be affected by the creditworthiness of the issuer, prepayment options, relative values of alternative investments, the liquidity of the instrument, and other market factors.

The table below summarizes the estimated effects of hypothetical increases and decreases in market interest rates on Sirius Group’s fixed maturity investments as of December 31, 2019. The size of interest rate decreases presented may be limited in order to floor interest rates at a de minimis level.

(Millions)	Fair Value at December 31, 2019	Assumed Change in Relevant Interest Rate	Estimated Fair Value After Change in Interest Rate	Pre-Tax Increase (Decrease) in Carrying Value
Fixed maturity investments	\$ 1,681.0	300 bp decrease	\$ 1,764.6	\$ 83.6
		200 bp decrease	1,748.5	67.5
		100 bp decrease	1,716.8	35.8
		50 bp decrease	1,700.1	19.1
		50 bp increase	1,661.1	(19.9)
		100 bp increase	1,641.1	(39.9)
		200 bp increase	1,601.2	(79.8)
		300 bp increase	1,561.2	(119.8)

The magnitude of the fair value decrease in rising rates scenarios may be more significant than the fair value increase in comparable falling rates scenarios. This can occur because (i) the analysis floors interest rates at a de minimis level in falling rate scenarios, muting price increases, (ii) portions of the fixed maturity investment portfolio may be callable, muting price increases in falling interest rate scenarios and/or (iii) portions of the fixed maturity investment portfolio may experience cash flow extension in higher interest rate environments, which generally results in lower fixed income asset prices.

Equity Securities and Other Long-term Investments Price Risk

The carrying values of Sirius Group's equity securities and other long-term investments are based on quoted market prices or management's estimates of fair value as of the balance sheet date. Market prices of equity securities, in general, are subject to fluctuations. These fluctuations could cause the amount realized upon sale or exercise of these instruments to differ significantly from the current reported value. The fluctuations may result from perceived changes in the underlying economic characteristics of the investment, the relative price of alternative investments, supply and demand imbalances for a particular security, or other market factors. Assuming a hypothetical 10% and 30% increase or decrease in the value of Sirius Group's equity securities and other long-term investments as of December 31, 2019, the carrying value of Sirius Group's equity securities and other long-term investments would have increased or decreased by approximately \$75 million and \$226 million, pre-tax, respectively.

Long-term obligations

The following table summarizes the fair value and carrying value of financial instruments as of December 31, 2019 and 2018:

(Millions)	2019		2018	
	Fair value ⁽¹⁾	Carrying value	Fair value ⁽¹⁾	Carrying value
Liabilities, Mezzanine equity, and Non-controlling interest:				
2017 SEK Subordinated Notes	\$ 294.5	\$ 291.2	\$ 309.5	\$ 303.6
2016 SIG Senior Notes	\$ 394.5	\$ 394.0	\$ 347.6	\$ 393.2
Series B preference shares	\$ 186.4	\$ 223.0	\$ 191.7	\$ 232.2

⁽¹⁾ Fair value estimated by internal pricing and considered a Level 3 measurement.

Foreign Currency Exchange Risk

Sirius Group holds non-U.S. dollar denominated assets and liabilities, which are valued using period-end exchange rates. Sirius Group has non-U.S. dollar denominated foreign revenues and expenses, which are valued using average exchange rates over the period. Foreign currency exchange-rate risk is the risk that Sirius Group will incur losses on a U.S. dollar basis due to adverse changes in foreign currency exchange rates.

The following table illustrates the effect that a hypothetical 10% increase (i.e., U.S. dollar strengthening) or decrease (i.e., U.S. dollar weakening) in the rate of exchange for the Japanese Yen, Euro, British pound, Israeli shekel, Canadian dollar, and Swedish Krona to the U.S. dollar would have on the carrying value of Sirius Group's net assets as of December 31, 2019 and 2018:

(Millions)	2019		2018	
	10% increase	10% decrease	10% increase	10% decrease
Japanese Yen to U.S. dollar	\$ 14.2	\$ (14.2)	\$ 9.0	\$ (9.0)
Euro to U.S. dollar	7.7	(7.7)	3.6	(3.6)
British Pound to U.S. dollar	1.3	(1.3)	0.2	(0.2)
Israeli Shekel to U.S. dollar	(1.7)	1.7	(6.2)	6.2
Canadian Dollar to U.S. dollar	(2.8)	2.8	(0.9)	0.9
Swedish Krona to U.S. dollar	(4.3)	4.3	28.0	(28.0)

Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Sirius International Insurance Group, Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Sirius International Insurance Group, Ltd. and its subsidiaries (the “Company”) as of December 31, 2019 and 2018, and the related consolidated statements of (loss), of comprehensive (loss), of shareholders' equity and of cash flows for each of the three years in the period ended December 31, 2019, including the related notes and financial statement schedules listed in the index appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP
March 5, 2020

We have served as the Company’s auditor since at least 2001, which includes periods before the Company became subject to SEC reporting requirements. We have not been able to determine the specific year we began serving as auditor of the Company.

Sirius International Insurance Group, Ltd.
Consolidated Balance Sheets
As at December 31, 2019 and 2018

(Expressed in millions of U.S. dollars, except share information)

	2019	2018
Assets		
Fixed maturity investments, trading, at fair value (<i>Amortized cost 2019: \$1,656.6; 2018: \$1,952.9</i>)	\$ 1,681.0	\$ 1,949.2
Short-term investments, at fair value (<i>Amortized cost 2019: \$1,090.8; 2018: \$716.1</i>)	1,085.2	715.5
Equity securities, trading, at fair value (<i>Cost 2019: \$379.2; 2018: \$409.4</i>)	405.2	380.0
Other long-term investments, at fair value (<i>Cost 2019: \$315.4; 2018: \$337.6</i>)	346.8	365.0
Cash	136.3	119.4
Restricted cash	14.3	12.8
Total investments and cash	3,668.8	3,541.9
Accrued investment income	11.2	14.1
Insurance and reinsurance premiums receivable	730.1	630.6
Reinsurance recoverable on unpaid losses	410.3	350.2
Reinsurance recoverable on paid losses	73.9	55.0
Funds held by ceding companies	293.9	186.8
Ceded unearned insurance and reinsurance premiums	162.0	159.8
Deferred acquisition costs	148.2	141.6
Deferred tax asset	166.7	202.5
Accounts receivable on unsettled investment sales	6.7	5.0
Goodwill	400.8	400.6
Intangible assets	179.8	195.6
Other assets	161.4	124.0
Total assets	\$ 6,413.8	\$ 6,007.7
Liabilities		
Loss and loss adjustment expense reserves	\$ 2,331.5	\$ 2,016.7
Unearned insurance and reinsurance premiums	708.0	647.2
Ceded reinsurance payable	244.7	206.9
Funds held under reinsurance treaties	169.1	110.6
Deferred tax liability	205.9	237.4
Debt	685.2	696.8
Accounts payable on unsettled investment purchases	2.3	3.2
Other liabilities	201.3	150.5
Total liabilities	4,548.0	4,069.3
Commitments and contingencies (see Note 22)		
Mezzanine equity		
Series B preference shares	223.0	232.2
Total mezzanine equity	223.0	232.2
Common shareholders' equity		
Common shares (<i>shares issued and outstanding, 2019: 115,299,341, 2018: 115,151,251</i>)	1.2	1.2
Additional paid-in surplus	1,098.2	1,089.1
Retained earnings	778.5	816.6
Accumulated other comprehensive (loss)	(237.5)	(202.4)
Total common shareholders' equity	1,640.4	1,704.5
Non-controlling interests	2.4	1.7
Total equity	1,642.8	1,706.2
Total liabilities, mezzanine equity, and equity	\$ 6,413.8	\$ 6,007.7

See Notes to Consolidated Financial Statements

Sirius International Insurance Group, Ltd.
Consolidated Statements of (Loss)
For the years ended December 31, 2019, 2018, and 2017

(Expressed in millions of U.S. dollars, except share and per share information)

	2019	2018	2017
Revenues			
Net earned insurance and reinsurance premiums	\$ 1,441.6	\$ 1,262.3	\$ 1,035.3
Net investment income	84.7	71.4	56.8
Net realized investment gains (losses)	56.7	2.3	(27.2)
Net unrealized investment gains (losses)	80.6	(23.2)	(10.5)
Net foreign exchange gains	7.7	22.7	9.2
Revaluation of contingent consideration	(6.3)	9.6	48.8
Other revenue	55.1	112.7	21.7
Total revenues	1,720.1	1,457.8	1,134.1
Expenses			
Loss and loss adjustment expenses	1,170.3	900.0	811.2
Insurance and reinsurance acquisition expenses	288.7	255.4	197.2
Other underwriting expenses	138.2	146.2	106.1
General and administrative expenses	109.8	77.9	91.9
Intangible asset amortization expenses	15.8	15.8	10.2
Impairment of intangible assets	—	8.0	5.0
Interest expense on debt	31.0	30.8	22.4
Total expenses	1,753.8	1,434.1	1,244.0
Pre-tax (loss) income	(33.7)	23.7	(109.9)
Income tax (expense)	(11.9)	(40.4)	(26.4)
Net (loss)	(45.6)	(16.7)	(136.3)
Less: Income attributable to non-controlling interests	(1.7)	(1.4)	(13.7)
Net (loss) attributable to Sirius Group	(47.3)	(18.1)	(150.0)
Change in carrying value of Series B preference shares	9.2	(36.4)	—
Add: Redemption of Series A redeemable preference shares	—	13.8	—
Less: Accrued dividends on Series A redeemable preference shares	—	(2.6)	(6.1)
Net (loss) attributable to Sirius Group's common shareholders	\$ (38.1)	\$ (43.3)	\$ (156.1)
Net (loss) per common share and common share equivalent			
Basic earnings per common share and common share equivalent	\$ (0.33)	\$ (0.36)	\$ (1.30)
Diluted earnings per common share and common share equivalent	\$ (0.37)	\$ (0.36)	\$ (1.30)
Weighted average number of common shares and common share equivalents outstanding:			
Basic weighted average number of common shares and common share equivalents outstanding	115,234,105	119,253,924	120,000,000
Diluted weighted average number of common shares and common share equivalents outstanding	127,135,775	119,253,924	120,000,000

See Notes to Consolidated Financial Statements.

Sirius International Insurance Group, Ltd.
Consolidated Statements of Comprehensive (Loss)
For the years ended December 31, 2019, 2018, and 2017

(Expressed in millions of U.S. dollars)

	2019	2018	2017
Comprehensive (loss)			
Net (loss)	\$ (45.6)	\$ (16.7)	\$ (136.3)
Other comprehensive (loss) income			
Change in foreign currency translation, net of tax	(35.1)	(61.9)	71.7
Total other comprehensive (loss) income	(35.1)	(61.9)	71.7
Comprehensive (loss)	(80.7)	(78.6)	(64.6)
Net (income) attributable to non-controlling interests	(1.7)	(1.4)	(13.7)
Comprehensive (loss) attributable to Sirius Group	\$ (82.4)	\$ (80.0)	(78.3)

See Notes to Consolidated Financial Statements.

Sirius International Insurance Group, Ltd.
Consolidated Statements of Shareholders' Equity
For the years ended December 31, 2019, 2018, and 2017

(Expressed in millions of U.S. dollars, except per share information)

	2019	2018	2017
Common shares			
Balance at beginning of year	\$ 1.2	\$ 1.2	\$ 1.2
Issuance of common shares	—	0.1	—
Share repurchase from CM Bermuda	—	(0.1)	—
Balance at end of year	1.2	1.2	1.2
Additional paid-in surplus			
Balance at beginning of year	1,089.1	1,197.9	1,184.6
Share compensation expense	9.1	2.5	—
Issuance of common shares and warrants, net of expenses	—	52.7	—
Share repurchase from CM Bermuda	—	(163.9)	—
Return of capital to CM Bermuda	—	(1.6)	—
Capital contribution from former parent	—	1.4	13.3
Other, net	—	0.1	—
Balance at end of year	1,098.2	1,089.1	1,197.9
Retained earnings			
Balance at beginning of year	816.6	858.4	1,014.5
Cumulative effect of an accounting change	—	1.6	—
Balance at beginning of period, as adjusted	816.6	860.0	1,014.5
Net (loss)	(45.6)	(16.7)	(136.3)
Change in carrying value of Series B preference shares	9.2	(36.4)	—
Income attributable to non-controlling interests	(1.7)	(1.4)	(13.7)
Accrued dividends on Series A redeemable preference shares	—	(2.6)	(6.1)
Redemption of Series A redeemable preference shares	—	13.8	—
Other, net	—	(0.1)	—
Balance at end of year	778.5	816.6	858.4
Accumulated other comprehensive (loss)			
Balance at beginning of year	(202.4)	(140.5)	(212.2)
Accumulated net foreign currency translation (losses)			
Balance at beginning of year	(202.4)	(140.5)	(212.2)
Net change in foreign currency translation	(35.1)	(61.9)	71.7
Balance at end of year	(237.5)	(202.4)	(140.5)
Balance at the end of year	(237.5)	(202.4)	(140.5)
Total common shareholders' equity	\$ 1,640.4	\$ 1,704.5	\$ 1,917.0
Non-controlling interests	2.4	1.7	0.2
Total equity	\$ 1,642.8	\$ 1,706.2	\$ 1,917.2
Per share data			
Dividends declared per common share	\$ —	\$ —	\$ —

See Notes to Consolidated Financial Statements.

Sirius International Insurance Group, Ltd.
Consolidated Statements of Cash Flows
For the years ended December 31, 2019, 2018, and 2017

(Expressed in millions of U.S. dollars)

	2019	2018	2017
Cash flows from operations:			
Net (loss)	\$ (45.6)	\$ (16.7)	\$ (136.3)
Adjustments to reconcile net (loss) to net cash provided from (used for) operations:			
Net realized and unrealized investment gains (losses)	(137.3)	20.9	37.7
Amortization of premium on fixed maturity investments	(5.9)	5.8	16.6
Amortization of intangible assets	15.8	15.8	10.2
Depreciation and other amortization	8.2	9.5	8.9
Share-based compensation	9.1	2.0	—
Revaluation of contingent consideration	6.3	(9.6)	(48.8)
Impairment of intangible assets	—	8.0	5.0
Other operating items:			
Net change in loss and loss adjustment expense reserves	357.8	203.7	188.3
Net change in reinsurance recoverable on paid and unpaid losses	(90.9)	(95.7)	(11.1)
Net change in funds held by ceding companies	(111.1)	(48.0)	(38.9)
Net change in unearned insurance and reinsurance premiums	89.1	195.5	55.7
Net change in ceded reinsurance payable	48.4	93.4	22.8
Net change in ceded unearned insurance and reinsurance premiums	(13.3)	(76.3)	14.4
Net change in insurance and reinsurance premiums receivable	(127.0)	(144.1)	(102.3)
Net change in deferred acquisition costs	(10.7)	(28.4)	(27.0)
Net change in funds held under reinsurance treaties	60.6	42.7	5.8
Net change in current and deferred income taxes, net	(5.5)	18.7	13.3
Net change in other assets and liabilities, net	61.8	(89.2)	(50.3)
Net cash provided from (used for) operations	109.8	108.0	(36.0)
Cash flows from investing activities:			
Net change in short-term investments	(362.3)	(90.1)	(1.0)
Sales of fixed maturities and convertible fixed maturity investments	573.3	1,373.1	1,422.4
Maturities, calls, and paydowns of fixed maturity and convertible fixed maturity investments	407.7	102.7	292.2
Sales of common equity securities	369.3	353.1	87.6
Distributions and redemptions of other long-term investments	74.6	72.4	40.6
Sales of consolidated subsidiaries and unconsolidated affiliates, net of cash sold	—	—	0.8
Contributions to other long-term investments	(53.4)	(160.1)	(167.5)
Purchases of common equity securities	(336.9)	(505.7)	(222.3)
Purchases of fixed maturities and convertible fixed maturity investments	(726.7)	(1,321.3)	(1,018.5)
Purchases of loan participations	(20.0)	—	—
Purchases of consolidated subsidiaries, net of cash acquired	—	(7.9)	(354.5)
Net change in unsettled investment purchases and sales	(2.6)	(1.2)	(7.9)
Other, net	(0.7)	(4.9)	(5.9)
Net cash (used for) provided from investing activities	(77.7)	(189.9)	66.0
Cash flows from financing activities:			
Payment of contingent consideration	(6.9)	(4.4)	(30.6)
Change in collateral held on Interest Rate Cap	(0.1)	—	(1.1)
Cash dividends paid to non-controlling interests	(1.0)	—	(14.1)
Proceeds from issuance of common shares, net of expenses	—	61.2	—
Proceeds from issuance of Series B preference shares	—	195.8	—
Redemption of common shares from CM Bermuda	—	(164.0)	—
Return of capital to CM Bermuda	—	(1.6)	—
Redemption of Series A redeemable preference shares	—	(95.0)	—
Capital contribution from former parent	—	1.4	13.3
Issuance of debt, net of issuance costs	—	—	340.8
Redemption of SIG Preference Shares	—	—	(250.0)
Repayment of debt	—	—	(3.8)
Other, net	—	—	(0.9)
Net cash (used for) provided from financing activities	(8.0)	(6.6)	53.6
Effect of exchange rate changes on cash	(5.7)	(9.9)	9.9
Net increase (decrease) in cash during year	18.4	(98.4)	93.5
Cash and restricted cash balance at beginning of year	132.2	230.6	137.1
Cash and restricted cash balance at end of year	\$ 150.6	\$ 132.2	\$ 230.6
Supplemental disclosures of cash flow information:			
Income taxes paid	\$ 9.3	\$ 19.1	\$ 16.7
Interest paid	\$ 29.9	\$ 30.0	\$ 22.0

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
For the years ended December 31, 2019, 2018, and 2017

Note 1. General

Sirius International Insurance Group, Ltd. ("the Company") 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 Group").

Note 2. Summary of significant accounting policies

Basis of presentation

The accompanying consolidated financial statements at December 31, 2019, have been prepared in accordance with generally accepted accounting principles in the United States of America ("GAAP") and the rules and regulations of the U.S. Securities and Exchange Commission ("SEC"). 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.

Significant accounting policies

Investment securities

Sirius Group's invested assets consist of securities and other investments held for general investment purposes. Sirius Group'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 Group'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 Group uses a variety of valuation approaches and inputs. Whenever possible, Sirius Group 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.

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
For the years ended December 31, 2019, 2018, and 2017

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 Group'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 Group 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 Group 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 Group's estimates and these differences are recorded in the period they become known as a change in estimate.

Other long-term investments also includes certain investments that are eligible for the equity method where Sirius Group 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 19**.)

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 Group 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 Group 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 Group'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.

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
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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 Group 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 Group 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 Group is subject to maximum limits which vary by line of business and type of coverage. Although these contracts protect Sirius Group, these reinsurance arrangements do not relieve Sirius Group 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 Group 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 Group 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 companies are generally invested by the ceding company and a contractually agreed interest amount is credited to Sirius Group and recognized as investment income. Funds held under reinsurance treaties represent contractual payments due from Sirius Group 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 Group holds derivative financial instruments for both risk management and investment purposes. Sirius Group 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 Group 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 Group 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, 2019 and 2018, Sirius Group had unamortized deferred software costs of \$6.8 million and \$9.3 million, respectively. For the years ended December 31, 2019, 2018, and 2017, Sirius Group had amortization expenses of \$3.6 million, \$4.8 million, and \$4.6 million, respectively, related to software developed for internal use.

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
For the years ended December 31, 2019, 2018, and 2017

Share-based compensation

Share-based compensation plans are accounted for in accordance with the ASC Topic 718 "Compensation - Stock Compensation" Sirius Group 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 2016 Long-term Incentive Plan and 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 Group 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 Group 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.

Earnings per share

Earnings per share is reported in accordance with ASC Topic 260 *Earnings per Share*. Basic earnings (loss) per share is computed by dividing net (loss) available to Sirius Group common shareholders by the weighted-average number of common shares outstanding during the period. Diluted earnings per share is computed by dividing net income available to Sirius Group common shareholders by the weighted-average number of common shares outstanding adjusted to give effect to potentially dilutive securities. (See **Note 16**.)

Federal and foreign income taxes

Certain of Sirius Group's subsidiaries file consolidated tax returns in the United States. Sirius Group 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 2019-2025, 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 Group 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.

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
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Foreign currency exchange

The U.S. dollar is the functional currency for Sirius Group'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 Group 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, 2019 and 2018, Sirius Group had Net unrealized foreign currency translation losses of \$237.5 million and \$202.4 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 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, 2019 and 2018:

Currency	Closing Rate 2019	Closing Rate 2018
Swedish kronor	9.3210	8.9397
British pound	0.7568	0.7850
Euro	0.8912	0.8734
Canadian dollar	1.3003	1.3614

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. Goodwill is evaluated for impairment on an annual basis. Sirius Group 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 Group 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 Group 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 Group'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.

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
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Mezzanine equity

In connection with significant transactions the Company has entered into, the Company has issued preference shares. (See **Note 3**.) At the date of issuance, Sirius Group evaluates the conversion and redemption features associated with the preference shares in order to determine the balance sheet classification of the instrument. The preference shares are classified outside of permanent equity (as Mezzanine equity) when the preference shares are redeemable at a fixed or determinable price on a fixed or determinable date, at the option of the shareholder or upon the occurrence of an event that is not solely within the control of Sirius Group. Sirius Group accounts for the Series B preference shares outside of permanent equity as Mezzanine equity in the Consolidated Balance Sheets as the ability to settle in common shares cannot be assured.

Variable interest entities

Sirius Group 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 Group 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 group, 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 Group determines whether it is the primary beneficiary based on the facts and circumstances surrounding each entity. (See **Note 20**.)

Recently adopted changes in accounting principles

Leases

Effective January 1, 2019, Sirius Group adopted Accounting Standards Update ("ASU") 2016-2, Leases (Accounting Standards Codification ("ASC") 842) which requires lessees to recognize lease assets and liabilities on the balance sheet for both operating and financing leases, with the exception of leases with an original term of 12 months or less. Under previous guidance, recognition of lease assets and liabilities was not required for operating leases. The new guidance requires that lease assets and liabilities to be recognized and measured initially based on the present value of the lease payments. Sirius Group adopted the new guidance using the simplified transition option that allows companies to apply the new lease standard at the adoption date and recognize a cumulative effect adjustment to the opening balance of retained earnings in the period of adoption. Sirius Group also made the following elections:

- Sirius Group elected the package of practical expedients to not reassess prior conclusions related to contracts containing leases, lease classification and initial direct costs for all leases upon transition.
- Sirius Group did not elect the hindsight practical expedient upon transition, for all leases.
- Sirius Group elected the short-term lease measurement and recognition exemption, resulting in lease payments being recorded as an expense on a straight-line basis over the lease term.
- Sirius Group elected to include both lease and non-lease components as a single component for all leases.
- Sirius Group did not elect the land easement practical expedient as it was not applicable.

As a result of the adoption of the new guidance, Sirius Group recognized a lease liability of \$36.8 million, which represents the present value of our remaining lease payments and a right-of-use asset of \$34.4 million as of January 1, 2019. 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, there are no changes to our previously reported results prior to January 1, 2019. Lease expense did not change materially as a result of the adoption of the new guidance. (See **Note 22**.)

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
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Premium amortization on callable debt securities

Effective January 1, 2019, Sirius Group adopted ASU 2017-8, Premium Amortization on Purchased Callable Debt Securities (ASC 310-20), which changes the amortization period for certain purchased callable debt securities. Under the new guidance, for investments in callable debt securities held at a premium, the premium will be amortized over the period to the earliest call date. The new guidance does not change the amortization period for callable debt securities held at a discount. The adoption of this guidance did not have a significant effect on our financial statements.

Recent accounting pronouncements

Credit losses

In June 2016, the FASB issued 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. The new guidance, which applies to financial assets that have the contractual right to receive cash, including reinsurance receivables, 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 new guidance is effective for smaller reporting companies for annual and interim periods beginning after December 15, 2022. Adoption of this guidance is on a modified retrospective basis. Early adoption of the guidance is permitted. We plan to early adopt the standard on its effective date of January 1, 2020. This guidance is currently not expected to have a material impact on the consolidated financial statements.

Fair Value Measurement Disclosures

In August 2018, the FASB issued 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 new guidance is effective for fiscal years beginning after December 15, 2019 and for interim periods within those fiscal years. The adoption of this guidance will not have a material impact on the consolidated financial statements.

Note 3. Significant transactions

Easterly Acquisition Corp.

On November 5, 2018, the Company completed the transactions contemplated by the definitive Agreement and Plan of Merger ("Merger Agreement"). Under the terms of the Merger Agreement, Easterly Acquisition Corp. ("Easterly") merged with Sirius Acquisitions Holding Company III and became a wholly-owned subsidiary of the Company (the "Merger"). Upon the closing of the Merger, Easterly's common stock was exchanged for the Company's common shares at an exchange ratio (the "Exchange Ratio") calculated as (i) the amount of cash per public share of Easterly common stock in Easterly's trust account (the "Trust Account") immediately prior to the closing of the Merger divided by (ii) (x) 1.05 multiplied by (y) Sirius Group's adjusted diluted book value per common share as of September 30, 2018 ("Sirius Group September 30 Adjusted DBVPS"). Based on the Sirius Group September 30 Adjusted DBVPS, estimated as of September 30, 2018, and funds in the Trust Account on November 5, 2018, the Exchange Ratio was equal to 0.609. Following the Merger, the Company's common shares are traded on the Nasdaq Global Select Market under the symbol "SG."

Easterly held a special meeting of Easterly stockholders on November 2, 2018 to approve the completion of the transactions contemplated by the Merger Agreement. Easterly Acquisition Sponsor, LLC (the "Sponsor") and Easterly's other stockholders approved each of the proposals presented at the special meeting. After the special meeting, but prior to the consummation of the Merger, certain Easterly public stockholders exercised their redemption rights as provided for by Easterly's charter. In total, out of the Trust Account balance of \$149.0 million, there were \$109.7 million of redemptions by Easterly public stockholders, which decreased the amount of cash in the Trust Account available for general corporate purposes following the Merger. After the redemption of shares held by Easterly's public stockholders, there was \$39.3 million in the Trust Account. This resulted in the issuance of 2,280,241 common shares to Easterly public stockholders.

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Pursuant to the letter agreement among Easterly, the Sponsor and the Company, the private placement warrants issued to the Sponsor at the closing of the Merger were cancelled. Pursuant to the Merger Agreement, each issued and outstanding public warrant was converted into a warrant exercisable for Company common shares. The number of Company common shares subject to converted warrants was equal to the number of shares of Easterly common stock subject to each Easterly warrant immediately prior to the closing of the Merger multiplied by the Exchange Ratio, and each converted warrant had an exercise price per Company common share equal to the exercise price per share of Easterly common stock subject to such Easterly warrant immediately prior to the closing of the Merger divided by the Exchange Ratio. This resulted in the issuance of 6,088,535 converted warrants.

Sirius Group Private Placement

In connection with the closing of the Merger, the Company completed a private placement of Series B preference shares, common shares, and warrants (the "Sirius Group Private Placement") at a price per preference and common share equal to (i) 1.05 multiplied by (ii) the Sirius Group September 30 Adjusted DBVPS, or \$17.22447. Investors in the Sirius Group Private Placement included affiliated funds of Gallatin Point Capital, The Carlyle Group, Centerbridge Partners, L.P. and Bain Capital Credit (the "Preference Share Investors"), together with certain employees, directors and "friends & family". The Sirius Group Private Placement raised proceeds of \$226.1 million and incurred issuance costs of \$2.0 million, resulting in the issuance of:

- 11,901,670 Series B preference shares with a cost basis of \$195.8 million,
- 1,225,954 common shares with a cost basis of \$20.8 million,
- 5,418,434 warrants that are exercisable for common shares for a period of five years after the Merger at a strike price equal to 125% of the per share purchase price, or \$21.53 with a cost basis of \$9.6 million.

ESPP

In connection with the Merger, Sirius Group implemented the Employee Share Purchase Plan ("ESPP"), which provided all employees of Sirius Group with a one-time opportunity to purchase between 100 and 1,000 Company common shares at a price equal to 85% of market value for the first 100 shares and 100% of market value for the next 900 shares. For this purpose, market value of the Company common shares was equal to 1.05 times the Sirius Group September 30 Adjusted DBVPS. Employees had the option of paying for the shares upfront or, in the case of employees who are not executive officers, through a loan that is repaid over a two years period through payroll deductions. Through the ESPP, 405 employees purchased 149,236 Company common shares prior to the consummation of the Merger, with a cost basis of \$2.6 million. (See **Note 14.**)

Gross proceeds of the cash in the Easterly Trust Account assumed by Sirius Group upon the closing of the Merger, the Sirius Group Private Placement, and the ESPP sum to \$268.0 million.

Common shares redemption

In connection with the Merger, the Company and CM Bermuda Ltd. ("CM Bermuda"), the sole holder of the Company's common shares prior to the Merger, completed the transactions contemplated by its previously announced redemption agreement and the Company redeemed 9,519,280 of the Company's common shares at a price per share equal to \$17.22447 for \$164.0 million, which were paid on November 16, 2018.

Also in connection with the Merger, on November 16, 2018 the Company completed a post-closing adjustment of \$1.6 million that was settled in cash to CM Bermuda based on the reported book value per share of \$16.44 as of September 30, 2018, pursuant to the Merger Agreement.

Sirius Group incurred certain contractual costs associated with the Merger of \$9.0 million and \$7.1 million of various legal, advisory, and other consulting costs for the Merger and the Sirius Group Private Placement that were charged to Additional paid-in surplus.

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Series A preference shares redemption

In connection with the Merger, the Company, IMG Acquisition Holdings, LLC ("IMGAH") and Sirius Acquisitions Holding Company II completed the transactions contemplated by its previously announced redemption agreement and the Company redeemed all of the outstanding Series A redeemable preference shares, which were held by IMGAH, for \$95.0 million in cash. Effective as of the completion of the redemption, the parties terminated the registration rights agreement and the shareholder's agreement between the Company and IMGAH. In addition, the parties agreed that any remaining contingent consideration in respect of the IMG acquisition, will be paid in cash, not in Series A redeemable preference shares as previously contemplated in the agreement in respect of the IMG acquisition. (See "IMG" below.)

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

On August 16, 2018, Sirius Group 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 Group acquired \$3.1 million of indefinite-lived intangible assets related to insurance licenses.

The Phoenix Holdings Ltd.

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

IMG

On May 26, 2017, Sirius Group acquired 100% ownership of IMG and its subsidiaries, a leading provider of global travel medical insurance products and assistance services. The purchase of IMG was undertaken to expand on Sirius Group's existing Global Accident and Health ("Global A&H") platform and to accelerate the growth strategy of the Global A&H international insurance business, to add service fee revenues to Sirius Group's existing risk-transfer based insurance revenues, and to gain access to IMG's distribution networks and client base. Total consideration consisted of \$250.8 million of cash, \$100.0 million of Series A redeemable preference shares that are convertible into common shares (as explained further below), and up to \$50.0 million of contingent consideration ("IMG Earnout"), payable in Series A redeemable preference shares, which was stated as \$43.1 million at fair value at acquisition date, resulting in a total enterprise value of \$393.9 million. Sirius Group assumed certain IMG debt of \$129.5 million ("Debt Assumption"), reducing its cash consideration by that amount and resulting in a total equity consideration of \$264.4 million. Concurrently with the transaction, IMG's subsidiary International Medical Group – Stop-Loss, Inc. ("IMG – Stop Loss") was sold to Certus Management Group, Inc. ("Certus"). As part of the sale of IMG – Stop Loss, Sirius Group issued a secured promissory note of \$9.0 million to Certus.

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The following table summarizes the fair value of net assets acquired and allocation of purchase price of IMG, measured as of the acquisition date:

<i>(Millions)</i>	Total	Useful Life
Purchase price		
Cash paid	\$ 250.8	
Series A redeemable preference shares	100.0	
Contingent consideration	43.1	
Total enterprise value	393.9	
Less: Debt assumed	(129.5)	
Total purchase price (a)	\$ 264.4	
Assets acquired		
Total investments	\$ 41.0	
Cash	10.5	
Accrued investment income	0.2	
Insurance and reinsurance premiums receivable	1.6	
Deferred acquisition costs	2.9	
Other assets	12.9	
Intangible asset – distribution relationships	91.0	13.0 years
Intangible asset – customer relationships	17.0	12.5 years
Intangible asset – trade names	27.0	
Intangible asset – technology	10.0	5.0 years
Total assets acquired	214.1	
Liabilities assumed		
Loss and loss adjustment expense reserves	14.3	
Unearned insurance and reinsurance premiums	9.8	
Deferred tax liability	55.9	
Debt	129.5	
Other liabilities	18.2	
Total liabilities assumed	227.7	
Net assets acquired (b)	(13.6)	
Goodwill (a)-(b)	\$ 278.0	

The goodwill balance is primarily attributed to IMG's assembled workforce and access to the supplemental healthcare and medical travel insurance market. None of the goodwill recognized is expected to be deductible for income tax purposes.

The IMG Earnout is payable, if earnings before interest expense, taxes, depreciation and amortization ("EBITDA") of IMG exceed amounts defined in the purchase agreement for each year during the three year period ending December 31, 2019. As part of the Series A preference shares redemption agreement, the parties agreed that any remaining contingent consideration in respect of the IMG acquisition, will be paid in cash, not in Series A redeemable preference shares, following the redemption, as previously contemplated in the agreement in respect of the IMG acquisition. During the years ended December 31, 2019 and 2018, the Company paid \$6.9 million and \$3.5 million, respectively, to IMGAH for the contingent payment for the 2018 and 2017 calendar years, respectively. At December 31, 2019, and 2018, the IMG Earnout liability was remeasured at a fair value of \$18.4 million and \$19.9 million, respectively, and is reflected within Other liabilities. As a result of the remeasurement of the IMG Earnout, Sirius Group has recognized \$(5.5) million, \$6.1 million and \$13.6 million, respectively, in Revaluation of contingent consideration.

During 2019, Sirius Group obtained \$163 million, or 9%, of its gross written premiums through IMG. During 2018 and 2017, Sirius Group received 7% and 11% of its gross written premiums through IMG, respectively.

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During 2017, IMG's revenues and net income after acquisition, inclusive of intangible asset amortization expenses, were \$79.6 million and \$13.3 million, respectively.

Series A Redeemable Preference Shares

As a part of the IMG acquisition, Sirius Group issued Series A redeemable preference shares, with 150,000 shares authorized and 100,000 issued at issuance date, with liquidation preference of \$1,000 per preference share ("Liquidation Preference"). Up to 50,000 Series A redeemable preference shares were available pursuant to the IMG Earnout. The Series A redeemable preference shares participated in dividends on an as-converted basis with common shares and other shares junior to the Series A redeemable preference shares.

On November 5, 2018, the Company, redeemed all of the outstanding Series A redeemable preference shares, which were held by IMGAH, for \$95.0 million in cash. Effective as of the completion of the redemption, the parties terminated the registration rights agreement and the shareholder's agreement between the Company and IMGAH.

The Liquidation Preference of the Series A redeemable preference shares was reflected as Mezzanine equity in the balance sheet as at December 31, 2017. It was not subject to fair value or remeasurement, except for accrued dividends.

Supplemental Pro Forma Information

The following table presents unaudited pro forma consolidated information for the years ended December 31, 2017 and 2016 and assumes the IMG acquisition occurred on January 1, 2016. The pro forma financial information is presented for informational purposes only and does not necessarily reflect the results that would have occurred had the acquisition taken place on January 1, 2016, nor is it necessarily indicative of future results. It does not consider the impact of possible revenue enhancements, expense efficiencies, or synergies that may result from the acquisition of IMG.

<i>(Millions)</i>	Unaudited Pro Forma for the Years Ended December 31,			
	2017		2016	
Total revenues	\$	1,176.8	\$	1,096.0
Net income	\$	(173.2)	\$	(4.6)

Armada

On April 3, 2017, Sirius Group purchased 100% of Armada and its subsidiaries from Armada Enterprises LLC ("Seller"). Armada is an insurance services and health care technology business that creates specialty employee benefit products and serves to strengthen health care coverage and access. The purchase of Armada was undertaken to expand and accelerate the growth of Sirius Group's Global A&H platform in the United States, to diversify Sirius Group's revenues to include fee based revenues, and to gain access to Armada's distribution networks. Total consideration for the acquisition consisted of (1) the purchase of 50% of Armada by Sirius Group for \$123.4 million, and (2) the redemption by Armada of the remaining 50% held by Seller for a redemption price based on a three years contingent earn-out mechanism that could result in an additional payment to Seller of up to \$125.0 million ("Armada Earnout"), with fair value of \$79.1 million at acquisition date, resulting in a total enterprise value of \$202.5 million.

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The following table summarizes the fair value of net assets acquired and allocation of purchase price of Armada, measured as of the acquisition date:

<i>(Millions)</i>	Total	Useful Life
Purchase price		
Cash paid	\$ 123.4	
Contingent consideration	79.1	
Total purchase price (a)	<u>\$ 202.5</u>	
Assets acquired		
Restricted cash	\$ 10.4	
Other assets	1.2	
Intangible asset – distribution relationships	60.0	22.5 years
Intangible asset – trade name	16.0	7.5 years
Intangible asset – technology	5.5	9.0 years
Total assets acquired	<u>93.1</u>	
Liabilities assumed		
Other liabilities	13.3	
Total liabilities assumed	<u>13.3</u>	
Net assets acquired (b)	<u>79.8</u>	
Goodwill (a)-(b)	<u>\$ 122.7</u>	

The goodwill balance is primarily attributed to Armada's assembled workforce and access to the supplemental healthcare insurance market, and additional synergies to be realized in the future. The goodwill recognized is expected to be deductible for income tax purposes in the future. The contingent consideration is payable if EBITDA of Armada exceeds amounts defined in the redemption agreement. The Armada Earnout can be settled in the Company's common shares, subject to certain criteria. The Armada Earnout is subject to fair value measurement, which is a component of net income and reflected in Revaluation of contingent consideration. In December 2017, Sirius Group settled approximately 82% of the Armada Earnout with the Seller for \$30.6 million. At December 31, 2017, the remaining Armada Earnout liability was remeasured at a fair value of \$13.3 million and is reflected in Other liabilities. As a result of the settlement and remeasurement of the Armada Earnout, Sirius Group recorded a \$35.2 million gain in Revaluation of contingent consideration in 2017. During 2019, the Company did not pay any of the Armada Earnout. During 2018, the Company paid \$0.9 million of the Armada Earnout. At December 31, 2019 and 2018, the Armada Earnout was remeasured at a fair value of \$9.7 million and \$8.9 million, respectively, and is reflected within Other liabilities. As a result of the remeasurement of the Armada Earnout, Sirius Group has recognized \$(0.8) million and \$3.5 million, respectively, in Revaluation of contingent consideration during the years ended December 31, 2019 and 2018.

During 2017, Armada's revenues and net income after acquisitions, inclusive of intangible asset amortization expenses, were \$24.7 million and \$9.7 million, respectively.

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Supplemental Pro Forma Information

The following table presents unaudited pro forma consolidated information for the years ended December 31, 2017 and 2016 and assumes the Armada acquisition occurred on January 1, 2016. The pro forma financial information is presented for informational purposes only and does not necessarily reflect the results that would have occurred had the acquisition taken place on January 1, 2016, nor is it necessarily indicative of future results. It does not consider the impact of possible revenue enhancements, expense efficiencies, or synergies that may result from the acquisition of Armada.

<i>(Millions)</i>	Unaudited Pro Forma for the Years Ended December 31,	
	2017	2016
Total revenues	\$ 1,144.6	\$ 1,032.6
Net income	\$ (155.1)	\$ 45.9

Note 4. Segment information

Sirius Group classifies its business into four reportable segments – Global Property, Global A&H, Specialty and Casualty ("Specialty & Casualty"), and Runoff and Other ("Runoff & Other"). The accounting policies of the reportable segments are the same as those used for the preparation of the Company's consolidated financial statements.

The Company's Global Property, Global A&H, Specialty & Casualty, and Runoff & Other reportable segments each have managers who are responsible for the overall profitability of their respective segments and who are directly accountable to the Company's chief operating decision maker, the Chief Executive Officer ("CEO") of the Company. The CEO assesses segment operating performance, allocates capital, and makes resource allocation decisions based on Technical profit (loss), Underwriting (loss) profit, and Underwriting (loss) profit, including net service fee revenue.

Segment results are shown prior to corporate eliminations. Corporate eliminations are shown to reconcile to consolidated Technical profit (loss), consolidated Underwriting profit (loss) and consolidated Underwriting profit (loss), including net service fee revenue.

Sirius Group does not allocate its assets by segment, with the exception of Goodwill and Intangible assets, and, accordingly, investment income is not allocated to each segment.

Global Property

Global Property consists of Sirius Group's underwriting lines of business which offer other property insurance and reinsurance, property catastrophe excess reinsurance, and agriculture reinsurance on a worldwide basis:

Other Property—Sirius Group participates in the broker market for property reinsurance treaties written on a proportional and excess of loss basis. For Sirius Group's international business, the book consists of treaty, written on both a proportional and excess of loss basis, facultative, and primary business, primarily in Europe, Asia and Latin America. In the United States, the book predominantly centers on significant participations on proportional and excess of loss treaties mostly in the excess and surplus lines segment of the market.

Property Catastrophe Excess—Property catastrophe excess of loss reinsurance treaties covers losses from catastrophic events. Sirius Group writes a worldwide book with the largest concentration of exposure in Europe and the United States. The U.S. book has a national account focus supporting principally the lower and/or middle layers of large capacity programs and also consists of select small regional and standard lines carriers. The exposures written in the international book are diversified across many countries, regions, perils and layers.

Agriculture—Sirius Group provides stop-loss reinsurance coverage to companies writing U.S. government-sponsored multi-peril crop insurance ("MPCI"). Sirius Group's participation is net of the government's stop-loss reinsurance protection. Sirius Group also provides coverage for crop-hail and certain named perils when bundled with MPCI business. Sirius Group also writes agriculture business outside of the United States.

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Global A&H

The Global A&H operating segment consists of Sirius Group's insurance, reinsurance, and managing general underwriting ("MGU") units (which include Armada and IMG) that offer accident and health products on a worldwide basis:

Accident and Health insurance and reinsurance—Sirius Group is an insurer of accident and health insurance business in the United States, either on an admitted or surplus lines basis, as well as international business written through wholly-owned IMG. Armada business is written on an admitted basis. Sirius Group also writes proportional and excess reinsurance treaties covering employer medical stop-loss for per person (specific) and per employer (aggregate) exposures. In addition, Sirius Group writes some medical, health, travel and personal accident coverages written on a treaty, facultative and primary basis.

Specialty & Casualty

Specialty & Casualty consists of Sirius Group's insurance and reinsurance underwriting units which offer specialty & casualty product lines on a worldwide basis. Specialty lines represent unique risks where the more difficult and unusual risks are underwritten. Because specialty lines tend to be the more unusual or higher risks, much of the market is characterized by a high degree of specialization:

Aviation & Space—provides aviation insurance that covers loss of or damage to an aircraft and the aircraft operations' liability to passengers, cargo and hull as well as to third parties. Additionally, liability arising out of non-aircraft operations such as hangars, airports and aircraft products can be covered. Space insurance primarily covers loss of or damage to a satellite during launch and in orbit. The book consists of treaty, written on both a proportional and excess of loss basis, facultative, and primary business.

Marine—provides marine reinsurance, primarily written on an excess of loss and proportional basis. Coverage offered includes damage to ships and goods in transit, marine liability lines, and offshore energy industry insurance. Sirius Group also writes yacht business, both on reinsurance and a primary basis. The marine portfolio is diversified across many countries and regions.

Trade Credit—writes credit and bond reinsurance worldwide. The bulk of the business is traditional short-term commercial credit insurance, covering pre-agreed domestic and export sales of goods and services with typical coverage periods of 60 to 120 days. Losses under these policies are correlated to adverse changes in a respective country's gross national product.

Contingency—underwrites contingency insurance for event cancellation and non-appearance, primarily on a primary policy and facultative reinsurance basis. Additionally, coverage for liabilities arising from contractual bonus, prize redemption and over-redemption is also offered. The contingency portfolio is diversified across many countries and regions.

Casualty—underwrites a cross section of all casualty lines, including general liability, umbrella, auto, workers compensation, professional liability, and other specialty classes, written on a proportional, excess of loss, and primary basis.

Surety—underwrites commercial surety bonds, including non-construction contract bonds, in a broad range of business segments in the United States.

Environmental—underwrites a pure environmental insurance book in the United States consisting of four core products that revolve around pollution coverage, which are premises pollution liability, contractor's pollution liability, contractor's pollution and professional liability.

Runoff & Other

Runoff & Other consists of asbestos risks, environmental risks and other long-tailed liability exposures, and underwriting results from Sirius Global Solutions Holding Company ("Sirius Global Solutions") and its subsidiaries. Sirius Global Solutions is a Connecticut-based division of Sirius Group specializing in the acquisition and management of runoff liabilities for insurance and reinsurance companies, both in the United States and internationally.

Segment reorganization

In December 2019, the Company completed an internal reorganization to optimize the Company's operations that went into effect on January 1, 2020.

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The following tables summarize the segment results for the years ended December 31, 2019, 2018, and 2017:

(Millions)	For the year ended December 31, 2019					
	Global Property	Global A&H	Specialty & Casualty	Runoff & Other	Corporate Elimination	Total
Gross written premiums	\$ 848.4	\$ 593.4	\$ 456.7	\$ 4.2	\$ —	\$ 1,902.7
Net written premiums	\$ 625.7	\$ 458.1	\$ 416.3	\$ 2.5	\$ —	\$ 1,502.6
Net earned insurance and reinsurance premiums	\$ 635.9	\$ 443.3	\$ 360.2	\$ 2.2	\$ —	\$ 1,441.6
Loss and allocated LAE ⁽¹⁾	(582.7)	(271.3)	(271.6)	(1.8)	—	(1,127.4)
Insurance and reinsurance acquisition expenses	(107.3)	(125.8)	(98.8)	(2.9)	46.1	(288.7)
Technical profit (loss)	(54.1)	46.2	(10.2)	(2.5)	46.1	25.5
Unallocated LAE ⁽²⁾	(11.4)	(7.4)	(9.3)	(1.0)	(13.8)	(42.9)
Other underwriting expenses	(63.9)	(23.7)	(31.2)	(5.9)	(13.5)	(138.2)
Underwriting (loss) income	(129.4)	15.1	(50.7)	(9.4)	18.8	(155.6)
Service fee revenue ⁽³⁾	—	124.2	—	—	(49.6)	74.6
Managing general underwriter unallocated LAE ⁽⁴⁾	—	(17.3)	—	—	17.3	—
Managing general underwriter other underwriting expenses ⁽⁵⁾	—	(13.5)	—	—	13.5	—
General and administrative expenses, MGU + Runoff & Other ⁽⁶⁾	—	(66.9)	—	(3.7)	—	(70.6)
Underwriting (loss) income, including net service fee income	(129.4)	41.6	(50.7)	(13.1)	—	(151.6)
Net investment income						84.7
Net realized investment gains (losses)						56.7
Net unrealized investment gains (losses)						80.6
Net foreign exchange gains						7.7
Revaluation of contingent consideration						(6.3)
Other revenue ⁽⁷⁾						(19.5)
General and administrative expenses ⁽⁸⁾						(39.2)
Intangible asset amortization expenses						(15.8)
Interest expense on debt						(31.0)
Pre-tax income (loss)						\$ (33.7)
Underwriting Ratios						
Loss ratio	93.4%	62.9%	78.0%	NM	NM	81.2%
Acquisition expense ratio	16.9%	28.4%	27.4%	NM	NM	20.0%
Other underwriting expense ratio	10.0%	5.3%	8.7%	NM	NM	9.6%
Combined ratio ⁽⁹⁾	120.3%	96.6%	114.1%	NM	NM	110.8%
Goodwill and intangible assets ⁽¹⁰⁾	\$ —	\$ 572.5	\$ —	\$ 8.1	\$ —	\$ 580.6

⁽¹⁾Loss and allocated LAE are part of Loss and loss adjustment expenses on the Consolidated Statements of (Loss) (the sum of Loss and allocated LAE and Unallocated LAE is equal to Loss and loss adjustment expenses on the Consolidated Statements of (Loss)).

⁽²⁾Unallocated LAE are part of Loss and loss adjustment expenses on the Consolidated Statements of (Loss) (the sum of Loss and allocated LAE and Unallocated LAE is equal to Loss and loss adjustment expenses on the Consolidated Statements of (Loss)).

⁽³⁾Service fee revenue is part of Other revenue on the Consolidated Statements of (Loss) (the sum of Service fee revenue and Other revenue is equal to Other revenue on the Consolidated Statements of (Loss) Income).

⁽⁴⁾Managing general underwriter unallocated LAE represents IMG and Armada generated operating expenses following their integration with the Accident and Health insurance and reinsurance underwriting unit, representing costs associated with the claims process. In 2017, all Armada and IMG expenses were disclosed within General and administrative expenses, MGU + Runoff & Other.

⁽⁵⁾Managing general underwriter other underwriting expenses represent IMG and Armada generated operating expenses following their integration with the Accident and Health insurance and reinsurance underwriting unit, representing costs associated with the underwriting process. In 2017, all Armada and IMG expenses were disclosed within General and administrative expenses, MGU + Runoff & Other.

⁽⁶⁾General and administrative expenses, MGU + Runoff & Other is part of General and administrative expenses on the Consolidated Statements of (Loss) (the sum of General and administrative expenses, MGU + Runoff & Other and General and administrative expenses is equal to General and administrative expenses on the Consolidated Statements of (Loss)).

⁽⁷⁾Other revenue is presented net of Service fee revenue and is comprised mainly of the right of indemnification and gains (losses) from derivatives (see Note 13), (the sum of Service fee revenue and Other revenue is equal to Other revenue on the Consolidated Statements of (Loss)).

⁽⁸⁾General and administrative expenses are presented net of General and administrative expenses, MGU + Runoff & Other (the sum of General and administrative expenses, MGU + Runoff & Other and General and administrative expenses is equal to General and administrative expenses on the Consolidated Statements of (Loss)).

⁽⁹⁾Ratios considered not meaningful ("NM") to Runoff & Other and Corporate Elimination.

⁽¹⁰⁾Sirius Group does not allocate its assets by segment, with the exception of Goodwill and Intangible assets.

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(Millions)	For the year ended December 31, 2018					
	Global Property	Global A&H	Specialty & Casualty	Runoff & Other	Corporate Elimination	Total
Gross written premiums	\$ 962.4	\$ 500.6	\$ 325.1	\$ 32.9	\$ —	\$ 1,821.0
Net written premiums	\$ 655.0	\$ 379.8	\$ 292.7	\$ 29.6	\$ —	\$ 1,357.1
Net earned insurance and reinsurance premiums	\$ 636.0	\$ 357.6	\$ 239.5	\$ 29.2	\$ —	\$ 1,262.3
Loss and allocated LAE ⁽¹⁾	(518.2)	(189.0)	(142.9)	(13.0)	—	(863.1)
Insurance and reinsurance acquisition expenses	(121.1)	(109.7)	(65.5)	(2.8)	43.7	(255.4)
Technical (loss) profit	(3.3)	58.9	31.1	13.4	43.7	143.8
Unallocated LAE ⁽²⁾	(10.5)	(5.9)	(5.9)	(1.6)	(13.0)	(36.9)
Other underwriting expenses	(68.2)	(27.4)	(28.2)	(6.3)	(16.1)	(146.2)
Underwriting (loss) income	(82.0)	25.6	(3.0)	5.5	14.6	(39.3)
Service fee revenue ⁽³⁾	—	115.7	—	—	(44.7)	71.0
Managing general underwriter unallocated LAE ⁽⁴⁾	—	(14.0)	—	—	14.0	—
Managing general underwriter other underwriting expenses ⁽⁵⁾	—	(16.1)	—	—	16.1	—
General and administrative expenses, MGU + Runoff & Other ⁽⁶⁾	—	(53.6)	—	(3.1)	—	(56.7)
Underwriting (loss) income, including net service fee income	(82.0)	57.6	(3.0)	2.4	—	(25.0)
Net investment income						71.4
Net realized investment gains (losses)						2.3
Net unrealized investment gains (losses)						(23.2)
Net foreign exchange gains						22.7
Revaluation of contingent consideration						9.6
Other revenue ⁽⁷⁾						41.7
General and administrative expenses ⁽⁸⁾						(21.2)
Intangible asset amortization expenses						(15.8)
Impairment of intangible assets						(8.0)
Interest expense on debt						(30.8)
Pre-tax income (loss)						\$ 23.7
Underwriting Ratios						
Loss ratio	83.1%	54.5%	62.1%	NM	NM	71.3%
Acquisition expense ratio	19.0%	30.7%	27.3%	NM	NM	20.2%
Other underwriting expense ratio	10.7%	7.7%	11.8%	NM	NM	11.6%
Combined ratio ⁽⁹⁾	112.8%	92.9%	101.2%	NM	NM	103.1%
Goodwill and intangible assets ⁽¹⁰⁾	\$ —	\$ 588.1	\$ —	\$ 8.1	\$ —	\$ 596.2

⁽¹⁾Loss and allocated LAE are part of Loss and loss adjustment expenses on the Consolidated Statements of (Loss) (the sum of Loss and allocated LAE and Unallocated LAE is equal to Loss and loss adjustment expenses on the Consolidated Statements of (Loss)).

⁽²⁾Unallocated LAE are part of Loss and loss adjustment expenses on the Consolidated Statements of (Loss) (the sum of Loss and allocated LAE and Unallocated LAE is equal to Loss and loss adjustment expenses on the Consolidated Statements of (Loss)).

⁽³⁾Service fee revenue is part of Other revenue on the Consolidated Statements of (Loss) (the sum of Service fee revenue and Other revenue is equal to Other revenue on the Consolidated Statements of (Loss) Income).

⁽⁴⁾Managing general underwriter unallocated LAE represents IMG and Armada generated operating expenses following their integration with the Accident and Health insurance and reinsurance underwriting unit, representing costs associated with the claims process. In 2017, all Armada and IMG expenses were disclosed within General and administrative expenses, MGU + Runoff & Other.

⁽⁵⁾Managing general underwriter other underwriting expenses represent IMG and Armada generated operating expenses following their integration with the Accident and Health insurance and reinsurance underwriting unit, representing costs associated with the underwriting process. In 2017, all Armada and IMG expenses were disclosed within General and administrative expenses, MGU + Runoff & Other.

⁽⁶⁾General and administrative expenses, MGU + Runoff & Other is part of General and administrative expenses on the Consolidated Statements of (Loss) (the sum of General and administrative expenses, MGU + Runoff & Other and General and administrative expenses is equal to General and administrative expenses on the Consolidated Statements of (Loss)).

⁽⁷⁾Other revenue is presented net of Service fee revenue and is comprised mainly of the right of indemnification, gains (losses) from derivatives (see Note 13), and the termination of the call option to purchase The Phoenix Holdings, Ltd. (the sum of Service fee revenue and Other revenue is equal to Other revenue on the Consolidated Statements of (Loss)).

⁽⁸⁾General and administrative expenses are presented net of General and administrative expenses, MGU + Runoff & Other (the sum of General and administrative expenses, MGU + Runoff & Other and General and administrative expenses is equal to General and administrative expenses on the Consolidated Statements of (Loss)).

⁽⁹⁾Ratios considered not meaningful ("NM") to Runoff & Other and Corporate Elimination.

⁽¹⁰⁾Sirius Group does not allocate its assets by segment, with the exception of Goodwill and Intangible assets.

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(Millions)	For the year ended December 31, 2017					
	Global Property	Global A&H	Specialty & Casualty	Runoff & Other	Corporate Elimination	Total
Gross written premiums	\$ 732.1	\$ 494.6	\$ 218.1	\$ (5.5)	\$ —	\$ 1,439.3
Net written premiums	\$ 556.2	\$ 341.5	\$ 193.0	\$ (0.5)	\$ —	\$ 1,090.2
Net earned insurance and reinsurance premiums	\$ 564.4	\$ 306.8	\$ 163.2	\$ 0.9	\$ —	\$ 1,035.3
Loss and allocated LAE ⁽¹⁾	(499.5)	(175.0)	(99.6)	(11.0)	—	(785.1)
Insurance and reinsurance acquisition expenses	(112.9)	(89.6)	(41.1)	3.5	42.9	(197.2)
Technical (loss) profit	(48.0)	42.2	22.5	(6.6)	42.9	53.0
Unallocated LAE ⁽²⁾	(12.9)	(4.8)	(5.3)	(3.1)	—	(26.1)
Other underwriting expenses	(63.3)	(23.4)	(16.5)	(2.9)	—	(106.1)
Underwriting (loss) income	(124.2)	14.0	0.7	(12.6)	42.9	(79.2)
Service fee revenue ⁽³⁾	—	65.9	—	—	(42.9)	23.0
Managing general underwriter unallocated LAE ⁽⁴⁾	—	—	—	—	—	—
Managing general underwriter other underwriting expenses ⁽⁵⁾	—	—	—	—	—	—
General and administrative expenses, MGU + Runoff & Other ⁽⁶⁾	—	(44.8)	—	(4.0)	—	(48.8)
Underwriting (loss) income, including net service fee income	(124.2)	35.1	0.7	(16.6)	—	(105.0)
Net investment income						56.8
Net realized investment gains (losses)						(27.2)
Net unrealized investment gains (losses)						(10.5)
Net foreign exchange gains						9.2
Revaluation of contingent consideration						48.8
Other revenue ⁽⁷⁾						(1.3)
General and administrative expenses ⁽⁸⁾						(43.1)
Intangible asset amortization expenses						(10.2)
Impairment of intangible assets						(5.0)
Interest expense on debt						(22.4)
Pre-tax income (loss)						\$ (109.9)
Underwriting Ratios						
Loss ratio	90.8%	58.6%	64.3%	NM	NM	78.4%
Acquisition expense ratio	20.0%	29.2%	25.2%	NM	NM	19.0%
Other underwriting expense ratio	11.2%	7.6%	10.1%	NM	NM	10.2%
Combined ratio ⁽⁹⁾	122.0%	95.4%	99.6%	NM	NM	107.6%
Goodwill and intangible assets ⁽¹⁰⁾	\$ —	\$ 612.3	\$ —	\$ 5.0	\$ —	\$ 617.3

⁽¹⁾Loss and allocated LAE are part of Loss and loss adjustment expenses on the Consolidated Statements of (Loss) (the sum of Loss and allocated LAE and Unallocated LAE is equal to Loss and loss adjustment expenses on the Consolidated Statements of (Loss)).

⁽²⁾Unallocated LAE are part of Loss and loss adjustment expenses on the Consolidated Statements of (Loss) (the sum of Loss and allocated LAE and Unallocated LAE is equal to Loss and loss adjustment expenses on the Consolidated Statements of (Loss)).

⁽³⁾Service fee revenue is part of Other revenue on the Consolidated Statements of (Loss) (the sum of Service fee revenue and Other revenue is equal to Other revenue on the Consolidated Statements of (Loss) Income).

⁽⁴⁾Managing general underwriter unallocated LAE represents IMG and Armada generated operating expenses following their integration with the Accident and Health insurance and reinsurance underwriting unit, representing costs associated with the claims process. In 2017, all Armada and IMG expenses were disclosed within General and administrative expenses, MGU + Runoff & Other.

⁽⁵⁾Managing general underwriter other underwriting expenses represent IMG and Armada generated operating expenses following their integration with the Accident and Health insurance and reinsurance underwriting unit, representing costs associated with the underwriting process. In 2017, all Armada and IMG expenses were disclosed within General and administrative expenses, MGU + Runoff & Other.

⁽⁶⁾General and administrative expenses, MGU + Runoff & Other is part of General and administrative expenses on the Consolidated Statements of (Loss) (the sum of General and administrative expenses, MGU + Runoff & Other and General and administrative expenses is equal to General and administrative expenses on the Consolidated Statements of (Loss)).

⁽⁷⁾Other revenue is presented net of Service fee revenue and is comprised mainly of gains (losses) from derivatives (see Note 13) (the sum of Service fee revenue and Other revenue is equal to Other revenue on the Consolidated Statements of (Loss)).

⁽⁸⁾General and administrative expenses are presented net of General and administrative expenses, MGU + Runoff & Other (the sum of General and administrative expenses, MGU + Runoff & Other and General and administrative expenses is equal to General and administrative expenses on the Consolidated Statements of (Loss)).

⁽⁹⁾Ratios considered not meaningful ("NM") to Runoff & Other and Corporate Elimination.

⁽¹⁰⁾Sirius Group does not allocate its assets by segment, with the exception of Goodwill and Intangible assets.

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The following tables provide summary information regarding net premiums written by client location and underwriting location by reportable segment for the years ended December 31, 2019, 2018, and 2017:

<i>(Millions)</i>	For the year ended December 31, 2019					Total
	Global Property	Global A&H	Specialty & Casualty	Runoff & Other		
Net written premiums by client location:						
United States	\$ 253.1	\$ 386.2	\$ 281.2	\$ 1.8		922.3
Europe	166.5	23.5	78.8	0.1		268.9
Canada, the Caribbean, Bermuda and Latin America	74.0	12.4	16.0	0.1		102.5
Asia and Other	132.1	36.0	40.3	0.5		208.9
Total net written premium by client location	\$ 625.7	\$ 458.1	\$ 416.3	\$ 2.5		1,502.6
Net written premiums by underwriting location:						
United States	\$ 29.9	\$ 170.3	\$ 47.3	\$ 1.8		249.3
Europe	300.0	249.9	198.7	0.2		748.8
Canada, the Caribbean, Bermuda and Latin America	245.6	37.1	168.2	—		450.9
Asia and Other	50.2	0.8	2.1	0.5		53.6
Total written premiums by underwriting location	\$ 625.7	\$ 458.1	\$ 416.3	\$ 2.5		1,502.6

<i>(Millions)</i>	For the year ended December 31, 2018					Total
	Global Property	Global A&H	Specialty & Casualty	Runoff & Other		
Net written premiums by client location:						
United States	\$ 284.4	\$ 307.7	\$ 173.4	\$ 29.2		794.7
Europe	171.3	30.4	74.8	—		276.5
Canada, the Caribbean, Bermuda and Latin America	78.3	12.5	12.8	—		103.6
Asia and Other	121.0	29.2	31.7	0.4		182.3
Total net written premium by client location	\$ 655.0	\$ 379.8	\$ 292.7	\$ 29.6		1,357.1
Net written premiums by underwriting location:						
United States	\$ 31.6	\$ 109.5	\$ 9.8	\$ 29.2		180.1
Europe	304.9	224.9	162.3	—		692.1
Canada, the Caribbean, Bermuda and Latin America	270.6	44.7	118.5	—		433.8
Asia and Other	47.9	0.7	2.1	0.4		51.1
Total written premiums by underwriting location	\$ 655.0	\$ 379.8	\$ 292.7	\$ 29.6		1,357.1

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<i>(Millions)</i>	For the year ended December 31, 2017				
	Global Property	Global A&H	Specialty & Casualty	Runoff & Other	Total
Net written premiums by client location:					
United States	\$ 220.8	\$ 284.5	\$ 59.0	\$ (1.2)	563.1
Europe	142.4	28.2	91.7	—	262.3
Canada, the Caribbean, Bermuda and Latin America	93.0	9.5	8.7	0.2	111.4
Asia and Other	100.0	19.3	33.6	0.5	153.4
Total net written premium by client location	\$ 556.2	\$ 341.5	\$ 193.0	\$ (0.5)	1,090.2
Net written premiums by underwriting location:					
United States	\$ 54.4	\$ 98.2	\$ (1.0)	\$ (1.1)	150.5
Europe	239.4	196.4	147.5	—	583.3
Canada, the Caribbean, Bermuda and Latin America	225.2	46.4	43.9	—	315.5
Asia and Other	37.2	0.5	2.6	0.6	40.9
Total written premiums by underwriting location	\$ 556.2	\$ 341.5	\$ 193.0	\$ (0.5)	1,090.2

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Note 5. Reserves for unpaid losses and loss adjustment expenses

Sirius Group 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 Group also obtains reinsurance whereby another reinsurer contractually agrees to indemnify Sirius Group for all or a portion of the reinsurance risks underwritten by Sirius Group. Such arrangements, where one reinsurer provides reinsurance to another reinsurer, are usually referred to as "retrocessional reinsurance" arrangements. Sirius Group 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 Group establishes case reserves, including LAE reserves, based upon Sirius Group's share of the amount of reserves reported by the insured and Sirius Group's independent evaluation of the loss. In cases where available information indicates that reserves reported by a ceding company are inadequate or excessive, Sirius Group 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 Group 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 Group 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 Group. These point estimates are then aggregated to produce an actuarial point estimate for Sirius Group. Once a point estimate is established, Sirius Group'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 Group's actuaries.

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Loss and Loss Adjustment Expense Reserve Summary

The following table summarizes the loss and LAE reserve activities of Sirius Group for the years ended December 31, 2019, 2018, and 2017:

<i>(Millions)</i>	2019	2018	2017
Gross beginning balance	\$ 2,016.7	\$ 1,898.5	\$ 1,620.1
Less beginning reinsurance recoverable on unpaid losses	(350.2)	(319.7)	(291.5)
Net loss and LAE reserve balance	1,666.5	1,578.8	1,328.6
Loss and LAE reserves acquired ⁽¹⁾	—	0.2	14.3
Losses and LAE incurred relating to:			
Current year losses	1,066.5	907.3	811.8
Prior years losses	103.8	(7.3)	(0.6)
Total net incurred losses and LAE	1,170.3	900.0	811.2
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	(4.4)	(20.9)	36.8
Loss and LAE paid relating to:			
Current year losses	251.3	251.4	222.8
Prior years losses	660.0	540.3	389.5
Total loss and LAE payments	911.3	791.7	612.3
Net ending balance	1,921.2	1,666.5	1,578.8
Plus ending reinsurance recoverable on unpaid losses	410.3	350.2	319.7
Gross ending balance	\$ 2,331.5	\$ 2,016.7	\$ 1,898.5

⁽¹⁾Loss and LAE reserves acquired in 2018 relate to Sirius Group's purchase of Cedar; 2017 relate to Sirius Group's purchase of IMG.

Loss and LAE development - 2019

During the year ended December 31, 2019, Sirius Group had unfavorable prior year loss reserve development of \$103.8 million. Increases in loss reserve estimates were recorded in Global Property (\$91.5 million), Specialty & Casualty (\$12.4 million), and Runoff & Other (\$1.1 million). The unfavorable loss reserve development in Global Property was primarily attributable to prior year catastrophe events, including Typhoon Jebi and Hurricanes Michael, Florence, and Irma. The unfavorable loss reserve development in Specialty & Casualty was primarily driven by unfavorable loss reserve development in the Casualty Reinsurance line (\$13 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 Group had net favorable prior year loss reserve development of \$7.3 million. During 2018, Sirius Group strengthened its Global Property loss reserves by \$43.6 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. Specialty & Casualty had net favorable loss reserve development of \$18.3 million, primarily driven by 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.

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Loss and LAE development - 2017

During the year ended December 31, 2017, Sirius Group had net favorable prior year loss reserve development of \$0.6 million. During 2017, Sirius Group strengthened its asbestos loss reserves by \$59.0 million, which was offset by reductions of other runoff claims reserves of \$45.7 million, which is reflected in the Runoff & Other segment. The Specialty & Casualty segment had net favorable prior year loss development of \$12.1 million, which is comprised of the Marine (\$5.4 million), Trade credit (\$4.2 million), Aviation & Space (\$1.7 million), and Contingency (\$0.8 million) operating segments.

Fair value adjustment to loss and LAE reserves

In connection with purchase accounting for acquisitions, Sirius Group 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 Group recognized \$0.1 million of such charges during the years ended December 31, 2019, 2018, and 2017, respectively. As of December 31, 2019, the pre-tax un-accreted adjustment was \$0.7 million.

Asbestos and Environmental Loss and Loss Adjustment Expense Reserve Activity

In the Runoff & Other segment, Sirius Group'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 Group 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 Group's A&E exposure is primarily from reinsurance contracts written between 1974 through 1985 by acquired companies, mainly MONY Reinsurance Company, which was acquired in 1991, and Christiania General Insurance Company, which was acquired in 1996. 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 2019, Sirius Group did not record any asbestos-related incurred losses and LAE on its asbestos reserves. Sirius Group recorded a decrease of \$6.9 million and an increase of \$59.0 million of asbestos-related incurred losses and LAE on its asbestos reserves in 2018 and 2017, respectively. The 2018 decrease was driven by favorable loss reserve development primarily due to benign claims activity on the Sirius Global Solutions portfolio. The 2017 increase was primarily a result of an in-depth analysis of Sirius Group's loss reserves undertaken in the second quarter of 2017.

Sirius Group recorded \$0.7 million, \$4.0 million, and \$6.1 million of environmental losses in 2019, 2018, and 2017, respectively, on its already existing reserves.

Sirius Group's net reserves for A&E losses were \$187.3 million and \$200.3 million as of December 31, 2019 and 2018, respectively. Sirius Group's asbestos three-year net paid survival ratio was approximately 11.5 years and 10.2 years as of December 31, 2019 and 2018. Sirius Group's environmental three-year net paid survival ratio was approximately 4.0 years and 4.2 years as of December 31, 2019 and 2018, respectively.

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Sirius Group's reserves for A&E losses as of December 31, 2019 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 Group may be subject to asbestos and environmental losses beyond currently estimated amounts. Sirius Group 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, 2019, 2018, and 2017:

<i>(Millions)</i>	2019		2018		2017	
	Gross	Net	Gross	Net	Gross	Net
Asbestos:						
Beginning balance	\$ 236.8	\$ 184.4	\$ 259.2	\$ 204.6	\$ 187.0	\$ 166.4
Incurred losses and LAE	0.1	—	(6.9)	(6.9)	96.9	59.0
Paid losses and LAE	(12.2)	(11.1)	(15.5)	(13.3)	(24.7)	(20.8)
Ending balance	224.7	173.3	236.8	184.4	259.2	204.6
Environmental:						
Beginning balance	16.7	15.9	16.7	16.0	18.5	13.9
Incurred losses and LAE	0.7	0.7	4.0	4.0	2.9	6.1
Paid losses and LAE	(2.9)	(2.6)	(4.0)	(4.1)	(4.7)	(4.0)
Ending balance	14.5	14.0	16.7	15.9	16.7	16.0
Total asbestos and environmental:						
Beginning balance	253.4	200.3	275.9	220.6	205.5	180.3
Incurred losses and LAE	0.8	0.7	(3.0)	(2.9)	99.8	65.1
Paid losses and LAE	(15.0)	(13.7)	(19.5)	(17.4)	(29.4)	(24.8)
Ending balance	\$ 239.2	\$ 187.3	\$ 253.4	\$ 200.3	\$ 275.9	\$ 220.6

Net loss reserves by type

The following tables present Sirius Group's loss and LAE reserves, net of reinsurance, by type as of December 31, 2019 and 2018:

<i>(Millions)</i>	2019	2018
Case Reserve	\$ 1,030.6	\$ 924.5
IBNR Reserve	890.6	742.0
Loss and loss adjustment expense reserves, net of reinsurance	\$ 1,921.2	\$ 1,666.5

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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 Group's segments as of December 31, 2019:

<i>(Millions)</i>	As of December 31, 2019
Liabilities for unpaid loss and LAE, net of reinsurance	
Unpaid and allocated LAE reserves, net of reinsurance	
Other Property	\$ 490.7
Property Catastrophe Excess	286.0
Agriculture	68.1
Global Accident & Health	176.9
Aviation & Space	109.2
Trade credit	46.5
Environmental	4.6
Marine	52.4
Surety	4.9
Contingency	8.3
Casualty	202.0
Runoff & Other	430.6
Total unpaid and allocated LAE reserves, net of reinsurance	1,880.2
Unallocated LAE	41.0
Total unpaid loss and LAE reserves, net of reinsurance	1,921.2
Reinsurance recoverable on unpaid losses	
Other Property	137.3
Property Catastrophe Excess	60.0
Agriculture	2.0
Global Accident & Health	42.9
Aviation & Space	40.3
Trade credit	10.1
Environmental	4.6
Marine	8.7
Surety	0.5
Contingency	2.1
Casualty	1.2
Runoff & Other	100.6
Total reinsurance recoverable on unpaid losses	410.3
Total unpaid loss and LAE reserves	\$ 2,331.5

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

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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, 2019, and (3) the cumulative number of reported claims as of December 31, 2019. 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 Group provides treaty reinsurance for a significant portion and across all lines of its business. Sirius Group 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 Group 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, 2019 which is then included in the reconciliation to the consolidated balance sheet presented above. The liability as of December 31, 2019 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 2010.

The third table (bottom section of grouping) is supplementary information about the average historical claims duration as of December 31, 2019. 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 2010 for accident year 2010, calendar year 2011 for accident year 2011) divided by the cumulative incurred loss and allocated LAE as of December 31, 2019 for that accident year. The resulting ratios are weighted together using cumulative incurred loss and allocated LAE as of December 31, 2019.

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Other Property
(Millions)

Incurring losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	156.1	153.2	144.5	145.2	140.2	139.3	138.6	137.0	136.7	136.3	1.5	NA
2011		162.9	150.3	141.2	133.2	131.3	132.0	132.2	131.0	131.1	0.1	NA
2012			162.1	148.9	143.8	139.4	134.7	132.7	132.6	132.0	1.1	NA
2013				130.0	126.8	116.0	112.5	112.2	111.7	111.4	0.7	NA
2014					113.8	116.6	114.1	114.4	112.0	111.3	0.7	NA
2015						139.7	132.2	134.4	134.4	134.1	1.6	NA
2016							194.9	213.7	218.3	219.1	1.7	NA
2017								332.7	369.3	387.9	19.1	NA
2018									270.8	326.3	34.0	NA
2019										245.0	101.1	NA
										Total	1,934.5	

Other Property
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,									
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019
2010	31.4	88.7	115.5	123.2	128.0	130.1	130.6	130.6	130.5	131.4
2011		26.6	79.1	102.8	115.7	121.7	124.2	126.8	126.5	127.1
2012			20.0	84.7	107.4	115.5	118.9	124.2	125.0	126.2
2013				27.2	71.4	95.4	101.9	105.2	105.8	106.3
2014					18.8	68.9	95.5	103.7	105.9	106.7
2015						30.8	93.0	114.3	123.9	127.7
2016							31.2	128.0	180.6	197.5
2017								58.2	222.4	298.6
2018									54.8	180.1
2019										46.2
									Total	1,447.8
									All outstanding liabilities before 2010, net of reinsurance	4.0
									Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	490.7

Other Property

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
	17.8%	42.5%	20.1%	7.2%	3.1%	1.8%	0.9%	0.3%	0.1%	0.7%

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Property Catastrophe Excess
(Millions)

Incurring losses and allocated loss adjustment expenses, net of reinsurance											December 31, 2019	
Accident Year	Year ended December 31,										Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019		
2010	136.1	131.0	131.0	130.2	122.8	121.9	121.4	120.7	121.3	127.3	0.1	NA
2011		152.6	89.7	142.7	121.4	118.0	117.2	117.1	117.2	117.2	0.2	NA
2012			145.0	57.8	51.1	49.2	49.7	44.8	45.0	46.5	0.5	NA
2013				70.3	76.5	73.5	72.9	72.1	71.8	71.4	—	NA
2014					55.4	57.0	54.3	54.4	54.3	54.8	0.5	NA
2015						27.4	29.3	26.9	25.9	25.0	0.2	NA
2016							50.4	47.7	42.4	41.2	2.3	NA
2017								105.4	123.4	117.4	8.3	NA
2018									160.4	178.0	9.1	NA
2019										169.9	35.1	NA
										Total		948.7

Property Catastrophe Excess
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance											
Accident Year	Year ended December 31,										
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	
2010	49.8	90.0	102.5	107.6	111.1	113.6	117.5	117.5	118.0	119.1	
2011		15.9	54.7	96.0	114.4	114.7	115.2	116.1	116.2	116.7	
2012			2.8	25.8	35.4	40.0	40.9	42.7	44.0	46.1	
2013				10.9	48.3	60.7	65.5	66.8	68.0	68.9	
2014					9.2	35.8	41.9	47.4	49.1	51.5	
2015						1.8	9.3	16.6	19.9	22.4	
2016							10.4	25.7	31.7	37.0	
2017								13.2	67.4	86.4	
2018									2.7	115.8	
2019										3.3	
									Total	667.2	
										All outstanding liabilities before 2010, net of reinsurance	4.5
										Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	286.0

Property Catastrophe Excess

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
	12.7%	45.7%	19.0%	9.8%	2.3%	2.0%	1.9%	0.7%	0.5%	0.8%

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Agriculture
(Millions)

Accident Year	Incurred losses and allocated loss adjustment expenses, net of reinsurance										December 31, 2019	
	Year ended December 31,										Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019		
2010	12.8	10.8	10.9	10.7	10.6	10.7	10.7	10.7	10.7	10.7	—	NA
2011		21.5	21.5	21.7	21.7	21.7	21.6	21.6	21.6	21.6	—	NA
2012			41.1	45.9	45.9	45.8	47.0	47.0	47.0	46.9	—	NA
2013				9.1	10.8	12.9	13.0	12.8	12.8	12.8	—	NA
2014					9.7	8.2	8.5	8.9	8.9	9.0	—	NA
2015						7.0	9.1	9.4	9.4	9.4	—	NA
2016							33.1	30.5	29.5	29.6	0.2	NA
2017								50.2	46.8	46.1	(0.4)	NA
2018									39.1	41.3	3.3	NA
2019										71.8	46.0	NA
										Total	299.2	

Agriculture
(Millions)

Accident Year	Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance												
	Year ended December 31,										2019		
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019			
2010	0.5	10.6	10.8	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.7		
2011		1.0	21.3	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6		
2012			19.0	45.4	45.7	45.6	46.9	46.9	46.9	46.9	46.9		
2013				7.1	10.6	12.8	13.0	12.8	12.8	12.8	12.8		
2014					6.5	8.1	8.8	8.8	8.9	9.0	9.0		
2015						1.5	7.7	8.9	9.2	9.2	9.2		
2016							10.0	27.8	29.2	29.5	29.5		
2017								9.0	43.3	46.1	46.1		
2018									2.6	35.8	35.8		
2019										9.5	9.5		
									Total	231.1	231.1		
												All outstanding liabilities before 2010, net of reinsurance	—
												Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	68.1

Agriculture

Years	Average annual percentage payout of incurred losses and allocated LAE by age, net of reinsurance									
	1	2	3	4	5	6	7	8	9	10
	22.3%	67.5%	4.8%	0.4%	1.1%	0.1%	0.1%	—%	—%	—%

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Global Accident & Health
(Millions)

Incurred losses and allocated loss adjustment expenses, net of reinsurance												
Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	118.4	125.4	123.0	122.1	121.8	121.8	121.9	121.8	121.7	121.7	(0.1)	NA
2011		161.3	176.7	172.3	171.6	171.6	171.6	171.4	171.4	171.5	0.1	NA
2012			163.4	160.1	147.8	147.1	146.9	146.7	146.6	146.5	(0.1)	NA
2013				125.5	123.3	118.8	118.3	117.7	116.9	116.8	—	NA
2014					130.8	131.9	130.3	130.3	129.4	129.4	0.1	NA
2015						152.7	148.8	145.5	144.2	143.8	0.3	NA
2016							173.3	187.1	183.0	181.5	2.5	NA
2017								176.4	172.6	165.9	1.4	NA
2018									198.3	205.5	13.4	NA
2019										271.9	89.1	NA
										Total	1,654.5	

Global Accident & Health
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance												
Accident Year	Year ended December 31,										2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019		
2010	53.1	102.2	119.2	121.4	121.7	121.8	121.9	121.9	121.9	121.9	122.0	
2011		71.2	139.2	166.1	171.1	171.5	171.6	171.6	171.6	171.6	171.7	
2012			72.2	136.1	146.1	146.5	146.6	146.6	146.6	146.6	146.6	
2013				54.4	103.7	114.2	115.6	116.8	116.3	116.3	116.3	
2014					59.2	111.1	124.6	126.3	126.3	126.3	127.0	
2015						75.4	129.8	141.2	142.8	143.1	143.1	
2016							98.2	164.4	176.0	177.9	177.9	
2017								61.5	150.7	163.0	163.0	
2018									89.0	186.1	186.1	
2019											128.7	
										Total	1,482.4	
											All outstanding liabilities before 2010, net of reinsurance	4.8
											Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	176.9

Global Accident & Health

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
	46.1%	42.6%	9.6%	1.4%	0.3%	0.1%	—%	—%	0.1%	—%

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Sirius International Insurance Group, Ltd.
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Aviation & Space
(Millions)

Incurred losses and allocated loss adjustment expenses, net of reinsurance												
Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	42.4	47.2	46.9	44.4	42.9	42.0	41.8	41.3	41.6	41.4	(0.4)	NA
2011		46.8	42.2	37.8	35.8	34.6	34.4	35.7	35.0	35.2	(0.2)	NA
2012			35.6	34.3	30.2	28.2	28.4	29.5	29.5	28.5	(0.3)	NA
2013				40.5	36.4	33.3	31.9	32.9	32.9	33.0	(0.5)	NA
2014					37.3	39.9	36.6	35.8	35.9	33.9	(3.0)	NA
2015						37.6	34.0	38.1	37.1	36.5	(0.9)	NA
2016							32.0	32.5	33.5	35.8	2.9	NA
2017								33.8	42.8	44.1	1.4	NA
2018									47.9	50.5	6.7	NA
2019										60.5	39.9	NA
										Total	399.4	

Aviation & Space
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance												
Accident Year	Year ended December 31,										2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019		
2010	12.0	22.0	31.3	36.0	37.5	38.5	39.4	39.6	40.7	41.0	41.0	
2011		10.1	22.6	28.5	31.4	32.6	34.0	34.7	34.6	35.5	35.5	
2012			7.6	18.4	22.6	24.6	27.3	28.2	28.7	28.4	28.4	
2013				13.5	19.8	24.0	26.6	28.4	29.1	30.5	30.5	
2014					8.0	17.8	23.5	26.1	28.1	28.8	28.8	
2015						10.5	21.0	27.0	33.4	34.9	34.9	
2016							7.8	19.6	26.7	29.1	29.1	
2017								9.0	23.6	32.5	32.5	
2018									14.3	27.4	27.4	
2019										8.3	8.3	
										Total	296.4	
											6.2	
											Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	109.2

Aviation & Space

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
	25.3%	29.4%	17.8%	9.6%	5.2%	2.7%	2.5%	(0.3)%	2.6%	0.4%

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Sirius International Insurance Group, Ltd.
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Trade Credit
(Millions)

Incurred losses and allocated loss adjustment expenses, net of reinsurance												
Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	13.7	12.0	9.3	9.5	9.6	9.4	9.4	9.5	9.6	9.4	(0.3)	NA
2011		28.4	28.2	26.7	26.5	26.5	25.8	25.8	25.6	25.4	(0.3)	NA
2012			33.6	33.9	32.2	32.4	32.0	32.0	31.7	31.3	(0.2)	NA
2013				28.8	27.9	27.1	26.9	27.5	27.0	27.3	0.6	NA
2014					22.2	22.2	23.0	20.9	20.6	20.5	0.5	NA
2015						19.7	19.3	18.8	18.1	17.3	—	NA
2016							14.9	12.9	12.3	11.4	—	NA
2017								18.8	19.8	18.9	2.5	NA
2018									24.6	24.8	4.4	NA
2019										30.1	13.8	NA
										Total	216.4	

Trade Credit
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance											
Accident Year	Year ended December 31,										2019
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	
2010	1.7	5.1	7.6	8.4	8.8	8.9	9.1	9.2	9.3	9.3	9.3
2011		6.4	17.1	23.1	24.3	25.2	25.5	25.2	25.3	25.3	25.3
2012			14.4	26.2	30.4	31.1	31.5	31.3	31.3	31.2	31.2
2013				11.3	19.4	22.3	23.5	23.9	24.0	24.1	24.1
2014					7.7	13.4	17.4	18.8	19.3	19.3	19.3
2015						4.5	12.0	15.4	16.4	16.3	16.3
2016							4.5	8.8	10.4	11.0	11.0
2017								3.0	8.8	12.6	12.6
2018									7.6	16.2	16.2
2019										8.8	8.8
										Total	174.1
										All outstanding liabilities before 2010, net of reinsurance	4.2
										Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	46.5

Trade Credit

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
	32.3%	35.4%	17.6%	4.8%	1.8%	0.3%	0.1%	0.1%	0.3%	(0.2)%

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Environmental
(Millions)

Incurred losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	—	—	—	—	—	—	—	—	—	—	—	NA
2011		—	—	—	—	—	—	—	—	—	—	NA
2012			—	—	—	—	—	—	—	—	—	NA
2013				—	—	—	—	—	—	—	—	NA
2014					—	—	—	—	—	—	—	NA
2015						—	—	—	—	—	—	NA
2016							—	—	—	—	—	NA
2017								—	—	—	—	NA
2018									0.4	0.1	—	NA
2019										4.6	0.8	NA
									Total	4.7		

Environmental
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,									
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019
2010	—	—	—	—	—	—	—	—	—	—
2011		—	—	—	—	—	—	—	—	—
2012			—	—	—	—	—	—	—	—
2013				—	—	—	—	—	—	—
2014					—	—	—	—	—	—
2015						—	—	—	—	—
2016							—	—	—	—
2017								—	—	—
2018									—	—
2019										0.1
									Total	0.1
									All outstanding liabilities before 2010, net of reinsurance	—
									Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	4.6

Environmental

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
	1.0%	6.3%	—%	—%	—%	—%	—%	—%	—%	—%

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Marine
(Millions)

Incurred losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	30.5	33.3	31.0	30.7	32.1	31.7	30.4	30.2	30.0	30.0	0.1	NA
2011		36.7	33.0	30.7	31.2	32.2	31.6	31.7	31.6	32.3	(0.3)	NA
2012			27.2	33.4	36.0	37.5	37.9	36.8	36.3	36.2	1.7	NA
2013				23.2	20.5	19.2	18.2	18.0	18.0	18.1	0.2	NA
2014					23.2	21.4	19.4	18.2	17.8	18.4	(0.3)	NA
2015						29.3	31.0	28.9	28.4	28.3	0.2	NA
2016							28.2	29.1	28.3	28.3	0.8	NA
2017								37.2	34.8	34.6	2.2	NA
2018									23.1	25.4	3.2	NA
2019										18.8	6.7	NA
										Total	270.4	

Marine
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,										
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	
2010	5.0	12.2	17.1	19.5	21.3	26.7	27.5	28.5	28.7	28.8	
2011		4.4	14.4	21.8	25.2	28.0	28.8	29.3	29.7	30.4	
2012			5.2	14.8	24.2	27.1	29.1	31.0	32.6	33.8	
2013				2.9	9.3	12.6	14.0	14.4	14.9	15.1	
2014					4.1	10.2	13.6	15.0	15.7	15.8	
2015						4.3	11.6	21.5	25.9	26.9	
2016							6.8	17.4	21.3	24.2	
2017								7.2	18.1	26.1	
2018									5.2	13.9	
2019										3.8	
									Total	218.8	
										All outstanding liabilities before 2010, net of reinsurance	0.8
										Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	52.4

Marine

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
	18.1%	30.5%	22.2%	9.7%	5.4%	6.4%	2.6%	2.7%	1.4%	0.7%

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Surety
(Millions)

Incurred losses and allocated loss adjustment expenses, net of reinsurance												
Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	0.1	0.1	0.2	0.4	0.4	0.3	0.3	0.1	0.1	0.1	0.1	NA
2011		0.3	0.5	0.6	0.6	0.4	0.4	0.2	0.2	0.2	0.2	NA
2012			0.5	0.6	0.6	0.4	0.4	0.3	0.3	0.3	0.3	NA
2013				1.0	0.9	0.7	0.5	0.7	0.9	0.8	0.2	NA
2014					1.2	1.1	1.0	1.1	1.3	1.1	0.3	NA
2015						1.0	1.2	1.0	0.8	0.7	0.3	NA
2016							—	—	0.5	0.3	—	NA
2017								0.6	0.4	0.4	0.3	NA
2018									0.9	1.0	0.9	NA
2019										1.2	1.2	NA
									Total	6.1		

Surety
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance													
Accident Year	Year ended December 31,										2019		
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019			
2010	—	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
2011		0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
2012			0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
2013				0.1	0.1	0.2	0.3	0.5	0.6	0.6	0.6	0.6	
2014					—	0.2	0.4	0.7	0.9	1.2	1.2	1.2	
2015						—	0.2	0.3	0.4	0.5	0.5	0.5	
2016							—	—	0.3	0.3	0.3	0.3	
2017								—	—	—	—	—	
2018									—	—	—	—	
2019										—	—	—	
											Total	3.1	
												All outstanding liabilities before 2010, net of reinsurance	1.9
												Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	4.9

Surety

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
	7.3%	9.0%	19.0%	14.7%	12.4%	17.8%	1.7%	2.0%	0.9%	0.3%

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Contingency
(Millions)

Incurred losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	5.5	5.9	4.5	4.4	4.2	4.1	4.1	4.1	4.1	4.1	—	NA
2011		7.7	7.1	6.6	6.5	6.5	6.6	6.6	6.6	6.6	—	NA
2012			9.6	8.6	8.7	8.5	8.3	8.1	8.1	8.0	—	NA
2013				5.5	4.2	3.6	3.6	3.6	3.6	3.6	0.1	NA
2014					4.2	7.0	5.2	4.7	4.7	4.7	—	NA
2015						9.9	9.6	9.0	8.9	8.9	0.1	NA
2016							17.6	18.0	17.0	17.3	0.2	NA
2017								9.7	10.6	11.2	0.8	NA
2018									9.4	9.0	1.4	NA
2019										3.0	1.4	NA
										Total	76.4	

Contingency
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,												
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019			
2010	1.9	3.4	3.5	3.5	3.9	4.0	4.1	4.1	4.1	4.1	4.1		
2011		2.0	5.7	6.4	6.4	6.5	6.5	6.5	6.5	6.5	6.5		
2012			5.3	7.1	8.5	8.4	8.3	8.1	8.1	8.1	8.1		
2013				1.8	3.0	3.3	3.3	3.3	3.3	3.3	3.3		
2014					1.6	3.7	4.4	4.5	4.5	4.5	4.5		
2015						2.8	7.1	7.8	7.8	7.8	7.8		
2016							11.6	15.2	16.0	16.0	16.8		
2017								3.0	7.0	9.4	9.4		
2018									1.8	6.2	6.2		
2019										0.3	0.3		
											Total	67.9	
												All outstanding liabilities before 2010, net of reinsurance	(0.1)
												Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	8.3

Contingency

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
	42.2%	36.2%	10.8%	1.7%	3.2%	—%	0.2%	0.4%	0.4%	—%

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Casualty
(Millions)

Incurred losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	1.7	1.5	1.6	1.4	1.1	0.9	0.6	0.6	0.5	0.5	—	NA
2011		0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	—	NA
2012			0.2	0.2	0.4	0.5	0.5	0.5	0.5	0.4	—	NA
2013				0.4	0.4	0.4	0.4	0.5	0.5	0.5	—	NA
2014					0.4	0.4	0.5	0.5	0.5	0.6	—	NA
2015						0.5	0.8	0.6	0.5	0.6	—	NA
2016							0.2	0.3	0.3	0.1	—	NA
2017								9.7	9.7	12.5	7.2	NA
2018									53.4	63.5	41.3	NA
2019										141.9	116.0	NA
									Total	220.8		

Casualty
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,									
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019
2010	—	—	0.1	0.1	0.2	0.4	0.3	0.4	0.4	0.3
2011		—	—	0.1	0.1	0.2	0.2	0.2	0.2	0.2
2012			—	—	0.1	0.2	0.1	0.2	0.2	0.3
2013				0.1	0.1	0.2	0.3	0.4	0.4	0.5
2014					0.1	0.2	0.4	0.4	0.4	0.5
2015						0.2	0.4	0.4	0.4	0.4
2016							—	0.1	0.1	0.2
2017								—	0.6	1.6
2018									2.0	8.1
2019										10.6
									Total	22.7
									All outstanding liabilities before 2010, net of reinsurance	3.9
									Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	202.0

Casualty

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
	5.9%	9.4%	9.5%	11.1%	7.3%	10.0%	0.6%	13.4%	1.0%	0.7%

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Runoff & Other
(Millions)

Incurred losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,										December 31, 2019	
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	Total IBNR liabilities plus expected development on reported claims	Cumulative number of reported claims
2010	282.3	283.2	283.4	284.0	285.1	286.6	287.6	287.7	287.0	291.5	5.4	NA
2011		221.5	222.8	223.9	224.5	225.0	225.9	225.4	225.0	223.9	2.9	NA
2012			3.6	4.0	4.1	4.2	4.1	4.1	3.9	3.7	1.1	NA
2013				1.2	0.2	0.2	0.2	0.1	0.2	0.4	—	NA
2014					0.2	0.2	0.3	0.4	0.5	0.5	—	NA
2015						9.5	15.7	17.5	18.0	18.0	0.2	NA
2016							11.8	12.1	11.7	11.6	—	NA
2017								0.6	0.7	0.7	—	NA
2018									30.3	28.6	2.6	NA
2019										0.3	0.2	NA
										Total	579.2	

Runoff & Other
(Millions)

Cumulative paid losses and allocated loss adjustment expenses, net of reinsurance

Accident Year	Year ended December 31,										
	2010 Unaudited	2011 Unaudited	2012 Unaudited	2013 Unaudited	2014 Unaudited	2015 Unaudited	2016 Unaudited	2017 Unaudited	2018 Unaudited	2019	
2010	160.1	263.2	265.5	269.6	272.8	276.4	278.3	280.2	280.9	281.3	
2011		206.9	209.0	211.2	213.0	214.7	216.7	218.2	218.8	219.3	
2012			0.3	1.3	1.8	2.2	2.4	2.4	2.5	2.7	
2013				0.7	0.1	0.1	0.1	0.1	0.1	0.2	
2014					—	—	0.1	0.2	0.3	0.5	
2015						5.2	10.0	15.3	16.6	17.3	
2016							6.2	10.1	11.0	11.3	
2017								0.4	0.5	0.6	
2018									7.9	12.6	
2019										—	
									Total	545.8	
										All outstanding liabilities before 2010, net of reinsurance	397.2
										Liabilities for loss and allocated loss adjustment expenses, net of reinsurance	430.6

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
	66.9%	20.6%	2.0%	1.5%	1.1%	1.1%	0.7%	0.5%	0.2%	0.1%

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Note 6. Third party reinsurance

In the normal course of business, Sirius Group 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 Group 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 Group's written and earned premiums and on losses and LAE were as follows:

<i>(Millions)</i>	2019	2018	2017
Written premiums:			
Direct	\$ 511.2	\$ 454.5	\$ 450.2
Assumed	1,391.5	1,366.5	989.1
Gross written premiums	1,902.7	1,821.0	1,439.3
Ceded	(400.1)	(463.9)	(349.1)
Net written premiums	\$ 1,502.6	\$ 1,357.1	\$ 1,090.2
Earned premiums:			
Direct	\$ 481.0	\$ 432.6	\$ 405.7
Assumed	1,357.7	1,236.2	942.2
Gross earned premiums	1,838.7	1,668.8	1,347.9
Ceded	(397.1)	(406.5)	(312.6)
Net earned premiums	\$ 1,441.6	\$ 1,262.3	\$ 1,035.3
Losses and LAE:			
Direct	\$ 316.3	\$ 260.5	\$ 294.9
Assumed	1,111.4	819.1	701.3
Gross losses and LAE	1,427.7	1,079.6	996.2
Ceded	(257.4)	(179.6)	(185.0)
Net losses and LAE	\$ 1,170.3	\$ 900.0	\$ 811.2

Sirius Group'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 Property

Sirius Group'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.

Sirius Group has in place excess of loss retrocessional coverage for its worldwide earthquake related exposures. This coverage was renewed for one year at June 1, 2019, providing 50% of \$40.0 million of reinsurance protection in excess of Sirius Group's retention of \$35.0 million and a further of 100% of \$35.0 million of coverage in excess of \$75.0 million.

Sirius Group 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 excluding North East, all natural perils	\$5.0 million	\$40.0 billion	July 5, 2020

Sirius Group 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.

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Global A&H

Sirius Group 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) in place.

Specialty & Casualty

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 2020. 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 \$27.5 million. The ILWs attach at industry loss levels between \$400.0 million and \$800.0 million.

Other lines of business within the Specialty & Casualty segment are protected through various quota share and excess of loss protections.

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, 2019, Sirius Group had reinsurance recoverables on paid losses of \$73.9 million and reinsurance recoverables of \$410.3 million on unpaid losses. At December 31, 2018, Sirius Group had reinsurance recoverables on paid losses of \$55.0 million and reinsurance recoverables of \$350.2 million on unpaid losses. Because retrocessional reinsurance contracts do not relieve Sirius Group of its obligation to its insureds, the collectability of balances due from Sirius Group's reinsurers is important to its financial strength. Sirius Group 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 Group'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, 2019 and 2018. With certain reinsurers if Standard & Poor's rating was not available, an A.M. Best rating was used.

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%	
A	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" (Adequate).

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December 31, 2018					
Rating ⁽¹⁾	Gross	Collateral	Net	% of Net Total	
AA	\$ 115.1	\$ 1.5	\$ 113.6	35%	
A	212.9	45.4	167.5	52%	
BBB or lower	19.5	13.3	6.2	2%	
Not rated	57.7	23.2	34.5	11%	
Total	\$ 405.2	\$ 83.4	\$ 321.8	100%	

⁽¹⁾Standard & Poor's ratings as detailed above are: "AA" (Very strong), "A" (Strong), 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, 2019 and 2018:

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%
Lloyd's of London	27.0	6%	A+	30%
Argo Capital Group Ltd.	19.1	4%	A-	89%

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

December 31, 2018				
(Millions)	Balance	% of Total	S&P rating	% Collateralized
Reinsurer:				
General Insurance Corporation of India ⁽¹⁾	\$ 82.7	20%	A-	97%
Swiss Reinsurance Company Ltd.	44.1	11%	AA-	—%
Berkshire Hathaway, Inc.	39.3	10%	AA+	1%
Argo Capital Group Ltd.	16.7	4%	A-	87%
Lloyd's of London	13.4	3%	A+	5%

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

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)	2019	2018	2017
Deferred acquisition costs - balance, beginning of the year	\$ 141.6	\$ 120.9	\$ 84.7
Acquisition costs deferred ⁽¹⁾	221.6	202.6	220.7
Amortization expense	(214.4)	(180.4)	(186.7)
Other, including foreign exchange	(0.6)	(1.5)	2.2
Deferred acquisition costs – balance, end of the year	\$ 148.2	\$ 141.6	\$ 120.9

⁽¹⁾2017 amount includes \$2.9 from Acquisition of IMG. (See Note 3.)

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Note 8. Investment securities**Net Investment Income**

Sirius Group's net investment income is comprised primarily of interest income along with associated amortization of premium and accretion of discount on Sirius Group'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, 2019, 2018, and 2017 consisted of the following:

<i>(Millions)</i>	2019	2018	2017
Fixed maturity investments	\$ 52.1	\$ 53.2	\$ 51.5
Short-term investments	15.8	5.1	1.5
Equity securities	15.2	16.5	5.1
Other long-term investments	14.2	8.4	8.5
Interest on funds held under reinsurance treaties	—	(0.5)	—
Total investment income	97.3	82.7	66.6
Investment expenses	(12.6)	(11.3)	(9.8)
Net investment income	\$ 84.7	\$ 71.4	\$ 56.8

Net Realized and Unrealized Investment Gains (Losses)

Net realized and unrealized investment gains (losses) for the years ended December 31, 2019, 2018, and 2017 consisted of the following:

<i>(Millions)</i>	2019	2018	2017
Gross realized gains	\$ 99.3	\$ 42.3	\$ 24.4
Gross realized (losses)	(42.6)	(40.0)	(51.6)
Net realized gains (losses) on investments⁽¹⁾	56.7	2.3	(27.2)
Net unrealized gains (losses) on investments ⁽²⁾	80.6	(23.2)	(10.5)
Net realized and unrealized investment gains (losses) on investments	\$ 137.3	\$ (20.9)	\$ (37.7)

⁽¹⁾Includes \$50.4, \$17.3, and \$(19.1) of realized gains (losses) due to foreign currency during 2019, 2018, and 2017, respectively.

⁽²⁾Includes \$(5.7), \$35.7, and \$(51.7) of unrealized (losses) gains due to foreign currency during 2019, 2018, and 2017, respectively.

Net realized investment gains (losses)

Net realized investment gains (losses) for the years ended December 31, 2019, 2018, and 2017 consisted of the following:

<i>(Millions)</i>	2019	2018	2017
Fixed maturity investments	\$ 33.7	\$ 3.6	\$ (19.1)
Equity securities	9.4	(6.4)	0.1
Short-term investments	14.8	—	—
Derivative instruments	(2.5)	—	—
Other long-term investments	1.3	5.1	(8.2)
Net realized investment gains (losses)	\$ 56.7	\$ 2.3	\$ (27.2)

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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, 2019, 2018, and 2017:

<i>(Millions)</i>	2019	2018	2017
Fixed maturity investments	\$ 24.1	\$ 14.1	\$ (41.3)
Equity securities	51.4	(51.1)	25.2
Short-term investments	(5.2)	—	—
Derivative instruments	(0.5)	—	—
Other long-term investments	10.8	13.8	5.6
Net unrealized investment gains (losses)	\$ 80.6	\$ (23.2)	\$ (10.5)

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, 2019, 2018, and 2017:

<i>(Millions)</i>	2019	2018	2017
Fixed maturity investments	\$ —	\$ (6.1)	\$ (0.2)
Equity securities	—	—	0.1
Other long-term investments	15.9	4.0	(0.6)
Total unrealized investment gains (losses) - Level 3 investments	\$ 15.9	\$ (2.1)	\$ (0.7)

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 Group's fixed maturity investments as of December 31, 2019 and 2018, were as follows:

<i>(Millions)</i>	2019				
	Cost or amortized cost	Gross unrealized gains	Gross unrealized losses	Net foreign currency gains (losses)	Fair value
Asset-backed securities	\$ 489.4	\$ 1.4	\$ (3.9)	\$ (0.1)	\$ 486.8
Corporate debt securities	458.6	5.2	(1.2)	11.5	474.1
Residential mortgage-backed securities	426.2	10.5	(1.4)	3.6	438.9
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	\$ 1,656.6	\$ 18.7	\$ (8.2)	\$ 13.9	\$ 1,681.0

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<i>(Millions)</i>	2018				
	Cost or amortized cost	Gross unrealized gains	Gross unrealized losses	Net foreign currency gains (losses)	Fair value
Asset-backed securities	\$ 496.3	\$ 0.1	\$ (3.8)	\$ 1.9	\$ 494.5
Corporate debt securities	694.1	1.4	(7.3)	7.6	695.8
Residential mortgage-backed securities	413.0	1.7	(7.1)	5.9	413.5
U.S. government and government agency	163.9	0.3	(0.5)	4.2	167.9
Commercial mortgage-backed securities	117.7	0.2	(2.7)	0.7	115.9
Non-U.S. government and government agency	50.6	—	(0.2)	(0.1)	50.3
Preferred stocks	14.5	0.6	(6.8)	0.2	8.5
U.S. States, municipalities and political subdivision	2.8	—	—	—	2.8
Total fixed maturity investments	\$ 1,952.9	\$ 4.3	\$ (28.4)	\$ 20.4	\$ 1,949.2

The weighted average duration of Sirius Group's fixed income portfolio as of December 31, 2019 was approximately 1.6 years, including short-term investments, and approximately 2.5 years excluding short-term investments.

The cost or amortized cost and fair value of Sirius Group's fixed maturity investments as of December 31, 2019 and 2018 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.

<i>(Millions)</i>	2019		2018	
	Cost or amortized cost	Fair value	Cost or amortized cost	Fair value
Due in one year or less	\$ 85.0	\$ 88.4	\$ 249.6	\$ 254.6
Due after one year through five years	479.1	490.3	635.6	636.4
Due after five years through ten years	46.3	46.0	26.2	25.7
Due after ten years	25.1	24.6	0.1	0.1
Mortgage-backed and asset-backed securities	1,004.1	1,014.7	1,026.9	1,023.9
Preferred stocks	17.0	17.0	14.5	8.5
Total	\$ 1,656.6	\$ 1,681.0	\$ 1,952.9	\$ 1,949.2

The following table summarizes the ratings and fair value of fixed maturity investments held in Sirius Group's investment portfolio as of December 31, 2019 and 2018:

<i>(Millions)</i>	2019	2018
AAA	\$ 559.8	\$ 602.0
AA	724.3	818.0
A	219.0	290.5
BBB	95.8	167.4
Other	82.1	71.3
Total fixed maturity investments⁽¹⁾	\$ 1,681.0	\$ 1,949.2

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

As of December 31, 2019, the above totals included \$43.3 million of sub-prime securities. Of this total, \$21.7 million was rated AAA, \$18.4 million rated AA, \$3.1 million rated A, and \$0.1 million classified as other. As of December 31, 2018, the above included \$42.6 million of sub-prime securities. Of this total, \$17.1 million was rated AAA, \$9.8 million rated AA, \$6.0 million rated A, \$4.7 million rated BBB and \$5.0 million classified as other.

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Mortgage-backed, Asset-backed Securities

Sirius Group purchases commercial mortgage-backed securities ("CMBS") and residential mortgage-backed securities ("RMBS") and asset-backed securities with the goal of maximizing risk adjusted returns in the context of a diversified portfolio. Sirius Group considers sub-prime securities as those that have underlying loan pools that exhibit weak credit characteristics, or those that are issued from dedicated sub-prime shelves or dedicated second-lien shelf registrations (i.e., Sirius Group considers investments backed primarily by second-liens to be sub-prime risks). Given the tranching nature of mortgage-backed and asset-backed securities, Sirius Group relies primarily on rating agency credit ratings (i.e., S&P and Moody's) to evaluate credit worthiness of these securities and to a lesser extent on credit scores such as FICO.

The following table summarizes the total mortgage and asset-backed securities held at fair value in Sirius Group's investment portfolio as of December 31, 2019 and 2018:

<i>(Millions)</i>	2019	2018
Mortgage-backed securities:		
Agency:		
Federal national mortgage association	\$ 235.9	\$ 185.0
Federal home loan mortgage corporation	165.0	166.9
Government national mortgage association	52.2	59.4
Total agency⁽¹⁾	453.1	411.3
Non-agency:		
Commercial	60.9	85.5
Residential	13.9	32.6
Total non-agency	74.8	118.1
Total mortgage-backed securities	527.9	529.4
Asset-backed securities:		
Collateralized loan obligations	417.0	373.0
Vehicle receivables	32.9	63.8
Credit card receivables	5.7	10.7
Other	31.2	47.0
Total asset-backed securities	486.8	494.5
Total mortgage and asset-backed securities⁽²⁾	\$ 1,014.7	\$ 1,023.9

⁽¹⁾Represents publicly traded mortgage-backed securities which carry the full faith and credit guaranty of the U.S. government (i.e., GNMA) or are guaranteed by a government-sponsored entity (i.e., FNMA, FHLMC).

⁽²⁾As of December 31, 2019 and 2018, all mortgage- and asset-backed securities held by Sirius Group were classified as Level 2 investments.

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 Group's equity securities and other long-term investments as of December 31, 2019 and 2018, were as follows:

<i>(Millions)</i>	2019				
	Cost or amortized cost	Gross unrealized gains	Gross unrealized losses	Net foreign currency gains	Fair 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

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<i>(Millions)</i>	2018				
	Cost or amortized cost	Gross unrealized gains	Gross unrealized losses	Net foreign currency gains	Fair value
Equity securities	\$ 409.4	\$ 17.8	\$ (50.8)	\$ 3.6	\$ 380.0
Other long-term investments	\$ 337.6	\$ 32.6	\$ (13.5)	\$ 8.3	\$ 365.0

Equity securities at fair value consisted of the following as of December 31, 2019 and 2018:

<i>(Millions)</i>	2019	2018
Fixed income mutual funds	\$ 175.3	\$ 157.7
Common stocks	228.1	222.3
Other equity securities	1.8	—
Total Equity securities	\$ 405.2	\$ 380.0

Other long-term investments at fair value consisted of the following as of December 31, 2019 and 2018:

<i>(Millions)</i>	2019	2018
Hedge funds and private equity funds	\$ 269.0	\$ 301.4
Limited liability companies and private equity securities	77.8	63.6
Total Other long-term investments	\$ 346.8	\$ 365.0

Hedge Funds and Private Equity Funds

Sirius Group 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, 2019, Sirius Group held investments in 9 hedge funds and 29 private equity funds. The largest investment in a single fund was \$51.6 million as of December 31, 2019 and \$54.8 million as of December 31, 2018.

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The following table summarizes investments in hedge funds and private equity interests by investment objective and sector as of December 31, 2019 and 2018:

<i>(Millions)</i>	2019		2018	
	Fair value	Unfunded commitments	Fair value	Unfunded commitments
Hedge funds:				
Long/short multi-sector	\$ 53.0	\$ —	\$ 41.0	\$ —
Distressed mortgage credit	51.6	—	54.8	—
Private credit	21.5	—	20.0	—
Other	1.4	—	2.5	—
Total hedge funds	127.5	—	118.3	—
Private equity funds:				
Energy infrastructure & services	53.6	34.6	93.7	54.2
Multi-sector	8.7	7.8	9.0	0.7
Healthcare	25.9	10.4	31.7	15.6
Life settlement	23.9	—	23.7	—
Manufacturing/Industrial	27.6	3.9	23.6	10.4
Private equity secondaries	0.6	0.8	1.1	1.1
Real estate	—	—	0.3	—
Other	1.2	2.6	—	—
Total private equity funds	141.5	60.1	183.1	82.0
Total hedge and private equity funds included in Other long-term investments	\$ 269.0	\$ 60.1	\$ 301.4	\$ 82.0

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, 2019 fair value of hedge funds subject to restrictions on redemption frequency and advance notice period requirements for investments in active hedge funds:

<i>(Millions)</i>	Notice Period				Total
	30-59 days notice	60-89 days notice	90-119 days notice	120+ days notice	
Monthly	\$ —	\$ 36.2	\$ —	\$ —	\$ 36.2
Quarterly	0.8	—	—	—	0.8
Semi-annual	—	0.3	—	—	0.3
Annual	—	16.8	51.9	21.5	90.2
Total	\$ 0.8	\$ 53.3	\$ 51.9	\$ 21.5	\$ 127.5

Certain of the hedge fund and private equity fund investments in which Sirius Group 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, 2019, no 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.

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As of December 31, 2019, investments in private equity funds were subject to lock-up periods as follows:

<i>(Millions)</i>	1 – 3 years	3 – 5 years	5 – 10 years	Total
Private Equity Funds – expected lock up period remaining	\$ 4.7	\$ 1.4	\$ 135.4	\$ 141.5

Investments Held on Deposit or as Collateral

As of December 31, 2019 and 2018, investments of \$1,309.5 million and \$792.4 million, respectively, were held in trusts required to be maintained in relation to various reinsurance agreements. Sirius Group's consolidated reinsurance operations are required to maintain deposits with certain insurance regulatory agencies in order to maintain their insurance licenses. The fair value of such deposits which are included within total investments totaled \$1,315.5 million and \$801.2 million as of December 31, 2019 and 2018, respectively.

As of December 31, 2019, Sirius Group held \$0.2 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, 2019 and 2018, Sirius Group reported \$2.3 million and \$3.2 million, respectively, in Accounts payable on unsettled investment purchases.

As of December 31, 2019 and 2018, Sirius Group reported \$6.7 million and \$5.0 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. 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 and 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 Group determines when transfers between levels have occurred as of the beginning of the period.

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Valuation techniques

Sirius Group uses outside pricing services to assist in determining fair values for its investments. For investments in active markets, Sirius Group uses the quoted market prices provided by outside pricing services to determine fair value. The outside pricing services Sirius Group 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 Group 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 Group's fixed maturity investments. The techniques and inputs specific to asset classes within Sirius Group'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.

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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 Group'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 Group 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 Group'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 Group'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 Group'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 Group 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 Group with respect to the underlying investments, as necessary.

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Fair Value Measurements by Level

The following tables summarize Sirius Group's financial assets and liabilities measured at fair value as of December 31, 2019 and 2018 by level:

(Millions)	2019			
	Fair value	Level 1 inputs	Level 2 inputs	Level 3 inputs
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	486.8	—	486.8	—
Residential mortgage-backed securities	438.9	—	438.9	—
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	1,681.0	140.8	1,523.2	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	1,085.2	1,073.7	11.5	—
Other long-term investments ⁽¹⁾	77.8	—	—	77.8
Total investments	\$ 3,249.2	\$ 1,617.9	\$ 1,536.5	\$ 94.8
Loan participation	20.0	—	—	20.0
Derivative instruments	11.4	1.3	—	10.1
Total assets measured at fair value	\$ 3,280.6	\$ 1,619.2	\$ 1,536.5	\$ 124.9
Liabilities measured at fair value				
Contingent consideration liabilities	\$ 28.2	\$ —	\$ —	\$ 28.2
Derivative instruments	9.5	0.2	—	9.3
Total liabilities measured at fair value	\$ 37.7	\$ 0.2	\$ —	\$ 37.5

⁽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.

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<i>(Millions)</i>	2018			
	Fair value	Level 1 inputs	Level 2 inputs	Level 3 inputs
Assets measured at fair value				
Fixed maturity investments:				
U.S. Government and government agency	\$ 167.9	\$ 164.7	\$ 3.2	\$ —
Corporate debt securities	695.8	—	695.8	—
Asset-backed securities	494.5	—	494.5	—
Residential mortgage-backed securities	413.5	—	413.5	—
Commercial mortgage-backed securities	115.9	—	115.9	—
Non-U.S. government and government agency	50.3	42.9	7.4	—
Preferred stocks	8.5	—	3.1	5.4
U.S. States, municipalities, and political subdivision	2.8	—	2.8	—
Total fixed maturity investments	1,949.2	207.6	1,736.2	5.4
Equity securities:				
Fixed income mutual funds	157.7	157.7	—	—
Common stocks	222.3	222.3	—	—
Other equity securities	—	—	—	—
Total equity securities	380.0	380.0	—	—
Short-term investments	715.5	679.3	36.2	—
Other long-term investments ⁽¹⁾	63.6	—	—	63.6
Total investments	\$ 3,108.3	\$ 1,266.9	\$ 1,772.4	\$ 69.0
Loan participation	—	—	—	—
Derivative instruments	4.1	—	—	4.1
Total assets measured at fair value	\$ 3,112.4	\$ 1,266.9	\$ 1,772.4	\$ 73.1
Liabilities measured at fair value				
Contingent consideration liabilities	\$ 28.8	\$ —	\$ —	28.8
Derivative instruments	5.1	0.5	—	4.6
Total liabilities measured at fair value	\$ 33.9	\$ 0.5	\$ —	\$ 33.4

⁽¹⁾Excludes fair value of \$301.4 associated with hedge funds and private equity funds which fair value is measured at net asset value using the practical expedient.

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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, 2019 and 2018:

<i>(Millions)</i>	2019				
	Fixed maturities	Other long-term investments ⁽¹⁾	Loan participation	Derivative instruments assets & (liabilities)	Contingent consideration (liabilities)
Balance at January 1, 2019	\$ 5.4	\$ 63.6	\$ —	\$ (0.5)	\$ (28.8)
Total realized and unrealized gains	—	7.3	—	(7.1)	(6.3)
Foreign currency losses through Other Comprehensive Income	—	(0.6)	—	—	—
Purchases	17.0	15.7	20.0	—	—
Sales/settlements	(5.4)	(8.2)	—	8.4	6.9
Balance at December 31, 2019	\$ 17.0	\$ 77.8	\$ 20.0	\$ 0.8	\$ (28.2)

⁽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.

<i>(Millions)</i>	2018				
	Fixed maturities	Other long-term investments ⁽¹⁾	Loan participation	Derivative instruments assets & (liabilities)	Contingent consideration (liabilities)
Balance at January 1, 2018	\$ 8.0	\$ 64.2	\$ —	\$ (6.1)	\$ (42.8)
Total realized and unrealized gains	(6.1)	6.8	—	12.0	9.6
Foreign currency losses through Other Comprehensive Income	—	(4.4)	—	—	—
Purchases	4.0	1.2	—	—	—
Sales/settlements	(0.5)	(4.2)	—	(6.4)	4.4
Balance at December 31, 2018	\$ 5.4	\$ 63.6	\$ —	\$ (0.5)	\$ (28.8)

⁽¹⁾Excludes fair value of \$301.5 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 year ended December 31, 2019 or December 31, 2018.

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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, 2019 and 2018, and includes only those instruments for which information about the inputs is reasonably available to Sirius Group, such as data from independent third-party valuation service providers and from internal valuation models.

<i>(Millions)</i>		2019	
Description	Valuation technique(s)	Fair value	Unobservable input
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 0.9
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
Currency forwards ⁽²⁾	Third party appraisal \$	2.7	Broker quote \$ 2.7
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
Currency swaps ⁽²⁾	Third party appraisal \$	(3.6)	Broker quote \$ (3.6)
Currency forwards ⁽²⁾	Third party appraisal \$	(5.7)	Broker quote \$ (5.7)
Contingent consideration	External valuation model \$	(28.2)	Discounted future payments \$ (28.2)

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

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

<i>(Millions)</i>		2018	
Description	Valuation technique(s)	Fair value	Unobservable input
Private equity securities ⁽¹⁾	Share price of recent transaction \$	32.5	Purchase share price \$ 40.63
Private equity securities ⁽¹⁾	Multiple of GAAP book value \$	14.7	Book value multiple 0.9
Private debt instrument ⁽¹⁾	Purchase price of recent transaction \$	9.0	Purchase price \$ 9.0
Private debt instrument ⁽¹⁾	Purchase price of recent transaction \$	6.0	Purchase price \$ 6.0
Preferred stock ⁽¹⁾	Purchase price of recent transaction \$	4.6	Average share price \$ 1.88
Weather derivatives ⁽²⁾	Third party appraisal \$	3.9	Broker quote \$ 3.9
Common stock ⁽¹⁾	Purchase price of recent transaction \$	0.9	Purchase price \$ 1.88
Preferred stock ⁽¹⁾	Share price of recent transaction \$	0.8	Purchase price \$ 0.8
Common stock ⁽¹⁾	Share price of recent transaction \$	0.3	Purchase price \$ 10.0
Private debt instrument ⁽¹⁾	Purchase price of recent transaction \$	0.2	Purchase price \$ 0.2
Interest rate cap ⁽²⁾	Third party appraisal \$	0.2	Broker quote \$ 0.2
Currency swaps ⁽²⁾	Third party appraisal \$	(4.6)	Broker quote \$ (4.6)
Contingent consideration	External valuation model \$	(28.8)	Discounted future payments \$ (28.8)

⁽¹⁾As of December 31, 2018, each asset type consists of one security.

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

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Financial instruments disclosed, but not carried at fair value

Sirius Group 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 not included in the table below approximated their fair values as of December 31, 2019 and 2018, due to their respective short maturities. As these financial instruments are not actively traded, their respective fair values are classified within Level 3. The following table includes financial instruments for which the carrying value differs from the estimated fair values as of December 31, 2019 and 2018:

<i>(Millions)</i>	2019		2018	
	Fair value ⁽¹⁾	Carrying value	Fair value ⁽¹⁾	Carrying value
Liabilities, Mezzanine equity, and Non-controlling interest:				
2017 SEK Subordinated Notes	\$ 294.5	\$ 291.2	\$ 309.5	\$ 303.6
2016 SIG Senior Notes	\$ 394.5	\$ 394.0	\$ 347.6	\$ 393.2
Series B preference shares	\$ 186.4	\$ 223.0	\$ 191.7	\$ 232.2

⁽¹⁾Fair value estimated by internal pricing and considered a Level 3 measurement.

Fair Value Measurements on a Non-Recurring Basis

Sirius Group 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 Group 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 (see **Note 3**) 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 and the time value of money. The market approach is a valuation technique that uses prices and other relevant information generated by market transactions involving identical or comparable assets or group 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, long-term growth rates and discount rates. The cash flows employed in the valuation are based on Sirius Group's best estimates of future sales, earnings, and 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 Group 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 Group determines goodwill and indefinite-lived intangible assets may be impaired, Sirius Group uses techniques, including discounted expected future cash flows, to measure fair value. Sirius Group used Level 3 inputs to measure and did not record any impairments of goodwill or indefinite-lived intangible assets. Sirius Group recorded an \$8.0 million and \$5.0 million of impairment of Trade Names indefinite-lived intangible asset during 2018 and 2017, respectively, that was recorded in Impairment of Intangible Assets in the Consolidated Statements of (Loss). (See **Note 10**).

Long-Lived Assets: Sirius Group 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.

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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, are 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 Group uses widely accepted valuation techniques to determine the fair value of its reporting units used in its annual goodwill impairment analysis. Sirius Group's valuation is primarily based on qualitative and quantitative assessments regarding the fair value of the reporting unit relative to its carrying value. Sirius Group models the fair value of the reporting unit based on projected earnings and cash flows of the reporting unit.

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, 2019 and 2018:

<i>(Millions)</i>	Goodwill	Intangible assets with an indefinite life	Intangible assets with a finite life	Total
Net balance at December 31, 2017	\$ 401.0	\$ 27.0	\$ 189.3	\$ 617.3
Additions ⁽¹⁾	—	3.1	—	3.1
Foreign currency translation ⁽²⁾	(0.4)	—	—	(0.4)
Impairments ⁽²⁾	—	(8.0)	—	(8.0)
Amortization ⁽²⁾	—	—	(15.8)	(15.8)
Net balance at December 31, 2018	400.6	22.1	173.5	596.2
Additions	—	—	—	—
Foreign currency translation ⁽²⁾	0.2	—	—	0.2
Impairments ⁽²⁾	—	—	—	—
Amortization ⁽²⁾	—	—	(15.8)	(15.8)
Net balance at December 31, 2019	\$ 400.8	\$ 22.1	\$ 157.7	\$ 580.6

⁽¹⁾Additions in 2018 relate to insurance licenses allocated to the Runoff & Other segment.

⁽²⁾Foreign currency translation, impairments, and amortization in 2019 and 2018 relate to Armada and IMG and are allocated to the Global A&H segment.

For the year ended December 31, 2019, Sirius Group did not recognize any impairments on Intangible assets with an indefinite life. For the year ended December 31, 2018, Sirius Group 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 impairments 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, 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 in 2018 and an impairment of \$8.0 million was recorded as Impairment of intangible assets on the Consolidated Statements of (Loss).

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The following tables presents the components of goodwill and intangible assets as of December 31, 2019 and 2018:

<i>(Millions)</i>	2019				
	Gross balance	Accumulated amortization	Impairments	Foreign currency translation	Net 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⁾	14.0	—	—	—	14.0
Net balance at December 31, 2019	\$ 622.3	\$ (41.8)	\$ —	\$ 0.1	\$ 580.6

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

⁽²⁾Allocated to the Runoff & Other segment.

<i>(Millions)</i>	2018				
	Gross balance	Accumulated amortization	Impairments	Foreign currency translation	Net balance
Customer relationships – finite life ⁽¹⁾	\$ 17.0	\$ (2.2)	\$ —	\$ —	\$ 14.8
Distribution relationships – finite life ⁽¹⁾	151.0	(15.8)	—	—	135.2
Goodwill – indefinite life ⁽¹⁾	400.7	—	—	(0.1)	400.6
Insurance licenses – indefinite life ⁽²⁾	8.1	—	—	—	8.1
Technology – finite life ⁽¹⁾	15.5	(4.3)	—	—	11.2
Trade names – finite life ⁽¹⁾	16.0	(3.7)	—	—	12.3
Trade names – indefinite life ⁽¹⁾	27.0	—	(13.0)	—	14.0
Net balance at December 31, 2018	\$ 635.3	\$ (26.0)	\$ (13.0)	\$ (0.1)	\$ 596.2

⁽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, 2019, 2018, and 2017 was \$15.8 million, \$15.8 million, and \$10.2 million, respectively.

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

<i>(Millions)</i>	
2020	\$ 15.8
2021	15.8
2022	14.6
2023	13.8
2024	13.2
2025 and thereafter	84.5
Total remaining amortization expense	\$ 157.7

The estimated remaining useful lives of these intangible assets range from 2.3 years to 19.9 years.

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Note 11. Debt and standby letters of credit facilities

Sirius Group's debt outstanding as of December 31, 2019 and 2018 consisted of the following:

<i>(Millions)</i>	December 31, 2019	Effective rate ⁽¹⁾	December 31, 2018	Effective rate ⁽¹⁾
2017 SEK Subordinated Notes, at face value	\$ 295.0	4.0%	\$ 307.6	3.8%
Unamortized issuance costs	(3.8)		(4.0)	
2017 SEK Subordinated Notes, carrying value	291.2		303.6	
2016 SIG Senior Notes, at face value	400.0	4.7%	400.0	4.7%
Unamortized discount	(2.3)		(2.6)	
Unamortized issuance costs	(3.7)		(4.2)	
2016 SIG Senior Notes, carrying value	394.0		393.2	
Total debt	\$ 685.2		\$ 696.8	

⁽¹⁾Effective rate considers the effect of the debt issuance costs.

A schedule of contractual repayments of Sirius Group's debt as of December 31, 2019 follows:

<i>(Millions)</i>	December 31, 2019
Due in one year or less	\$ —
Due in one to three years	—
Due in three to five years	—
Due after five years	695.0
Total	\$ 695.0

2017 SEK Subordinated Notes

On September 22, 2017, Sirius Group issued floating rate callable subordinated notes denominated in Swedish kronor ("SEK") in the amount of SEK 2,750.0 million (or \$346.1 million on date of issuance) at a 100% issue price ("2017 SEK Subordinated Notes"). The 2017 SEK Subordinated Notes were issued in an offering that was exempt from the registration requirements of the Securities Act of 1933. The 2017 SEK Subordinated Notes bear interest on their principal amount at a floating rate equal to the applicable Stockholm Interbank Offered Rate ("STIBOR") for the relevant interest period plus an applicable margin, payable quarterly in arrears on March 22, June 22, September 22, and December 22 in each year commencing on December 22, 2017, until maturity in September 2047.

Beginning on September 22, 2022, the 2017 SEK Subordinated Notes may be redeemed, in whole or in part, at Sirius Group's option. In addition, within 90 days following the occurrence of a Specified Event (as defined below), the 2017 SEK Subordinated Notes may be redeemed, in whole but not in part, at Sirius Group's option. "Specified Event" means (a) an "Additional Amounts Event" in connection with a change in laws, rules or regulations as a result of which Sirius Group is obligated to pay additional amounts on the notes in respect of any withholding or deduction for taxes, (b) a "Tax Event" in connection with a change in laws, rules or regulations as a result of which interest on the notes is no longer fully deductible by Sirius Group for income tax purposes in the applicable jurisdiction (to the extent that such interest was so deductible as of the time of such Tax Event), (c) a "Rating Methodology Event" in connection with a change in, or clarification to, the rating methodology of Standard & Poor's or Fitch that results in a materially unfavorable capital treatment of the notes, or (d) a "Regulatory Event" in connection with a change in, or clarification to, applicable supervisory regulations that results in the notes no longer qualifying as Tier 2 Capital.

Sirius Group incurred \$4.6 million in expenses related to the issuance of the 2017 SEK Subordinated Notes (including SEK 27.5 million, or \$3.5 million, in underwriting fees), which have been deferred and are being recognized into interest expense over the life of the 2017 SEK Subordinated Notes.

A portion of the proceeds were used to fully redeem the outstanding \$250.0 million Sirius International Group, Ltd. Preference Shares. (See **Note 15**).

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Taking into effect the amortization of all underwriting and issuance expenses, and applicable STIBOR, the 2017 SEK Subordinated Notes yielded an effective rate of approximately 4.0% and 3.8% for the years ended December 31, 2019 and 2018, respectively. Sirius Group recorded \$11.9 million, \$11.7 million and \$3.3 million of interest expense, inclusive of amortization of issuance costs, on the 2017 SEK Subordinated Notes for the years ended December 31, 2019, 2018, and 2017, respectively.

2016 SIG Senior Notes

On November 1, 2016, Sirius Group issued \$400.0 million face value of senior unsecured notes ("2016 SIG Senior Notes") at an issue price of 99.209% for net proceeds of \$392.4 million after taking into effect both deferrable and non-deferrable issuance costs. The SIG Senior Notes were issued in an offering that was exempt from the registration requirements of the Securities Act of 1933. The 2016 SIG Senior Notes bear an annual interest rate of 4.6%, payable semi-annually in arrears on May 1 and November 1, in each year commencing on May 1, 2017, until maturity in November 2026.

Sirius Group incurred \$5.1 million in expenses related to the issuance of the 2016 SIG Senior Notes (including \$3.4 million in underwriting fees), which have been deferred and are being recognized into interest expense over the life of the 2016 SIG Senior Notes.

Taking into effect the amortization of the original issue discount and all underwriting and issuance expenses, the 2016 SIG Senior Notes yield an effective rate of approximately 4.7% per annum. Sirius Group recorded \$19.1 million of interest expense, inclusive of amortization of issuance costs on the 2016 SIG Senior Notes for each the years ended December 31, 2019, 2018, and 2017.

Old Lyme Note

On April 25, 2017, Sirius Group made a payment of \$3.8 million to retire the Old Lyme Note that was originally issued as part of the acquisition of the runoff loss reserve portfolio of Old Lyme Insurance Company Ltd. As part of the acquisition in 2011, Sirius Group entered into a five-year \$2.1 million note that was subject to upward adjustments for favorable loss reserve development (up to 50.0% of \$6.0 million) and downward adjustments for any adverse loss reserve development. From inception, Sirius Group had favorable loss reserve development of \$3.4 million on the Old Lyme loss reserve position that resulted in an increase of \$1.7 million on the Old Lyme Note.

Standby Letter of Credit Facilities

On November 6, 2019, Sirius International agreed to renew two standby letter of credit facility agreements totaling \$125 million to provide capital support for Lloyd's Syndicate 1945. The first letter of credit is a \$90 million facility with Nordea Bank Abp, London Branch, which is issued on an unsecured basis. The second letter of credit is a \$35 million facility with DNB Bank ASA, Sweden Branch, \$25 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 International has other secured letter of credit and trust arrangements with various financial institutions to support its insurance operations. As of December 31, 2019 and 2018, respectively, these secured letter of credit and trust arrangements were collateralized by pledged assets and assets in trust of SEK 3.4 billion and SEK 2.9 billion, or \$363.3 million and \$321.3 million (based on the December 31, 2019 and December 31, 2018 SEK to USD exchange rates). As of December 31, 2019 and 2018, respectively, Sirius America's trust arrangements were collateralized by pledged assets and assets in trust of \$57.7 million and \$56.2 million. As of December 31, 2019 and 2018, respectively, Sirius Bermuda Insurance Company's ("Sirius Bermuda") trust arrangements were collateralized by pledged assets and assets in trust of \$784.0 million and \$319.7 million.

Revolving Credit Facility

In February 2018, Sirius Group, through its indirectly wholly-owned subsidiary Sirius International Group, Ltd., entered into a three-year, \$300 million senior unsecured revolving credit facility (the "Facility"). The Facility provides access to loans for working capital and general corporate purposes, and letters of credit to support obligations under insurance and reinsurance agreements and retrocessional agreements. The Facility is subject to various affirmative, negative and financial covenants that Sirius Group considers to be customary for such borrowings, including certain minimum net worth, maximum debt to capitalization and financial strength rating standards. As of December 31, 2019, there were no outstanding borrowings under the Facility.

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Debt and Standby Letter of Credit Facility Covenants

As of December 31, 2019, Sirius Group was in compliance with all of the covenants under the 2017 SEK Subordinated Notes, the 2016 SIG Senior Notes, the Nordea Bank Finland Abp, London Branch facility, and the DNB Bank ASA, Sweden Branch facility. In addition, as of December 31, 2019, Sirius Group was in compliance with all of the covenants under the Facility.

Interest

Total interest expense incurred by Sirius Group for its indebtedness was \$31.0 million, \$30.8 million, and \$22.4 million in 2019, 2018, and 2017. Total interest paid by Sirius Group for its indebtedness was \$29.9 million, \$30.0 million, and \$22.0 million in 2019, 2018, and 2017, respectively.

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, Shanghai (China), Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

Sirius Group's net income (loss) before income taxes for the years ended December 31, 2019, 2018, and 2017 was generated in the following domestic and foreign jurisdictions:

<i>(Millions)</i>	2019	2018	2017
Domestic:			
Bermuda	\$ (32.8)	\$ 62.7	\$ (95.0)
Foreign:			
U.S.	(5.4)	(10.1)	(22.4)
U.K.	(29.1)	(14.9)	(27.0)
Sweden	(22.4)	(74.2)	(26.1)
Luxembourg	56.0	60.3	43.4
Netherlands	—	(0.1)	18.2
Other	—	—	(1.0)
Total (loss) income before income taxes	\$ (33.7)	\$ 23.7	\$ (109.9)

The total income tax (expense) benefit for the years ended December 31, 2019, 2018, and 2017 consisted of the following:

<i>(Millions)</i>	2019	2018	2017
Current tax (expense):			
U.S. Federal	\$ (1.6)	\$ (7.0)	\$ (0.9)
State	(2.0)	(2.2)	(2.0)
Non-U.S.	(1.5)	(19.8)	(3.6)
Total current tax benefit (expense)	(5.1)	(29.0)	(6.5)
Deferred tax (expense):			
U.S. Federal	(8.8)	14.3	(8.7)
State	0.9	0.2	(2.0)
Non-U.S.	1.1	(25.9)	(9.2)
Total deferred tax (expense)	(6.8)	(11.4)	(19.9)
Total income tax (expense)	\$ (11.9)	\$ (40.4)	\$ (26.4)

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Effective Rate Reconciliation

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

<i>(Millions)</i>	2019	2018	2017
Tax benefit (expense) at the statutory rate	\$ 7.2	\$ (5.2)	\$ 24.2
Differences in taxes resulting from:			
Change in valuation allowance	(20.7)	2.3	1.4
Non-Sweden earnings	(19.6)	2.3	(18.4)
Tax reserve adjustments	13.9	(42.0)	(0.7)
Foreign tax credits	12.2	10.8	2.2
Results from internal restructuring	7.4	(9.1)	—
Tax rate change enacted in Luxembourg	(5.8)	—	0.4
State taxes expense	(1.7)	(2.9)	(0.7)
Withholding taxes	(1.7)	(1.9)	(0.8)
Tax rate change—other	(1.6)	0.1	(29.7)
Tax on Safety Reserve	(0.6)	(15.3)	—
Tax rate change enacted in Sweden	(0.2)	15.4	—
Section 197 Intangible as result of internal restructuring	—	6.9	—
Other, net	(0.7)	(1.8)	(4.3)
Total income tax (expense) on pre-tax earnings	\$ (11.9)	\$ (40.4)	\$ (26.4)

The non-Sweden component of pre-tax (loss) income was \$(11.3) million, \$97.9 million, and \$(83.8) million for the years ended December 31, 2019, 2018, and 2017, 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 2019-2025, 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 Group 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, 2019 or December 31, 2018.

Sirius Group 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 Group's subsidiaries, as dividends or otherwise, they may be subject to income or withholding taxes. Sirius Group 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 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 national, state, and local governments totaled \$9.3 million, \$19.1 million, and \$16.7 million for the years ended December 31, 2019, 2018, and 2017, respectively.

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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 Group's deferred tax assets and liabilities follows:

<i>(Millions)</i>	2019	2018
Deferred income tax assets related to:		
Non-U.S. net operating loss carry forwards	\$ 211.1	\$ 249.8
Tax credit carry forwards	41.6	28.7
U.S. federal net operating loss and capital carry forwards	40.2	33.8
Loss reserve discount	6.6	7.3
Unearned premiums	4.3	3.1
Investment basis differences	3.6	—
Foreign currency translation on investments and other assets	3.4	0.8
Incentive compensation and benefit accruals	2.8	1.9
Deferred Interest	2.6	2.1
Allowance for doubtful accounts	1.5	1.4
Other items	3.9	2.7
Total gross deferred income tax assets	321.6	331.6
Valuation allowance	(79.8)	(64.3)
Total adjusted deferred tax asset	241.8	267.3
Deferred income tax liabilities related to:		
Safety reserve (See Note 18)	239.4	261.1
Intangible assets	25.7	28.7
Deferred acquisition costs	4.6	3.1
Net unrealized investment gains	3.7	0.3
Purchase Accounting	3.6	3.0
Investment basis differences	—	2.4
Other items	4.0	3.6
Total deferred income tax liabilities	281.0	302.2
Net deferred tax (liability) asset	\$ (39.2)	\$ (34.9)

Sirius Group'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 \$39.2 million net deferred tax liability as of December 31, 2019, \$25.1 million relates to net deferred tax assets in U.S. subsidiaries, \$141.6 million relates to net deferred tax assets in Luxembourg subsidiaries, and \$205.9 million relates to net deferred tax liabilities in Sweden subsidiaries.

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Net Operating Loss and Capital Loss Carryforwards

Net operating loss and capital loss carryforwards as of December 31, 2019, the expiration dates, and the deferred tax assets thereon are as follows:

<i>(Millions)</i>	2019				
	United States	Luxembourg	Sweden	U.K.	Total
2019-2023	\$ 1.5	\$ —	\$ —	\$ —	1.5
2024-2038	171.4	0.1	—	—	171.5
No expiration date	21.5	764.9	230.1	97.0	1,113.5
Total	194.4	765.0	230.1	97.0	1,286.5
Gross deferred tax asset	40.2	190.8	3.8	16.5	251.3
Valuation allowance	—	(50.2)	—	(16.5)	(66.7)
Net deferred tax asset	\$ 40.2	\$ 140.6	\$ 3.8	\$ —	184.6

Sirius Group expects to utilize net operating loss carryforwards in Luxembourg of \$573.3 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 \$115.4 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, \$9.6 million will expire between 2022 and 2025 and \$94.8 million will expire between 2030 and 2032. The SRLY limited losses will expire between 2036 and 2037. Sirius Group expects to utilize all of the U.S. net operating loss carryforwards.

Foreign Tax Credits

As of December 31, 2019, there are U.S. foreign tax credits carryforwards available of \$16.4 million, of which an insignificant amount expires in 2020 and 2021, and the remaining will begin to expire in 2022. As of December 31, 2019, 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 \$25.1 million, which Sirius Group expects to use, and will expire between 2021 and 2024.

Valuation Allowance

Sirius Group 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 Group 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 Group's deferred tax assets and tax expense.

Of the \$79.8 million valuation allowance as of December 31, 2019, \$50.2 million relates to net operating loss carryforwards in Luxembourg subsidiaries, \$16.5 million relates primarily to net operating loss carryforward in the United Kingdom, \$13.0 million relates to foreign tax credits in the United States and \$0.1 million relates to net operating losses in a Belgium subsidiary.

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 Group 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.

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

(Millions)	Permanent differences ⁽¹⁾	Temporary differences ⁽²⁾	Interest and penalties ⁽³⁾	Total
Balance at January 1, 2017	\$ 24.2	\$ 4.1	\$ 0.2	\$ 28.5
Changes in prior year tax positions	0.2	(0.1)	0.1	0.2
Tax positions taken during the current year	3.8	(2.2)	—	1.6
Lapse in statute of limitations	(0.5)	—	—	(0.5)
Settlements with tax authorities	(0.3)	—	(0.2)	(0.5)
Balance at December 31, 2017	\$ 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	(1.7)	—	34.5
Lapse in statute of limitations	—	—	—	—
Settlements with tax authorities	(0.1)	—	—	(0.1)
Balance at December 31, 2018	\$ 64.9	\$ 0.1	\$ 0.2	\$ 65.2
Changes in prior year tax positions	(17.1)	—	—	(17.1)
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

⁽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 Group determines in the future that its reserves for unrecognized tax benefits on permanent differences and interest and penalties are not needed, the reversal of \$47.2 million of such reserves as of December 31, 2019 would be recorded as an income tax benefit and would impact the effective tax rate. If Sirius Group 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, 2019 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 Group'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 Group classifies all interest and penalties on unrecognized tax benefits as part of income tax expense. During the years ended December 31, 2019, 2018, and 2017, Sirius Group recognized \$0.0 million, \$0.1 million, and \$(0.1) million in interest income (expense), respectively, net of any tax benefit. The balance of accrued interest as of December 31, 2019 and 2018 is \$0.2 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 Group 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 Group has appealed. Sirius Group 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, 2019, the total amount of such reserve was \$45.1 million.

In connection with this matter, Sirius Group has also taken into account the Stock Purchase Agreement ("SPA") by which Sirius Group 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 Sirius Group and the buyer for, among other things, (1) any additional tax liability in excess of Sirius Group's accounting for uncertain tax positions for tax periods prior to the sale of Sirius Group to CMIG International, and (2) an impairment in Sirius Group's net deferred tax assets resulting from a final determination by a tax authority. While Sirius Group is continuing to challenge 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 Group's operating results or balance sheet in connection with these uncertain tax positions or the related indemnification.

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With few exceptions, Sirius Group is no longer subject to U.S. federal, state or non-U.S. income tax examinations by tax authorities for years before 2015.

Note 13. Derivatives

Interest Rate Cap

Sirius Group entered into an interest rate swap ("Interest Rate Cap") with two financial institutions where it paid an upfront premium and in return receives a series of quarterly payments based on the 3-month London Interbank Offered Rate ("LIBOR") at the time of payment. The Interest Rate Cap does not qualify for hedge accounting. Changes in fair value are recognized as unrealized gains or losses and are presented within Other revenue. The fair value of the interest rate cap has been estimated using a non-binding single broker quote and, accordingly, has been classified as a Level 3 measurement as of December 31, 2019 and 2018. Collateral held is recorded within short-term investments with an equal amount recognized as a liability to return collateral. Sirius Group's liability to return that collateral is based on the amounts provided by the counterparties and investment earnings thereon. As of December 31, 2019 and 2018, Sirius Group held collateral balances of \$0.2 million and \$0.3 million, respectively.

Foreign Currency Swaps

Sirius Group executes foreign currency swaps to manage foreign currency exposure. The foreign currency swaps 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 swaps has been estimated using a non-binding single broker quote and accordingly, has been classified as a Level 3 measurement as of December 31, 2019 and 2018. Sirius Group does not provide or hold any collateral associated with the swaps.

Foreign Currency Forward

Sirius Group executes foreign currency forwards to manage currency exposure against a foreign currency investment. The foreign currency forwards are not 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 forwards are estimated using a single broker quote and accordingly, classified as a Level 3 measurement. Sirius Group did not provide or hold any collateral associated with the forwards.

Weather Derivatives

Sirius Group 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 Group's weather and weather contingent derivatives are not designed to meet the criteria for hedge accounting under GAAP. Sirius Group 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 Group'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, 2019 and 2018. Sirius Group does not provide or hold any collateral associated with the weather derivatives.

Equity Futures Contracts

Sirius Group 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 Group did not provide or hold any collateral associated with the equity warrants.

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Equity Put Options

Sirius Group 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.

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, 2019 and 2018:

<i>(Millions)</i>	2019			2018		
	Notional value	Asset derivative at fair value ⁽¹⁾	Liability derivative at fair value ⁽²⁾	Notional value	Asset derivative at fair value ⁽¹⁾	Liability derivative at fair value ⁽²⁾
Derivatives not designated as hedging instruments						
Interest rate cap	\$ 250.0	\$ —	\$ —	\$ 250.0	\$ 0.2	\$ —
Foreign currency swaps	\$ 90.0	\$ —	\$ 3.6	\$ 45.0	\$ —	\$ 4.6
Foreign currency forwards	\$ (30.0)	\$ 2.7	\$ 5.7	\$ —	\$ —	\$ —
Weather derivatives	\$ 110.7	\$ 7.0	\$ —	\$ 150.5	\$ 3.9	\$ —
Equity futures contracts	\$ 34.5	\$ —	\$ —	\$ —	\$ —	\$ —
Equity warrants	\$ 0.4	\$ 0.4	\$ —	\$ —	\$ —	\$ —
Equity put options	\$ 31.0	\$ 1.3	\$ 0.2	\$ 6.2	\$ —	\$ 0.5

⁽¹⁾Asset derivatives are classified within Other assets within the Company's Consolidated Balance Sheets of December 31, 2019 and 2018.

⁽²⁾Liability derivatives are classified within Other liabilities within the Company's Consolidated Balance Sheets of December 31, 2019 and 2018.

The following table summarizes information on the classification and net impact on earnings, recognized in the Company's Consolidated Statements of (Loss) relating to derivatives during the years ended December 31, 2019, 2018, and 2017:

<i>(Millions)</i>	Classification of gains (losses) recognized in earnings			
		2019	2018	2017
Derivatives not designated as hedging instruments				
Interest rate cap	Other revenues	\$ (0.2)	\$ 0.1	\$ (1.5)
Foreign currency swaps	Net foreign exchange gains	\$ 4.2	\$ 6.9	\$ (11.3)
Foreign currency forwards	Net foreign exchange gains	\$ (10.4)	\$ —	\$ (0.3)
Weather derivatives	Other revenues	\$ (1.1)	\$ 5.2	\$ (1.5)
Equity futures contracts	Net realized investment gains (losses)	\$ (1.7)	\$ 1.7	\$ —
Equity put options	Net realized investment gains (losses)	\$ (0.8)	\$ —	\$ —
Equity put options	Net unrealized investment gains (losses)	\$ (0.8)	\$ —	\$ —
Equity warrants	Net unrealized investment gains (losses)	\$ 0.4	\$ —	\$ —

Note 14. Employee benefit plans and compensation plans

Employee Benefit Plans

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

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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. Skandia Liv held 94% of total plan assets in both 2019 and 2018. Allianz held 6% of total plan assets in both 2019 and 2018. 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 2017 through 2019 was 7.0%. 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, 2019 and 2018 are as follows:

	2019	2018
International equities	13.0%	11.4%
Swedish equities	8.9%	7.5%
Swedish nominal bonds	40.7%	40.3%
Real estate	10.2%	11.2%
Private equity	9.4%	10.4%
Other	17.8%	19.2%

The assumptions used to determine Swedish benefit obligations for the years ended December 31, 2019 and 2018 are as follows:

	2019	2018
Discount rate	2.3%	2.5%
Increase in compensation levels rate	3.3%	3.2%
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, 2019 and 2018 are as follows:

	2019	2018
Discount rate	1.9%	1.7%
Increase in compensation levels rate	2.0%	2.0%

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The German actuaries follow the Germany industry Richttafeln 2018 G mortality rates and standard turnover values for the years ended December 31, 2019 and 2018. 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, 2019 and 2018:

<i>(Millions)</i>	2019	2018
Change in benefit obligation		
Projected benefit obligation, beginning of year	\$ 17.5	\$ 17.4
Service cost	1.5	1.0
Interest cost	0.4	0.4
Actuarial losses	2.9	0.6
Benefit payments	(1.2)	(0.4)
Tax payments	(0.3)	(0.2)
Currency revaluation effect	(0.6)	(1.3)
Projected benefit obligation, end of year	<u>20.3</u>	<u>17.5</u>
Change in plan assets		
Fair value of plan assets, beginning of year	16.4	16.1
Employer contributions	1.4	1.2
Benefit payments	(0.4)	(0.3)
Interest income	1.0	0.8
Currency revaluation effect	(0.6)	(1.4)
Fair value of plan assets, end of year	<u>17.7</u>	<u>16.4</u>
Funded status at end of year⁽¹⁾	\$ (2.6)	\$ (1.1)

⁽¹⁾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. At December 31, 2018, the Swedish plan had a funding status of \$3.0 million and the German plan had a funding status of \$(4.1) million.

Under the Swedish plan, a 100 basis point discount rate decrease would increase the 2019 defined benefit obligation by \$2.7 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 \$0.6 million.

The accumulated benefit obligation for the years ended December 31, 2019 and 2018 was \$20.3 million and \$17.5 million, respectively.

The components of net periodic pension expense for the years ended December 31, 2019, 2018, and 2017 are as follows:

<i>(Millions)</i>	2019	2018	2017
Service cost	\$ (0.9)	\$ (1.2)	\$ (0.8)
Interest cost	0.1	0.1	2.2
Actuarial (loss)	(0.5)	(0.8)	(0.3)
Net periodic pension expense	\$ (1.3)	\$ (1.9)	\$ 1.1

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The employer benefit payments/settlements for the years ended December 31, 2019 and 2018 were \$0.3 million and \$0.4 million, respectively. As of December 31, 2019, the projected benefit payments required for the defined pension benefits plans are as follows:

<i>(Millions)</i>	December 31, 2019
2020	\$ 0.5
2021	0.4
2022	0.4
2023	0.4
2024	0.5
2024-2028	3.1
Total benefit payments required	\$ 5.3

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, 2019 and 2018, the projected benefit obligation of Sirius International's various benefit plans was \$20.3 million and \$17.5 million, and the funded status was \$(2.6) million and \$(1.1) million, respectively. Sirius International recognized expenses related to these various plans of \$8.3 million, \$7.6 million, and \$4.9 million in 2019, 2018, and 2017, 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 \$0.6 million, \$0.5 million and \$0.4 million during the years ended December 31, 2019 and 2018, and 2017, 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 the first 2% and 50% of the next 4% 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 \$0.8 million, \$0.8 million, and \$1.3 million in 2019, 2018, and 2017, 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 2019) and contingent upon Sirius Group's performance. During 2019 and 2018, there were no variable contributions to the SIHC 401(k) Plan. Total expense for variable contributions to the SIHC 401(k) Plan was \$0.3 million in 2017.

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 and \$0.6 million during 2019 and 2018, respectively, and \$0.3 million from the date of acquisition to December 31, 2017.

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 2019 and 2018, respectively, and \$0.1 million from the date of acquisition to December 31, 2017.

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Share-Based and Other Long-Term Incentive Compensation Plans

Sirius Group'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, 2019, Sirius Group's share-based compensation awards consist of performance shares units, restricted share units, restricted stock and options.

2018 Omnibus Incentive Plan

The 2018 Omnibus Incentive Plan ("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, 2019, the total number of shares available for issuance under the share-based awards was 8,416,533, including shares that remained available under 2016 Long Term Incentive Plan.

2019 Long Term Incentive Awards

In 2019, the Company granted 2019 Long Term Incentive Awards ("2019 LTI") to certain employees which are comprised of Restricted Share Units ("RSUs") and Performance Share Units ("PSUs"). The PSUs provide the opportunity for the participant to receive shares of the Company's common stock based on Sirius Group achieving specified performance goals at the end of a three-year performance period. These performance goals are pre-established by the Sirius Group 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 Group'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 Group's common stock on the grant date of the award. Grant date fair value of the awards was \$12.75 per unit.

Supplemental Awards

The Company has also granted supplemental incentive compensation awards ("Supplemental Awards") to certain members of 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.

Option to Purchase Shares

A block of stock options exercisable for 1,374,945 shares was issued as part of the 2019 LTI. The options expire five years from the grant date and have a three-year service condition. The fair value of the stock options estimated on the grant date using the Black-Scholes model was determined to be \$2.8 million. The exercise price of the stock options is \$12.75.

The following assumptions were used to value stock options granted:

Expected annual dividend yield	1.75%
Expected volatility ⁽¹⁾	20%
Risk-free interest rate ⁽²⁾	2.51%
Expected term ⁽³⁾	4 years

⁽¹⁾Expected volatility was estimated based on the historical volatility of the shares of a peer group of companies.

⁽²⁾Risk free rate was based on US 5-year semi-annual treasury rate interest rate.

⁽³⁾The Company used the simplified method for estimating the expected term.

IPO Incentive Awards

In connection with the Merger, the Company 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 the Company's common stock in order to be issued corresponding PSUs. On February 27, 2019, Sirius Group 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.

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PSUs vest 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 begin 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 remain 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 Group's common stock on the grant date of the award or \$12.75 per unit.

Employee Share Purchase Plan

Effective August 22, 2018, the Company established an ESPP which allowed all employees of the Company and its subsidiaries to purchase up to 1,000, but no less than 100 shares of Sirius Group in connection with the transaction with Easterly. The purchase price of each common share 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, 2019 and 2018 total \$0.4 million and \$0.9 million, respectively.

2016 Long Term Incentive Plan

Sirius Group 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 Group becoming public, Sirius Group common shares, at the discretion of the 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 Compensation Committee of the Board of Directors upon granting of awards.

There was no 2019 award issued under the 2016 Long Term Incentive Plan ("2016 LTIP") as it was replaced by the 2018 Omnibus Incentive 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.

During the year ended December 31, 2019, Sirius Group paid \$3.3 million to employees for share-based awards. No payments were made for share-based awards during the years ended December 31, 2018 and 2017.

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

<i>(Millions)</i>		2019		2018		2017
PSUs - IPO Incentive Awards ⁽¹⁾	\$	0.7	\$	1.5	\$	—
PSUs - 2019 LTI		0.8		—		—
RSUs		5.8		—		—
Stock Options		0.8		—		—
LTIP ⁽²⁾⁽³⁾		(3.4)		1.0		—
Total share-based compensation expense - pre-tax	\$	4.7	\$	2.5	\$	—

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

⁽²⁾Legacy 2016 LTIP includes two open cycles in 2019 and three open cycles in 2018.

⁽³⁾For the year ended December 31, 2017, \$3.9 of expense associated with phantom share awards has been excluded.

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(Millions)		2019		2018		2017
PSUs - IPO Incentive Awards ⁽¹⁾	\$	0.6	\$	1.2	\$	—
PSUs - 2019 LTI		0.7		—		—
RSUs		4.6		—		—
Stock Options		0.6		—		—
LTIP ⁽²⁾⁽³⁾		(2.7)		0.8		—
Total share-based compensation expense - after-tax	\$	3.8	\$	2.0	\$	—

⁽¹⁾2019 includes a reversal of 2018 accrual of \$1.2 related to modification of the award.

⁽²⁾Legacy 2016 LTIP includes two open cycles in 2019 and three open cycles in 2018.

⁽³⁾For the year ended December 31, 2017, expense associated with phantom share awards has been excluded.

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, 2019									
	PSUs - IPO Incentive Awards		PSUs - 2019 LTI	RSUs	Stock Options	LTIP				
Unrecognized compensation cost related to unvested awards	\$	4.0	\$	2.0	\$	11.8	\$	2.0	\$	0.7
Weighted average recognition period (years)		2.0 years		2.0 years		1.9 years		2.2 years		1.0 year

The following table summarizes outstanding share-settled awards as of the end of the year ended December 31, 2019:

As of and for the year ended December 31, 2019	Number of Shares				
	PSUs - IPO Incentive Awards	PSUs - 2019 LTI	RSUs	Stock Options	LTIP ⁽¹⁾
Unvested, beginning of the year	—	—	—	—	1,765,637
Granted ⁽²⁾	756,183	408,370	1,428,185	1,374,945	—
Vested	—	—	—	—	33,307
Forfeited ⁽³⁾	201,020	17,234	74,333	—	861,859
Unvested, end of the year	555,163	391,136	1,353,852	1,374,945	870,471

⁽¹⁾Includes 2017 and 2018 legacy LTIP award cycles. Unearned portion of the 2017 LTIP was included in forfeited shares.

⁽²⁾IPO Incentive Award was included in the granted line due to its modification during 2019.

⁽³⁾Shares that are unearned as a result of missing minimum performance indicators are included in forfeited shares.

Non-Employee Compensation

Certain non-employee independent directors received share-based compensation in the form of restricted shares which vest after one year of issuance. During 2019 and 2018, Sirius Group granted non-employee directors 37,039 and 24,475 restricted shares, and recognized share-based compensation expense of \$0.3 million and \$0.3 million, respectively.

Transaction and Retention Bonuses

From time to time, the Company may issue cash-settled retention awards to its employees. In 2019, Sirius Group issued retention awards to certain key employees of the Company that will vest and be paid in equal proportions on or prior to 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 \$10.7 million, of which, during the year ended December 31, 2019, the Company recognized \$2.1 million in General and administrative expenses.

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Under the SPA, bonus arrangements for certain employees of Sirius Group were granted. Certain of these bonus arrangements were paid to bonus recipients as compensation for services performed before the sale date ("transaction bonuses"). In addition, certain employees received additional bonus payments under the bonus arrangements after the 12th month and 20th month anniversary of the sale date ("retention bonuses"). Under the SPA, White Mountains agreed to pay the Company an amount equal to the transaction bonuses plus the employer-paid portion of employment or similar taxes less tax benefits attributable to the payment. In addition, White Mountains also agreed to pay the Company for the retention bonuses under the same terms as the transaction bonuses shortly after Sirius Group paid those amounts to the employees. During 2017, Sirius Group recorded \$36.9 million in General and administrative expenses in connection with the transaction bonuses. The Company was paid \$25.3 million and \$30.5 million in 2018, and 2017, respectively, from its former parent for the transaction and retention bonuses after employment costs and taxes, which was recorded as Additional paid-in surplus. During 2019, the Company was not paid any amount from its former parent for the transaction and retention bonuses. During the years ended December 31, 2018 and 2017, Sirius Group recorded \$13.3 million and \$17.6 million, respectively, in General and administrative expenses in connection with these retention bonuses.

In addition, for the years ended December 31, 2018 and 2017, under the SPA, White Mountains paid Sirius Group for certain incentive awards that the Company paid to its employees, with \$1.4 million and \$2.5 million, respectively, recorded as Additional paid-in surplus. No payment from White Mountains was received by Sirius Group for the incentive awards in 2019.

Note 15. Common shareholders' equity, mezzanine equity, and non-controlling interests

Common shareholder's equity

The authorized share capital of the Company consists of 500,000,000 Common shares, \$0.01 par value per share, and 15,000,000 Series B preference shares, \$0.01 par value per share.

The following table presents changes in the Company's issued and outstanding Common shares for the years ended December 31, 2019, 2018, and 2017, respectively:

	2019	2018	2017
Common shares:			
Shares issued and outstanding, beginning of year	115,151,251	120,000,000	120,000,000
Issuance of shares (See Note 3)	148,090	4,670,531	—
Shares redeemed (See Note 3)	—	(9,519,280)	—
Shares issued and outstanding, end of year	115,299,341	115,151,251	120,000,000

Redeemed shares

On November 5, 2018, the Company repurchased 9,519,280 common shares from CM Bermuda in connection with the Merger ("redeemed shares") for \$164.0 million. (See **Note 3**.) The redeemed shares were canceled and the cost of the redeemed shares are included as a reduction to Additional paid-in surplus.

Dividends

The Company did not pay any dividends during the years ended December 31, 2019, 2018, or 2017.

Mezzanine equity

Series B Preference Shares

On November 5, 2018, in connection with the closing of the Merger, Sirius Group issued 11,901,670 of the 15,000,000 authorized Series B preference shares, with a par value of \$0.01 per share, as part of the Sirius Group Private Placement. (See **Note 3**.)

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The Series B preference shares rank senior to common shares with respect to dividend rights, rights of liquidation, winding-up, or dissolution of the Company and junior to all of the Company's existing and future policyholder obligations and debt obligations. Without the consent of the holders of the Series B preference shares, the Company may not issue any class or series of shares that rank senior or pari passu with the Series B preference shares as to the payment of dividends or as to distribution of assets upon any voluntary or involuntary liquidation, winding-up or dissolution of the Company, if the aggregate gross proceeds from the issuance of all such senior or pari passu shares equals or exceeds \$100 million.

The Company adjusts the carrying value of the Series B preference shares to equal the redemption value at the end of each reporting period. At December 31, 2019 and 2018, the balance of the Series B preference shares was \$223.0 million and \$232.2 million, respectively.

Series A Redeemable Preference Shares

In connection with the acquisition of IMG, the Company issued mandatorily convertible stock in the form of Series A redeemable preference shares as a portion of the consideration paid. (See **Note 3**.) The Company issued 100,000 of the 150,000 authorized Series A redeemable preference shares to the seller of IMG. Each Series A redeemable preference share has a liquidation preference per share of \$1,000.

On November 5, 2018, in connection with the closing of the Merger, the Company redeemed the 100,000 outstanding shares of Series A redeemable preference shares for \$95.0 million. (See **Note 3**.) Sirius Group recorded a \$13.8 million gain on the redemption of the Series A redeemable preference shares.

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, 2019 and 2018, Sirius Group's balance sheet included \$2.4 million and \$1.7 million, respectively, in non-controlling interests.

The following table shows the change in non-controlling interest for the years ended December 31, 2019, 2018, and 2017:

<i>(Millions)</i>	Total
Non-controlling interests as of December 31, 2016	\$ 251.3
Net income attributable to non-controlling interests	13.7
Dividends to non-controlling interests	(14.1)
Other, net	(250.7)
Non-controlling interests as of December 31, 2017	\$ 0.2
Net income attributable to non-controlling interests	1.4
Dividends to non-controlling interests	—
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)
Other, net	—
Non-controlling interests as of December 31, 2019	\$ 2.4

SIG Preference Shares

On October 25, 2017, the Company's indirect wholly-owned subsidiary, Sirius International Group, Ltd., redeemed all of its outstanding 250,000 Fixed/Floating Perpetual Non-Cumulative Preference Shares ("SIG Preference Shares"). The redemption price equaled the \$1,000 liquidation preference per preference share. Sirius Group accounted for the SIG Preference Shares as a conditionally redeemable instrument within Non-controlling interests.

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Alstead Re

As of December 31, 2019 and 2018, Sirius Group recorded non-controlling interest of \$2.3 million and \$1.7 million, respectively, in Alstead Re Insurance Company ("Alstead Re"). (See **Note 20**.)

Note 16. Earnings per share

Basic earnings (loss) per share is computed by dividing net (loss) available to Sirius Group common shareholders by the weighted-average number of common shares outstanding during the period. Diluted earnings per share is computed by dividing net income available to Sirius Group common shareholders by the weighted-average number of common shares outstanding adjusted to give effect to potentially dilutive securities.

Sirius Group has issued preference shares that qualify as participating securities which requires the application of the two-class method to compute both basic and diluted earnings per share. The two-class method is an earnings allocation formula that treats participating securities as having rights to earnings that would otherwise have been available to common shareholders. The preference shares Sirius Group has issued have no obligation to absorb losses of the Company in periods of net (loss).

The following table sets forth the computation of basic and diluted earnings per common share for the years ended December 31, 2019, 2018, and 2017:

<i>(Millions, except share and per share information)</i>	2019	2018	2017
Basic earnings per share			
Numerator:			
Net (loss)	\$ (45.6)	\$ (16.7)	\$ (136.3)
Less: Income attributable to non-controlling interests	(1.7)	(1.4)	(13.7)
Change in carrying value of Series B preference shares	9.2	(36.4)	—
Less: Accrued dividends on Series A redeemable preference shares	—	(2.6)	(6.1)
Add: Redemption of Series A redeemable preference shares	—	13.8	—
Net (loss) attributable to Sirius Group common shareholders	\$ (38.1)	\$ (43.3)	\$ (156.1)
Denominator:			
Weighted average shares outstanding for basic earnings per share ⁽¹⁾⁽²⁾	115,234,105	119,253,924	120,000,000
Basic earnings per share	\$ (0.33)	\$ (0.36)	\$ (1.30)
Diluted earnings per share			
Numerator:			
Net (loss) attributable to Sirius Group common shareholders	\$ (38.1)	\$ (43.3)	\$ (156.1)
Change in carrying value of Series B preference shares	(9.2)	—	—
Net (loss) attributable to Sirius Group common shareholders on a diluted basis	\$ (47.3)	\$ (43.3)	\$ (156.1)
Denominator:			
Weighted average shares outstanding for basic earnings per share ⁽¹⁾⁽²⁾	115,234,105	119,253,924	120,000,000
Add: Series B preference shares	11,901,670	—	—
Weighted average shares outstanding for diluted earnings per share ⁽¹⁾⁽²⁾	127,135,775	119,253,924	120,000,000
Diluted earnings per share	\$ (0.37)	\$ (0.36)	\$ (1.30)

⁽¹⁾As of December 31, 2019, there were a total of 17,057,249 potentially dilutive securities excluded from the calculation of Diluted earnings per share.

⁽²⁾As of December 31, 2018, there were a total of 23,433,114 potentially dilutive securities excluded from the calculation of Diluted earnings per share. As of December 31, 2017, there were no potentially dilutive securities.

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Note 17. Accumulated other comprehensive (loss)

The changes in accumulated other comprehensive (loss), by component, for the years ended December 31, 2019, 2018, and 2017 are as follows:

<i>(Millions)</i>	For the year ended December 31, 2019	
	Foreign currency translation adjustment	Total
Balance, beginning of year	\$ (202.4)	\$ (202.4)
Other comprehensive (loss)	(35.1)	(35.1)
Balance, end of year	\$ (237.5)	\$ (237.5)

<i>(Millions)</i>	For the year ended December 31, 2018	
	Foreign currency translation adjustment	Total
Balance, beginning of year	\$ (140.5)	\$ (140.5)
Other comprehensive (loss)	(61.9)	(61.9)
Balance, end of year	\$ (202.4)	\$ (202.4)

<i>(Millions)</i>	For the year ended December 31, 2017	
	Foreign currency translation adjustment	Total
Balance, beginning of year	\$ (212.2)	\$ (212.2)
Other comprehensive (loss)	71.7	71.7
Balance, end of year	\$ (140.5)	\$ (140.5)

Note 18. Statutory capital and surplus

Sirius Group'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 Group 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, 2019, the eligible capital for Sirius Group exceeded the required capital as measured by the BSCR model.

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Management has also evaluated the group 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 group overall, through its holding companies as a result of BMA group regulation. In addition, management has evaluated the ability of the holding companies to allocate capital and liquidity around the group as and when needed.

Sirius Group has two Bermuda based insurance subsidiaries: Sirius Bermuda, a Class 4 insurer, and 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, 2019 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, 2018 was \$839.1 million and \$2.5 million, respectively. Actual statutory capital and surplus of the Bermuda based insurance subsidiaries as of December 31, 2018 was \$2.2 billion. In addition, the Bermuda based insurance subsidiaries are required to maintain a minimum liquidity ratio. As of December 31, 2019, 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, 2019, 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 Group 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 Group has its own Lloyd's managing agent, Sirius International Managing Agency, which manages Syndicate 1945. Lloyd's approved net capacity for 2020 is £91.0 million, or approximately \$120.0 million (based on the December 31, 2019 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 the insurance subsidiaries of Sirius Global Solutions 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, 2019, the available capital of Sirius Group's U.S. insurance and reinsurance operating subsidiaries exceeded their respective RBC requirements.

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Sirius America's policyholders' surplus, as reported to regulatory authorities as of December 31, 2019 and 2018, was \$522.1 million and \$522.2 million. Sirius America's statutory net (loss) income for the years ended December 31, 2019, 2018, and 2017 was \$(25.0) million, \$(9.9) million, and \$(6.4) 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 \$110.1 million as of December 31, 2019, 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, 2019 and 2018 was \$39.7 million and \$40.5 million, respectively. Oakwood's statutory net (loss) income for the years ended December 31, 2019, 2018, and 2017 was \$(1.0) million, \$(1.1) million and \$0.5 million, respectively. The minimum policyholders' surplus necessary to satisfy Oakwood's regulatory requirements was \$4.1 million as of December 31, 2019, which equals the authorized control level of the NAIC risk-based capital. During 2017, Mount Beacon was merged into Oakwood.

Empire Insurance Company ("Empire") policyholders' surplus, as reported to regulatory authorities as of December 31, 2019 and 2018 was \$10.8 million and \$10.7 million, respectively. Empire's statutory net income (loss) for the years ended December 31, 2019, 2018, and 2017 was \$0.2 million, \$0.1 million and \$(0.3) million, respectively. The minimum policyholders' surplus necessary to satisfy Empire's regulatory requirements was \$8.9 million as of December 31, 2019, and the NAIC risk-based capital authorized control level was \$0.7 million.

Cedar's policyholders' surplus, as reported to regulatory authorities as of each of the years ended December 31, 2019 and 2018 was \$13.9 million. Cedar's statutory net income (loss) for the years ended December 31, 2019 and 2018 was \$0.0 million and \$(0.6) million, respectively. The minimum policyholders' surplus necessary to satisfy Cedar's regulatory requirements was \$9.8 million as of December 31, 2019, and the NAIC risk-based capital authorized control level was \$0.1 million.

Dividend Capacity

Sirius Group's top tier regulated insurance and reinsurance operating subsidiary is Sirius Bermuda. Sirius Bermuda's ability to pay dividends is limited under Bermuda law and regulations. Under the Insurance Act, Sirius Bermuda is restricted with respect to the payment of dividends. Sirius Bermuda 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, 2019, Sirius Bermuda can pay approximately \$523.8 million to its parent company, Sirius International Group, Ltd., during 2020. Sirius Bermuda 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, which is approximately 82% owned by China Minsheng Investment Group Corp., Ltd. ("CMIG"), indirectly holds approximately 87% of the voting and dispositive control over the Sirius Group common shares as of December 31, 2019, 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 Group. On May 3, 2019, in connection with the CMIG Defaults, Sirius Bermuda and Sirius Group entered into a voluntary undertaking with the BMA to provide further comfort to the BMA as the group supervisor of Sirius Group and primary regulator of Sirius Bermuda, the designated insurer for group supervisory purposes regarding the potential risks to Sirius Group in connection with the CMIG Defaults. Pursuant to the voluntary undertaking, each of Sirius Group and Sirius Bermuda have agreed, until May 3, 2020, (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 Sirius Bermuda, (ii) the Minimum Liquidity Ratio as defined in the Insurance Act 1978 in the case of Sirius Bermuda; 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 Sirius Group and Sirius Bermuda, and a summary description of the use proceeds from such declaration or dividend or capital distribution within Sirius Group or Sirius Bermuda; (b) not to enter into any guarantees, keepwells, loans or other financial arrangements between Sirius Group 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 2019, Sirius Bermuda paid \$80.0 million of dividends to its immediate parent.

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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 Swedish Financial Supervisory Authority (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, 2019, Sirius International had \$401.5 million (based on the December 31, 2019 SEK to USD exchange rate) of unrestricted equity on a parent account basis (the lower of the two approaches) available to pay dividends in 2020. 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 2019, Sirius International did not declare a dividend and paid SEK 167.1 million (or \$17.7 million on date of payment) of dividends declared prior to 2018.

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, 2019, without prior regulatory approval. As of December 31, 2019, Sirius America had \$522.1 million of statutory surplus and \$88.8 million of earned surplus. During 2019, Sirius America did not pay any dividends to its immediate parent.

During 2019 and 2018, the Company did not pay any dividends to its shareholders. As of December 31, 2019, Sirius Group had \$42.9 million of net unrestricted cash, short-term investments, and fixed maturity investments outside of its regulated and unregulated insurance and reinsurance operating subsidiaries.

Capital Maintenance

Effective August 27, 2019, the capital maintenance agreement between Sirius International and Sirius America, which obligated Sirius International to make contributions to Sirius America's surplus in order for Sirius America to maintain surplus equal to at least 125% of the company action level risk-based capital as defined in the National Association of Insurance Commissioners' Property/Casualty Risk-Based Capital Report was terminated. Sirius International did not make any contributions to the surplus of Sirius America up to and including the termination date.

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 Group's financial strength.

As of December 31, 2019, Sirius International's Safety Reserve amounted to SEK 10.2 billion, or \$1.1 billion (based on the December 31, 2019 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 (\$225.9 million based on the December 31, 2019 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.

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Pursuant to tax legislation enacted in Sweden in June 2018, the tax rate applicable to Swedish corporations decreased to 21.4% effective as of January 1, 2019, and then will further reduce 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 2019 is SEK 11.4 million, or \$1.2 million (based on the December 31, 2019 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, 2019, Sirius International has recorded an additional deferred tax liability as of December 31, 2019 in the amount of SEK 131.2 million, or \$13.5 million (based on the December 31, 2019 SEK to USD exchange rate).

Note 19. Investments in unconsolidated entities

Sirius Group'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 Group 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 Group 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, 2019 and 2018:

<i>(Millions)</i>	2019	2018
Equity method eligible unconsolidated entities, at fair value	\$ 151.9	\$ 169.4
Other unconsolidated investments, at fair value ⁽¹⁾	194.9	195.6
Total Other long-term investments⁽²⁾	\$ 346.8	\$ 365.0

⁽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, 2019 and 2018.

Equity method eligible unconsolidated entities, at fair value

Sirius Group 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 Group's investments in equity method eligible unconsolidated entities as of December 31, 2019 and 2018:

Investee	Ownership interest as of December 31,		
	2019	2018	Instrument Held
BE Reinsurance Limited	24.9%	25.0%	Common shares
BioVentures Investors (Offshore) IV LP	73.0%	73.0%	Units
Camden Partners Strategic Fund V (Cayman), LP	39.4%	36.4%	Units
Diamond LS I LP	16.0%	3.9%	Units
Gateway Fund LP	15.0%	—%	Units
Monarch	12.8%	12.8%	Units
NEC Cypress Buyer LLC ⁽¹⁾	—%	13.3%	Units
New Energy Capital Infrastructure Credit Fund LP	30.5%	22.9%	Units
New Energy Capital Infrastructure Offshore Credit Fund LP	30.5%	54.9%	Units
Pie Preferred Stock ⁽²⁾	30.1%	—%	Preferred shares
Pie Series B Preferred Stock ⁽²⁾	22.4%	—%	Preferred shares
Quintana Energy Partners	21.8%	21.8%	Units
Tuckerman Capital V LP	48.3%	47.6%	Units
Tuckerman Capital V Co-Investment I LP	48.1%	47.7%	Units

⁽¹⁾The ownership of NEC Cypress Buyer LLC was liquidated in 2019.

⁽²⁾Sirius Group holds investments in several financing instruments of Pie Insurance Holdings, Inc.

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
For the years ended December 31, 2019, 2018, and 2017

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

<i>(Millions)</i>	As of December 31,		
	2019	2018	
Balance sheet data:			
Total assets	\$ 594.5	\$	591.1
Total liabilities	\$ 47.6	\$	28.7

<i>(Millions)</i>	For the years ended December 31,		
	2019	2018	2017
Income statement data:			
Revenues	\$ 72.7	\$ 55.4	\$ 60.3
Expenses	\$ (30.2)	\$ (25.1)	\$ (28.8)

Note 20. Variable interest entities

Sirius Group 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 Group has determined that Alstead Re is a VIE for which Sirius Group 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, 2019 and 2018:

<i>(Millions)</i>	2019	2018	
Assets:			
Fixed maturity investments	\$ 3.9	\$	4.0
Short-term investments	0.5		0.3
Cash	0.1		0.2
Total investments	4.5		4.5
Accrued investment income	—		0.1
Insurance and reinsurance premiums receivable	(0.3)		3.7
Funds held by ceding companies	3.4		5.2
Deferred acquisition costs	0.3		0.9
Total assets	\$ 7.9	\$	14.4
Liabilities			
Loss and loss adjustment expense reserves	\$ 0.5	\$	4.6
Unearned insurance and reinsurance premiums	0.6		3.7
Other liabilities	0.1		—
Total liabilities	\$ 1.2	\$	8.3

Sirius Group is a passive investor in certain third-party-managed hedge and private equity funds, some of which are VIEs. Sirius Group 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 Group 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 Group 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 Group 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.

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Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
For the years ended December 31, 2019, 2018, and 2017

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

<i>(Millions)</i>	Total VIE Assets	Maximum Exposure to Loss		Total
		On-Balance Sheet	Off-Balance Sheet	
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
December 31, 2018				
Other long-term investments ⁽¹⁾	\$ 209.1	\$ 103.1	\$ 32.0	\$ 135.1
Total at December 31, 2018	\$ 209.1	\$ 103.1	\$ 32.0	\$ 135.1

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

Note 21. Transactions with related parties

(Re)insurance contracts

In the normal course of business, Sirius Group enters into insurance and reinsurance contracts with certain of its insurance and MGU affiliates, or their subsidiaries. During the years ended December 31, 2019 and 2018 and 2017, these contracts with related parties resulted in gross written premiums of \$88.6 million, \$67.9 million and \$3.5 million, respectively. As of December 31, 2019 and 2018, Sirius Group had total receivables due from related parties of \$16.1 million and \$14.3 million, respectively. As of December 31, 2019, Sirius Group had total payables due to related parties of \$0.9 million. As of December 31, 2018, Sirius Group did not have any payables due to related parties.

Other

Meyer "Sandy" Frucher is the Company's Chairman of the board of directors and was also Vice Chairman of Nasdaq, Inc. ("Nasdaq"). The Company is traded on the Nasdaq Global Select Market and has business transactions that are related to its listing on the exchange under the normal course of business. (See **Note 3**.) On October, 21, 2019, Nasdaq announced Mr. Frucher will conclude his tenure as Vice Chairman of Nasdaq and will assume the role of Strategic Advisor, effective January 1, 2020.

Note 22. Commitments and contingencies

Concentrations of credit risk

Sirius Group 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 Group 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, 2019, 2018, and 2017, Sirius Group received its gross reinsurance premiums written from three major, third-party reinsurance intermediaries as detailed in the following table:

Gross written premium by intermediary	2019	2018	2017
AON Corporation and subsidiaries	24%	26%	22%
Guy Carpenter & Company and subsidiaries	24%	26%	25%
WT Butler and Co. Ltd.	11%	10%	10%
Willis Towers Watson plc and subsidiaries	10%	8%	8%
Total	69%	70%	65%

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
For the years ended December 31, 2019, 2018, and 2017

Geographic Concentration

The following table shows Sirius Group's net written premiums by geographic region based on the location of the ceding company for the years ended December 31, 2019, 2018, and 2017:

<i>(Millions)</i>	2019	2018	2017
United States	\$ 922.3	\$ 794.7	\$ 563.1
Europe	268.9	276.5	262.3
Canada, the Caribbean, Bermuda and Latin America	102.5	103.6	111.4
Asia and Other	208.9	182.3	153.4
Total	\$ 1,502.6	\$ 1,357.1	\$ 1,090.2

Sirius Group conducts a significant portion of its business outside of the United States. As a result, a significant portion of Sirius Group'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 Group's foreign currency risk cannot be eliminated entirely and significant changes in foreign exchange rates may adversely affect Sirius Group's results of operations and financial condition.

Sirius Group'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 Group'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 Group has an obligation to pay contributions to the Lloyd's Central Fund each year based on gross written premium. For 2020, Sirius Group estimates the Lloyd's Central Fund contributions to be \$0.5 million (based on the December 31, 2019 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 Group leases office space and equipment under various noncancelable operating lease agreements. The average life of the office leases is 7 years and the equipment leases is 3 years.

During the year ended December 31, 2019, Sirius Group recognized operating lease expense \$12.6 million, including property taxes and routine maintenance expense as well as rental expenses related to short term leases. Total rental expense for the years ended December 31, 2018 and 2017 were \$11.7 million and \$10.2 million, respectively. As of December 31, 2019, Sirius Group had \$27.4 million operating lease right-of-use assets included in Other assets. As of December 31, 2019, Sirius Group had \$29.3 million operating lease liability included in Other liabilities.

The following table presents the lease balances within the Consolidated Balance Sheets as of December 31, 2019:

<i>(millions)</i>	Balance Sheet Classification	December 31, 2019
Operating lease right-of-use assets	Other assets	\$ 27.4
Current lease liabilities	Other liabilities	\$ 8.3
Non-current lease liabilities	Other liabilities	\$ 21.0

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Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
For the years ended December 31, 2019, 2018, and 2017

The following table presents weighted average remaining lease term and weighted average discount rate as at December 31, 2019:

Weighted average lease term (years) as of December 31, 2019	
Leased offices	7 years
Leased equipment	3 years
Weighted average discount rate:	
Leased offices	3.7%
Leased equipment	3.4%

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, 2019:

<i>(Millions)</i>	Future Payments
2020	\$ 9.3
2021	8.0
2022	7.1
2023	4.4
2024	2.0
2025	0.6
2026 and after	0.2
Total future annual minimum rental payments as at December 31, 2019	31.6
Less: present value discount	(2.3)
Total lease liability as of December 31, 2019	\$ 29.3

As of December 31, 2019, the Company's future operating lease obligations that have not yet commenced are immaterial.

Legal Proceedings

Sirius Group, 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 Group 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 Group 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 if there is a reasonable possibility that a loss may have been incurred.

Sirius International Insurance Group, Ltd.
Notes to Consolidated Financial Statements
For the years ended December 31, 2019, 2018, and 2017

Note 23. Unaudited condensed quarterly financial data

<i>(Expressed in millions of U.S. dollars, except per share amounts)</i>	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019
	<i>Unaudited</i>	<i>Unaudited</i>	<i>Unaudited</i>	<i>Unaudited</i>
Total revenues	\$ 352.0	\$ 487.4	\$ 441.0	\$ 439.7
Total expenses	\$ 506.0	\$ 498.7	\$ 430.7	\$ 318.4
Net (loss) income attributable to Sirius Group's common shareholders	\$ (137.3)	\$ (2.7)	\$ 6.6	\$ 95.3
Basic earnings per common share and common share equivalent	\$ (1.19)	\$ (0.02)	\$ 0.05	\$ 0.75
Diluted earnings per common share and common share equivalent	\$ (1.19)	\$ (0.06)	\$ 0.05	\$ 0.74

<i>(Expressed in millions of U.S. dollars, except per share amounts)</i>	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
	<i>Unaudited</i>	<i>Unaudited</i>	<i>Unaudited</i>	<i>Unaudited</i>
Total revenues	\$ 336.8	\$ 351.7	\$ 441.8	\$ 327.5
Total expenses	\$ 482.3	\$ 386.3	\$ 292.4	\$ 273.1
Net (loss) income attributable to Sirius Group's common shareholder	\$ (153.6)	\$ (28.0)	\$ 97.8	\$ 40.5
Basic earnings per common share and common share equivalent	\$ (1.31)	\$ (0.23)	\$ 0.78	\$ 0.32
Diluted earnings per common share and common share equivalent	\$ (1.31)	\$ (0.23)	\$ 0.78	\$ 0.32

Item 9. Changes In and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures***Evaluation of Disclosure Controls and Procedures***

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of the end of the period covered by this Annual Report on Form 10-K. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of December 31, 2019, our disclosure controls and procedures were effective to provide reasonable assurance that the information required to be disclosed by us in reports filed or submitted under the Exchange Act was (a) recorded, processed, summarized and reported within the time periods specified by SEC rules and forms, and (b) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Sirius Group's internal control over financial reporting is a process, under the supervision of Sirius Group's Chief Executive Officer and Chief Financial Officer, designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of Sirius Group's financial statements for external purposes in accordance with U.S. GAAP. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Sirius Group management conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2019 based on the criteria established in the 2013 Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Sirius Group management has concluded that, as of December 31, 2019, our internal control over financial reporting was effective based on the criteria articulated in the 2013 Internal Control - Integrated Framework issued by the COSO. Our internal control over financial reporting was not subject to attestation by our independent registered public accounting firm.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the year ended December 31, 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The Company has adopted a Code of Business Conduct that applies to all executive officers, employees and directors of the Company. The Code of Business Conduct is available on ir.siriusgroup.com. We intend to disclose any amendment to, or waiver from, a provision of the Code of Business Conduct that applies to our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions, and relates to any element of the definition of code of ethics set forth in Item 406(b) of Regulation S-K, by posting such information on our website at www.siriusgroup.com.

All additional information required by this item will be filed by amendment within 120 days of the fiscal year ended December 31, 2019.

Item 11. Executive Compensation

The information required by this item will be filed by amendment within 120 days of the fiscal year ended December 31, 2019.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item will be filed by amendment within 120 days of the fiscal year ended December 31, 2019.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item will be filed by amendment within 120 days of the fiscal year ended December 31, 2019.

Item 14. Principal Accountant Fees and Services

The information required by this item will be filed by amendment within 120 days of the fiscal year ended December 31, 2019.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Financial Statements, Financial Statement Schedules and Exhibits

1. Financial Statements

The financial statements filed as part of this Annual Report on Form 10-K are listed in the index to the financial statements, which is included in "Item 8. Financial Statements and Supplementary Data."

2. Financial Statement Schedules

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3. Exhibits

2.1	Agreement and Plan of Merger, dated as of June 23, 2018, by and among Sirius International Insurance Group, Ltd., Easterly Acquisition Corp. and Sirius Acquisitions Holding Company III (incorporated by reference to Annex A to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on October 11, 2018).*
2.2	First Amendment to the Agreement and Plan of Merger and Sponsor Letter, dated as of August 29, 2018, by and among Sirius International Insurance Group, Ltd., Easterly Acquisition Corp., Sirius Acquisitions Holding Company III, CM Bermuda Ltd. and Easterly Acquisition Sponsor, LLC (incorporated by reference to Annex C to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on October 11, 2018).
3.1	Memorandum of Association of Sirius International Insurance Group, Ltd. as amended (incorporated by reference to Exhibit 3.1 to the Annual Report on Form 10-K filed by Sirius International Insurance Group, Ltd. on March 14, 2019).
3.2	Bye-Laws of Sirius International Insurance Group, Ltd. (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on November 6, 2018).
3.3	Certificate of Designation of Series B Preference Shares of Sirius International Insurance Group, Ltd. (incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on November 6, 2018).
4.1	Warrant Agreement, dated July 29, 2015, between Continental Stock Transfer & Trust Company and Easterly Acquisition Corp. (including form of public warrant certificate) (incorporated by reference to Exhibit 4.3 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on August 6, 2018).

- 4.2 [Form of Assignment, Assumption and Amendment Agreement to Warrant Agreement among Easterly Acquisition Corp., Sirius International Insurance Group, Ltd. and Continental Stock Transfer & Trust Company \(incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on November 6, 2018\).](#)
- 4.3 [Description of the Common Shares of Sirius International Insurance Group, Ltd.](#)
- 10.1 [Shareholders Agreement, dated as of November 5, 2018, by and among Sirius International Insurance Group, Ltd., CM Bermuda Ltd. and the shareholders named therein \(incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on November 6, 2018\).](#)
- 10.2 [Registration Rights Agreement, dated as of November 5, 2018, by and among Sirius International Insurance Group, Ltd., CM Bermuda Ltd. and Easterly Acquisition Corp. \(incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on November 6, 2018\).](#)
- 10.3 [Redemption Agreement, dated as of July 14, 2018, by and between Sirius International Insurance Group, Ltd. and IMG Acquisition Holdings, LLC \(incorporated by reference to Exhibit 10.5 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on November 6, 2018\).](#)
- 10.4 [Form of Subscription Agreement among Sirius International Insurance Group, Ltd. and the investors named therein \(incorporated by reference to Exhibit 10.2 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).](#)
- 10.5 [Form of Sirius Group Private Placement Warrant \(incorporated by reference to Exhibit 3.3 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on November 6, 2018\).](#)
- 10.6 [Indenture, dated November 1, 2016, by and between Sirius International Group, Ltd. and The Bank of New York Mellon, as Trustee \(incorporated by reference to Exhibit 10.12 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).](#)
- 10.6.1 [First Supplemental Indenture, dated November 1, 2016, by and between Sirius International Group, Ltd. and The Bank of New York Mellon, as Trustee, including form of 4.600% Senior Notes due 2026 \(incorporated by reference to Exhibit 10.13 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).](#)
- 10.6.2 [Supplemental Indenture, dated as of October 28, 2019, between Sirius International Group, Ltd. and The Bank of New York Mellon, as trustee relating to the First Supplemental Indenture, dated as of November 1, 2016 in regards to the 4.600% Senior Notes due 2026 \(incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on October 28, 2019\).](#)
- 10.7 [Subordinated Indenture, dated September 22, 2017, by and among Sirius International Group, Ltd., The Bank of New York Mellon, as Trustee, and The Bank of New York Mellon London Branch, as Paying Agent, including form of Floating Rate Callable Subordinated Notes due 2047 \(incorporated by reference to Exhibit 10.14 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).](#)
- 10.8 [Credit Agreement, dated as of February 8, 2018, by and among Sirius International Insurance Group, Ltd., as Parent, Sirius International Group, Ltd., as Borrower, certain subsidiaries of the Borrower from time to time party thereto, certain lenders from time to time party thereto, and Wells Fargo Bank, National Association, as Administrative Agent \(incorporated by reference to Exhibit 10.15 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).](#)
- 10.8.1 [First Amendment to the Credit Agreement, dated as of July 30, 2018, by and among Sirius International Insurance Group, Ltd., Sirius International Group, Ltd., certain subsidiaries of the Borrower party thereto, certain lenders party thereto, and Wells Fargo Bank, National Association, as Administrative Agent \(incorporated by reference to Exhibit 10.16 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).](#)
- 10.9 [Sirius International Insurance Group, Ltd. 2018 Omnibus Incentive Plan \(incorporated by reference to Exhibit 10.6 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on August 6, 2018\).†](#)
- 10.9.1 [Amendment 1 to the Sirius International Insurance Group, Ltd. 2018 Omnibus Incentive Plan \(incorporated by reference to Exhibit 10.13.1 to the Annual Report on Form 10-K filed by Sirius International Insurance Group, Ltd. on March 14, 2019\).†](#)

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- 10.9.2 [Sirius International Insurance Group, Ltd. 2018 Omnibus Incentive Plan – Form of Tandem Award Notice \(incorporated by reference to Exhibit 10.14.1 to the Quarterly Report on Form 10-Q filed by Sirius International Insurance Group, Ltd. on November 16, 2018\).†](#)
- 10.9.3 [Sirius International Insurance Group, Ltd. 2018 Omnibus Incentive Plan – Form of Tandem Award Notice, as Amended and Restated \(incorporated by reference to Exhibit 10.13.3 to the Annual Report on Form 10-K filed by Sirius International Insurance Group, Ltd. on March 14, 2019\).†](#)
- 10.9.4 [Sirius International Insurance Group, Ltd. 2018 Omnibus Incentive Plan – Form of Performance Share Unit Award Notice \(incorporated by reference to Exhibit 10.13.4 to the Annual Report on Form 10-K filed by Sirius International Insurance Group, Ltd. on March 14, 2019\).†](#)
- 10.9.5 [Sirius International Insurance Group, Ltd. 2018 Omnibus Incentive Plan – Form of Restricted Share Unit Award Notice \(incorporated by reference to Exhibit 10.13.5 to the Annual Report on Form 10-K filed by Sirius International Insurance Group, Ltd. on March 14, 2019\).†](#)
- 10.9.6 [Sirius International Insurance Group, Ltd. 2018 Omnibus Incentive Plan – Form of 2019 Supplemental Restricted Share Unit Award Notice \(incorporated by reference to Exhibit 10.13.6 to the Annual Report on Form 10-K filed by Sirius International Insurance Group, Ltd. on March 14, 2019\).†](#)
- 10.9.7 [Sirius International Insurance Group, Ltd. 2018 Omnibus Incentive Plan – Form of Restricted Share Award Agreement \(incorporated by reference to Exhibit 10.13.7 to the Quarterly Report on Form 10-Q filed by Sirius International Insurance Group, Ltd. on May 10, 2019\).†](#)
- 10.10 [Amended and Restated Sirius Group Long Term Incentive Plan \(incorporated by reference to Exhibit 10.7 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on August 6, 2018\).†](#)
- 10.10.1 [First Amendment to the Sirius Group Long Term Incentive Plan \(incorporated by reference to Exhibit 10.8 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on August 6, 2018\).†](#)
- 10.10.2 [Second Amendment to the Sirius Group Long Term Incentive Plan \(incorporated by reference to Exhibit 10.7.2 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).†](#)
- 10.11 [Sirius Group Severance and Change in Control Plan \(incorporated by reference to Exhibit 10.8 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).†](#)
- 10.12 [Sirius International Insurance Group, Ltd. Employee Share Purchase Plan \(incorporated by reference to Exhibit 10.6 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on November 6, 2018\).†](#)
- 10.13 [Employment Agreement dated as of July 24, 2015 between Sirius International Insurance Group, Ltd. and Allan L. Waters \(incorporated by reference to Exhibit 10.9 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).†](#)
- 10.14 [Employment Agreement dated as of July 24, 2015 between Sirius International Försäkringsaktiebolag \(publ\) and Monica Cramér Manhem \(incorporated by reference to Exhibit 10.10 to the Registration Statement on Form S-4 filed by Sirius International Insurance Group, Ltd. on September 10, 2018\).†](#)
- 10.15 [Employment Agreement, dated as of January 30, 2019, between Sirius International Insurance Group, Ltd. and Kernan V. Oberting \(incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed by Sirius International Insurance Group, Ltd. on February 14, 2019\).†](#)
- 10.16 [Form of Restrictive Covenant Agreement \(incorporated by reference to Exhibit 10.20 to the Annual Report on Form 10-K filed by Sirius International Insurance Group, Ltd. on March 14, 2019\).†](#)
- 10.17 [Form of Special Cash Retention Award.†](#)
- 21.1 [Subsidiaries of Sirius International Insurance Group, Ltd.](#)
- 23.1 [Consent of Independent Registered Accounting Firm](#)
- 24.1 [Powers of Attorney \(included on signature page\).](#)
- 31.1 [Certification of Kernan "Kip" V. Oberting, Chief Executive Officer of Sirius International Insurance Group, Ltd., pursuant to Rule 13a-14\(a\) or Rule 15d-14\(a\) of the Securities Exchange Act of 1934.](#)

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- 31.2 [Certification of Ralph Salamone, Chief Financial Officer of Sirius International Insurance Group, Ltd., pursuant to Rule 13a-14\(a\) or Rule 15d-14\(a\) of the Securities Exchange Act of 1934.](#)
- 32.1 [Certification of Kernan "Kip" V. Oberting, Chief Executive Officer of Sirius International Insurance Group, Ltd., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 32.2 [Certification of Ralph Salamone, Chief Financial Officer of Sirius International Insurance Group, Ltd., pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)

101.INS XBRL Instance Document

101.SCH XBRL Taxonomy Extension Schema Document

101.CAL XBRL Taxonomy Extension Calculation Linkbase Document

101.LAB XBRL Taxonomy Extension Label Linkbase Document

101.PRE XBRL Taxonomy Extension Presentation Linkbase Document

101.DEF XBRL Taxonomy Extension Definition Linkbase Document

* The exhibits and schedules to this Exhibit have been omitted pursuant to Item 601(b)(2) of Regulation S-K.

† Management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SIRIUS GROUP INTERNATIONAL INSURANCE, LTD.

By: /s/ Ralph A. Salamone

Name: Ralph A. Salamone
Title: Chief Financial Officer

Date: March 5, 2020

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Ralph A. Salamone and Gene Boxer, and each of them, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes, may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Kernan V. Oberting</u> Kernan V. Oberting	President, Chief Executive Officer, and Director (Principal Executive Officer)	March 5, 2020
<u>/s/ Ralph A. Salamone</u> Ralph A. Salamone	Chief Financial Officer (Principal Financial Officer & Principal Accounting Officer)	March 5, 2020
<u>/s/ Robert L. Friedman</u> Robert L. Friedman	Director	March 5, 2020
<u>/s/ Meyer (Sandy) Frucher</u> Meyer (Sandy) Frucher	Director	March 5, 2020
<u>/s/ Alain Maurice Karaoglan</u> Alain Maurice Karaoglan	Director	March 5, 2020
<u>/s/ Rachelle C. Keller</u> Rachelle C. Keller	Director	March 5, 2020
<u>/s/ Sabrina Maguire</u> Sabrina Maguire	Director	March 5, 2020
<u>/s/ James Beeland Rogers Jr.</u> James Beeland Rogers, Jr.	Director	March 5, 2020

Sirius International Insurance Group, Ltd.
Schedule I
Summary of Investments – Other Than Investments in Related Parties
As at December 31, 2019

<i>(Expressed in millions of U.S. dollars)</i>	Cost or amortized cost	Fair value	Amount shown on the balance sheet
Corporate debt securities	\$ 458.6	\$ 474.1	\$ 474.1
Asset-backed securities	489.4	486.8	486.8
Residential mortgage-backed securities	426.2	438.9	438.9
Commercial mortgage-backed securities	88.5	89.0	89.0
U.S. government and government agency	111.5	110.5	110.5
Non-U.S. government and government agency	63.7	63.0	63.0
Preferred stocks	17.0	17.0	17.0
U.S. States, municipalities and political subdivision	1.7	1.7	1.7
Total fixed maturities	\$ 1,656.6	\$ 1,681.0	\$ 1,681.0
Total short-term investments	1,090.8	1,085.2	1,085.2
Total equity securities	379.2	405.2	405.2
Total other long-term investments	315.4	346.8	346.8
Total	\$ 3,442.0	\$ 3,518.2	\$ 3,518.2

Sirius International Insurance Group, Ltd.
Schedule II
Condensed Financial Information of Registrant
Balance Sheets
As at December 31, 2019 and 2018

(Expressed in millions of U.S. dollars, except share and per share information)

	2019	2018
Assets		
Fixed maturity investments, at fair value <i>(Amortized cost 2019: \$11.7; 2018: \$2.9)</i>	\$ 11.7	\$ 2.8
Short-term investments, at fair value <i>(Amortized cost 2019: \$1.2; 2018: \$5.3)</i>	1.2	5.3
Cash	0.2	—
Total investments and cash	13.1	8.1
Investments in unconsolidated affiliates	1,846.2	1,911.2
Other assets	24.9	42.5
Total assets	\$ 1,884.2	\$ 1,961.8
Liabilities		
Other liabilities	\$ 20.8	\$ 25.1
Total liabilities	20.8	25.1
Commitments and Contingencies		
Mezzanine equity		
Series B preference shares	223.0	232.2
Total mezzanine equity	223.0	232.2
Common shareholders' equity		
Common shares <i>(shares issued and outstanding: 2019: 115,299,341; 2018: 115,151,251)</i>	1.2	1.2
Additional paid-in surplus	1,098.2	1,089.1
Retained earnings	778.5	816.6
Accumulated other comprehensive (loss)	(237.5)	(202.4)
Total common shareholders' equity	1,640.4	1,704.5
Total liabilities, mezzanine equity, and common shareholders' equity	\$ 1,884.2	\$ 1,961.8

See Notes to Condensed Financial Information of Registrant

Sirius International Insurance Group, Ltd.
Schedule II
Condensed Financial Information of Registrant
Statements of (Loss)
For the years ended December 31, 2019, 2018, and 2017

(Expressed in millions of U.S. dollars)

	2019	2018	2017
Revenues			
Net investment income	\$ 0.4	\$ 0.5	\$ 0.3
Net realized investment gains	—	—	0.2
Net unrealized investment gains	0.1	—	12.8
Net foreign exchange (losses)	—	—	(0.2)
Revaluation of contingent consideration	(5.5)	6.1	13.6
Other revenue	(18.7)	41.4	0.9
Total revenues	(23.7)	48.0	27.6
Expenses			
Other underwriting expenses	—	—	(0.2)
General and administrative expenses	28.7	13.6	13.0
Total expenses	28.7	13.6	12.8
(Loss) income before equity earnings of unconsolidated affiliates, net of tax	(52.4)	34.4	14.8
Equity in earnings of unconsolidated affiliates, net of tax	5.1	(52.5)	(164.8)
Net (loss) attributable to Sirius Group	(47.3)	(18.1)	(150.0)
Change in carrying value of Series B preference shares	9.2	(36.4)	—
Less: Accrued dividends on Series A redeemable preference shares	—	(2.6)	(6.1)
Add: Redemption of Series A redeemable preference shares	—	13.8	—
Net (loss) attributable to Sirius Group's common shareholders	\$ (38.1)	\$ (43.3)	\$ (156.1)

See Notes to Condensed Financial Information of Registrant

Sirius International Insurance Group, Ltd.
Schedule II
Condensed Financial Information of Registrant
Statements of Comprehensive (Loss) Income
For the years ended December 31, 2019, 2018, and 2017

(Expressed in millions of U.S. dollars)

	2019	2018	2017
Comprehensive (loss)			
Net (loss) attributable to Sirius Group	\$ (47.3)	\$ (18.1)	\$ (150.0)
Other comprehensive (loss) income			
Change in foreign currency translation, net of tax	(35.1)	(61.9)	71.7
Comprehensive (loss) attributable to Sirius Group	\$ (82.4)	\$ (80.0)	(78.3)

See Notes to Condensed Financial Information of Registrant

Sirius International Insurance Group, Ltd.
Schedule II
Condensed Financial Information of Registrant
Statements of Cash Flows
For the years ended December 31, 2019, 2018, and 2017

(Expressed in millions of U.S. dollars)

	2019	2018	2017
Cash flows from operations:			
Net (loss) income attributable to Sirius Group	\$ (47.3)	\$ (18.1)	\$ (150.0)
Adjustments to reconcile net income to net cash provided from (used for) operations:			
Equity in earnings of subsidiaries	(5.1)	52.5	164.8
Dividends received from subsidiaries	35.0	150.0	110.0
Net realized and unrealized investment (losses)	(0.1)	—	(13.0)
Amortization of premium on fixed maturity investments	—	(0.3)	(0.1)
Share-based compensation	9.1	2.0	—
Revaluation of contingent consideration	5.5	(6.1)	(13.6)
Other operating items:			
Net change in other assets and liabilities, net	14.7	(57.5)	12.6
Net cash provided from (used for) operations	11.8	122.5	110.7
Cash flows from investing activities:			
Net change in short-term investments	4.1	25.6	2.5
Sales of fixed maturities and convertible fixed maturity investments	14.1	65.9	1.1
Maturities, calls, and paydowns of fixed maturity and convertible fixed maturity investments	0.1	—	—
Sales of common equity securities	—	—	59.6
Purchases of common equity securities	—	—	(54.4)
Purchases of fixed maturities and convertible fixed maturity investments	(23.0)	(64.9)	—
Contributions to subsidiaries	—	(143.5)	(132.7)
Net cash (used for) provided from investing activities	(4.7)	(116.9)	(123.9)
Cash flows from financing activities:			
Payment of contingent consideration	(6.9)	(3.5)	—
Capital contribution from former parent	—	1.4	13.3
Proceeds from issuance of common shares, net of expenses	—	61.2	—
Proceeds from issuance of Series B preference shares	—	195.8	—
Redemption of common shares from CM Bermuda	—	(164.0)	—
Return of capital to CM Bermuda	—	(1.6)	—
Redemption of Series A redeemable preference shares	—	(95.0)	—
Net cash (used for) provided from financing activities	(6.9)	(5.7)	13.3
Net (decrease) increase in cash during year	0.2	(0.1)	0.1
Cash balance at beginning of year	—	0.1	—
Cash balance at end of year	\$ 0.2	\$ —	\$ 0.1

See Notes to Condensed Financial Information of Registrant

Notes to Condensed Financial Information of Registrant

Sirius International Insurance Group, Ltd. (the Registrant) investments in consolidated subsidiaries are stated at cost plus equity in income of consolidated subsidiaries. The accompanying condensed financial statements of the Registrant should be read in conjunction with the Consolidated Financial Statements and Notes thereto of Sirius International Insurance Group, Ltd. included in the Annual Report on Form 10-K.

Sirius International Insurance Group, Ltd.
Schedule III
Supplementary Insurance Information
As at and for the years ended December 31, 2019, 2018, and 2017

<i>(Millions)</i>										
As at and for the year ended December 31, 2019										
	Deferred Acquisition Costs	Loss and Loss Adjustment Expense Reserves	Unearned Insurance and Reinsurance Premiums	Net Earned Insurance and Reinsurance Premiums	Loss and Loss Adjustment Expenses	Insurance and Reinsurance Acquisition Expenses	Other Underwriting Expenses	Net Written Insurance and Reinsurance Premiums		
Global Property	\$ 36.7	\$ 1,060.2	\$ 231.7	\$ 635.9	\$ 594.1	\$ 107.3	\$ 63.9	\$ 625.7		
Global A&H	57.2	225.1	244.6	443.3	278.7	125.8	23.7	458.1		
Specialty & Casualty	54.3	507.0	231.7	360.2	280.9	98.8	31.2	416.3		
Runoff & Other	—	539.2	—	2.2	2.8	2.9	5.9	2.5		
Corporate Elimination	—	—	—	—	13.8	(46.1)	13.5	—		
Total	\$ 148.2	\$ 2,331.5	\$ 708.0	\$ 1,441.6	\$ 1,170.3	\$ 288.7	\$ 138.2	\$ 1,502.6		

<i>(Millions)</i>										
As at and for the year ended December 31, 2018										
	Deferred Acquisition Costs	Loss and Loss Adjustment Expense Reserves	Unearned Insurance and Reinsurance Premiums	Net Earned Insurance and Reinsurance Premiums	Loss and Loss Adjustment Expenses	Insurance and Reinsurance Acquisition Expenses	Other Underwriting Expenses	Net Written Insurance and Reinsurance Premiums		
Global Property	\$ 44.1	\$ 910.6	\$ 252.0	\$ 636.0	\$ 528.7	\$ 121.1	\$ 68.2	\$ 655.0		
Global A&H	54.0	197.9	224.8	357.6	194.9	109.7	27.4	379.8		
Specialty & Casualty	43.5	323.4	170.4	239.5	148.8	65.5	28.2	292.7		
Runoff & Other	—	584.8	—	29.2	14.6	2.8	6.3	29.6		
Corporate Elimination	—	—	—	—	13.0	(43.7)	16.1	—		
Total	\$ 141.6	\$ 2,016.7	\$ 647.2	\$ 1,262.3	\$ 900.0	\$ 255.4	\$ 146.2	\$ 1,357.1		

<i>(Millions)</i>										
As at and for the year ended December 31, 2017										
	Deferred Acquisition Costs	Loss and Loss Adjustment Expense Reserves	Unearned Insurance and Reinsurance Premiums	Net Earned Insurance and Reinsurance Premiums	Loss and Loss Adjustment Expenses	Insurance and Reinsurance Acquisition Expenses	Other Underwriting Expenses	Net Written Insurance and Reinsurance Premiums		
Global Property	\$ 43.5	\$ 759.6	\$ 195.7	\$ 564.4	\$ 512.4	\$ 112.9	\$ 63.3	\$ 556.2		
Global A&H	49.1	206.2	195.8	306.8	179.8	89.6	23.4	341.5		
Specialty & Casualty	28.2	304.5	115.0	163.2	104.9	41.1	16.5	193.0		
Runoff & Other	0.1	628.2	0.3	0.9	14.1	(3.5)	2.9	(0.5)		
Corporate Elimination	—	—	—	—	—	(42.9)	—	—		
Total	\$ 120.9	\$ 1,898.5	\$ 506.8	\$ 1,035.3	\$ 811.2	\$ 197.2	\$ 106.1	\$ 1,090.2		

Sirius International Insurance Group, Ltd.
Schedule IV
Reinsurance
For the years ended December 31, 2019, 2018, and 2017

(Millions)

	Direct gross		Ceded to other companies		Assumed from other companies		Net amount	Percentage of amount assumed to net
Year ended December 31, 2019 \$	511.2	\$	400.1	\$	1,391.5	\$	1,502.6	93%
Year ended December 31, 2018	454.5		463.9		1,366.5		1,357.1	101%
Year ended December 31, 2017	450.2		349.1		989.1		1,090.2	91%

Sirius International Insurance Group, Ltd.
Schedule V
Valuation and Qualifying Accounts
As at and for the years ended December 31, 2019, 2018, and 2017

(Millions)

	Balance at beginning of period	Additions (Subtractions)			Deductions described ⁽¹⁾	Balance at the end of period
		Charged to costs and expenses	Charged to other accounts			
Years ended:						
December 31, 2019						
Reinsurance on recoverable paid losses:						
Allowance for reinsurance balances	\$ 5.7	—	—	—	\$	5.7
Property and casualty insurance and reinsurance premiums receivable:						
Allowance for uncollectible accounts	\$ 4.3	(0.1)	—	—	\$	4.2
December 31, 2018						
Reinsurance on recoverable paid losses:						
Allowance for reinsurance balances	\$ 5.8	—	(0.1)	—	\$	5.7
Property and casualty insurance and reinsurance premiums receivable:						
Allowance for uncollectible accounts	\$ 4.6	—	(0.2)	(0.1)	\$	4.3
December 31, 2017						
Reinsurance on recoverable paid losses:						
Allowance for reinsurance balances	\$ 5.8	—	—	—	\$	5.8
Property and casualty insurance and reinsurance premiums receivable:						
Allowance for uncollectible accounts	\$ 5.3	(0.5)	(0.5)	0.3	\$	4.6

(1) Represents net collections (charge-offs) of receivable balances and foreign currency translation.

Sirius International Insurance Group, Ltd.
Schedule VI
Insurance Operations
As at and for the years ended December 31, 2019, 2018, and 2017

(Millions)

Affiliation with registrant	Deferred acquisition costs	Loss and loss adjustment expense reserves	Unearned insurance and reinsurance premiums	Net earned insurance and reinsurance premiums	Net investment income	Losses and loss expenses incurred related to current year	Losses and loss expenses incurred related to prior year	Net paid losses and loss expenses	Insurance and reinsurance acquisition costs	Net premiums written
Consolidated Subsidiaries										
2019	\$ 148.2	\$ 2,331.5	\$ 708.0	\$ 1,441.6	\$ 84.7	\$ 1,066.5	\$ 103.8	\$ 911.3	\$ 288.7	\$ 1,502.6
2018	\$ 141.6	\$ 2,016.7	\$ 647.2	\$ 1,262.3	\$ 71.4	\$ 907.3	\$ (7.3)	\$ 791.7	\$ 255.4	\$ 1,357.1
2017	\$ 120.9	\$ 1,898.5	\$ 506.8	\$ 1,035.3	\$ 56.8	\$ 811.8	\$ (0.6)	\$ 612.3	\$ 197.2	\$ 1,090.2

DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934

Sirius International Insurance Group, Ltd. ("Sirius Group") has one class of securities registered under Section 12 of the Securities Exchange Act of 1934: its common shares. The following description of certain terms of Sirius Group's common shares is a summary only and is not a complete description of such terms. The rights of the holders of Sirius Group common shares are governed by Sirius Group's memorandum of association and bye-laws, as amended, each of which are included as an exhibit to Sirius Group's Annual Report on Form 10-K, as well as applicable provisions of the Companies Act 1981 (Bermuda), as amended (the "Act").

General

Under the Sirius Group memorandum of association, Sirius Group is authorized to issue 500,000,000 common shares of par value \$0.01, and 100,000,000 preference shares of par value \$0.01.

Common Shares

Voting Rights

Each holder of a Sirius Group common share has one vote per share held of record on the applicable record date on all matters voted upon by the shareholders of Sirius Group. Resolutions of the shareholders are adopted by action of a majority of the shares, except where Bermuda law or the bye-laws provide for a special majority in relation to specified resolutions.

Dividend Rights

Under Bermuda law, shareholders are entitled to receive dividends, when and as declared by a company's board of directors, out of any funds of the company legally available for the payment of such dividends, subject to any preferred dividend right of any holders of any preference shares from time to time. Bermuda law does not permit payment of dividends or distributions of contributed surplus by a company if there are reasonable grounds for believing that:

- the company is, or would be, after the payment is made, unable to pay its liabilities as they become due; or
- the realizable value of the company's assets would be less than its liabilities.

Under Sirius Group's bye-laws, the board of directors has the power to declare dividends or distributions out of contributed surplus, and to determine that any dividend shall be paid in cash or shall be satisfied in paying up in full shares to be issued to the shareholders credited as fully paid or partly paid or partly in one way or partly in the other. The board of directors may also pay any fixed cash dividend whenever the position of the company justifies such payment.

Liquidation Rights

In the event of a liquidation, dissolution or winding up of Sirius Group, the holders of Sirius Group common shares will be entitled to receive, after payment or provision for payment of all of its debts and liabilities, all of the assets of Sirius Group legally available for distribution to shareholders, subject to any preferred liquidation right of any holders of any preference shares from time to time.

Calls on Shares

The board of directors may make such calls as it thinks fit upon the shareholders in respect of any monies (whether in respect of nominal value or premium) unpaid on the shares allotted to or held by such shareholders. The board of directors may differentiate between the holders as to the amount of calls to be paid and the times of payment of such calls.

Variation of Rights

If, at any time, the share capital is divided into different classes of shares, the rights attached to any class (unless otherwise provided by the terms of issue of the shares of that class) may be varied with the consent in writing of the holders of

three-fourths of the issued shares of that class or with the sanction of a resolution passed by a majority of the votes cast at a separate general meeting of the holders of the shares of the class.

Transfers of Shares

The board of directors may in its absolute discretion and without assigning any reason therefor refuse to register the transfer of a share. The board of directors shall refuse to register a transfer unless all applicable consents, authorisations and permissions of any governmental body or agency in Bermuda have been obtained.

Other Rights

Holders of Sirius Group common shares are not entitled to preemptive rights with respect to any shares which may be issued, and there are no conversion rights or redemption, purchase, retirement or sinking fund provisions with respect to Sirius Group common shares.

Preference Shares

The board of directors is authorized to provide for the issuance of the preference shares in one or more series, and to establish from time to time the number of shares to be included in each such series, and to fix the terms, including designation, powers, preferences, rights, qualifications, limitations and restrictions of the shares of each such series. The board of directors has designated a series of 15,000,000 preference shares as the Series B Preference Shares, which are entitled to the voting, dividend, liquidation, redemption, conversion, preemptive, information and other rights as set forth in the Certificate of Designation of Series B Preference Shares. The Series B Preference Shares do, and any future series of preference shares could, adversely affect the voting power of holders of common shares and the likelihood that such holders would receive dividend payments and payments upon liquidation.

Certain Bye-law Provisions

Certain provisions of Sirius Group's bye-laws may have an anti-takeover effect and may delay, defer or prevent a tender offer or takeover attempt that you might consider in your best interest, including an attempt that might result in your receipt of a premium over the market price for your shares. These provisions are also designed, in part, to encourage persons seeking to acquire control of Sirius Group to first negotiate with the board of directors, which could result in an improvement of such persons' terms.

Shareholder Advance Notice Procedures

Sirius Group's bye-laws establish advance notice procedures for shareholders to bring business before or to nominate directors at an annual general meeting of shareholders. For nominations to be properly made at an annual general meeting, and proposals of other business to be properly brought before an annual general meeting, nominations and proposals of other business must be (a) specified in Sirius Group's notice of meeting given by or at the direction of the board of directors, (b) otherwise properly brought before the annual general meeting, by or at the direction of the board of directors (or any duly authorized committee thereof), or (c) otherwise properly brought before the annual general meeting by a shareholder in accordance with the applicable provisions of the bye-laws. For nominations of persons for election to the board of directors or proposals of other business to be properly requested by a shareholder to be made at an annual general meeting, a shareholder must, among other things, give written notice of such shareholder's intent to make such nomination or bring such other business to the Secretary of Sirius Group not later than (i) with respect to an election to be held at or other business to be brought before an annual general meeting, 90 days prior to the anniversary date of the immediately preceding annual general meeting or not later than 10 days after notice or public disclosure of the date of the annual general meeting is given or made available to shareholders, whichever date is earlier, and (ii) with respect to an election to be held at a special general meeting for the election of directors, the close of business on the seventh day following the date on which notice of such meeting is first given to shareholders, and include in such notice the information specified by the bye-laws.

At any special general meeting, only such business shall be conducted or considered as shall have been properly brought before the meeting pursuant to Sirius Group's notice of meeting. To be properly brought before a special general meeting, proposals of business must be (a) specified in Sirius Group's notice of meeting given by or at the direction of the board of directors or (b) otherwise properly brought before the special general meeting, by or at the direction of the board of directors. At any special general meeting, only such nominations of persons for election to the board of directors may be made at a special general meeting at which directors are to be elected, as shall have been properly brought before the meeting. For nominations to be properly made at a special general meeting, nominations must be specified in Sirius Group's notice of

meeting (i) by or at the direction of the board of directors or (ii) provided that the board of directors has determined that directors shall be elected at such meeting, by any shareholder who, among other things, complies with the procedures set forth in the bye-laws.

These requirements may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed. In addition, these provisions, insofar as they relate to the nomination of directors, may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of the company.

Amendments to Memorandum of Association and Bye-laws

Amendments to Sirius Group's memorandum of association and bye-laws require an affirmative vote of majority of the board of directors and a majority of the votes cast at any annual or special meeting of shareholders.

Blank Check Preferred Stock.

The undesignated preference shares could be deemed to have an anti-takeover effect because Sirius Group could issue preference shares if facing a hostile takeover situation. The preference shares could be issued to purchasers sympathetic with Sirius Group's management or others in such a way as to render more difficult or to discourage a merger, tender offer, proxy contest, the assumption of control by a holder of a large block of Sirius Group's securities or the removal of incumbent management.

Restrictions on Ownership Under Certain Insurance and Other Laws

Sirius Group is subject to certain legal and regulatory restrictions concerning its ownership and control, which may be a significant deterrent to any person interested in acquiring control. One such restriction is that no person or entity may acquire direct or indirect control of Sirius Group (which in some jurisdictions could occur with a person or entity, directly or indirectly, acquiring 10% or more of the voting securities of Sirius Group), without first obtaining the consent of the various regulatory authorities that have jurisdiction over Sirius Group. Any direct or indirect change of control of Sirius Group without the prior approval of applicable insurance regulatory authorities could result in the transaction being enjoined, the assessment of fines or penalties, the takeover of the applicable insurers by such insurance regulatory authorities, the revocation of applicable insurance licenses, and criminal penalties for willful violations of applicable insurance laws. In addition, a change in control could result in the termination of or the posting of collateral under certain reinsurance contracts. Certain U.S. states also prohibit the control of insurers by state-owned or state-controlled entities (such as state-owned banks). A violation of such prohibitions could result in the revocation of insurance licenses held by Sirius Group's U.S.-domiciled insurers, which are necessary for Sirius Group to operate its business. In addition, a change of control of Sirius Group that results in non-U.S. persons acquiring direct or indirect control of Sirius Group's U.S. businesses may be subject to review by the Committee on Foreign Investment in the United States ("CFIUS"), potentially resulting in enforcement actions by CFIUS to enjoin or unwind the transaction.



Personal & Confidential

November [●], 2019

[Name and Address]

Re: Special Cash Retention Award

Dear [●],

You are a valued member of Sirius International Insurance Group, Ltd. (“Sirius”), and we look forward to your continued contributions to Sirius as we move forward. Accordingly, Sirius is pleased to offer you the following special cash retention award (“Retention Award”) opportunity, subject to the terms and conditions set forth in this letter.

- **Payment of the Retention Award.** You will be eligible to receive a Retention Award in the amount of \$[●], which will be paid in two equal cash installments as follows: 50% will be paid on or prior to March 15, 2020 and 50% will be paid on or prior to March 15, 2021 (each, a “Vesting Date”). Except as provided below, each installment will be paid on the applicable Vesting Date, less applicable withholdings and deductions, only if you remain employed continuously by a Sirius subsidiary (“Sirius Employer”) through the applicable Vesting Date, and you have complied with the terms of this letter.
 - **Termination of Employment.** If your employment is terminated by your Sirius Employer without Cause [(as such term is defined below)] [or you resign for Good Reason (as these terms are defined [in the Sirius Group Severance and Change in Control Plan])] prior to either Vesting Date, your Sirius Employer will pay you any then-unpaid portion of your Retention Award within 30 days following your termination of employment, provided that you sign and do not revoke a waiver and release of claims against Sirius and its subsidiaries at the time and in the form provided by Sirius at the time of your termination.
 - **Forfeiture and Clawback.** If your employment is terminated for any reason other than a termination by your Sirius Employer without Cause [or a resignation for Good Reason], you will forfeit any unvested portion of the Retention Award. In addition, if such termination occurs within 12 months after one of the Vesting Dates, the payment amount (being the amount of the Retention Award less any withholding and deductions made at the time of the payment of the Retention Award to you) relating to that Vesting Date will be forfeited and you will be required to repay such payment amount to your Sirius Employer within 30 days after the date of your termination. You agree that, by accepting the Retention Award, you authorize the Sirius Employer to deduct any amount or amounts owed by you pursuant to this paragraph from any amounts payable by or on behalf of the Sirius Employer to you, including, without limitation, any amount payable to you as salary, wages, vacation pay, bonus or the vesting or settlement of any share-based award.
 - **Existing Incentives.** Your eligibility to receive the Retention Award is in addition to any amounts that you are eligible to receive pursuant to any regular annual bonus incentive and annual long-term incentive award opportunity in respect of your ongoing employment at Sirius.
-

- **Cause.** For purposes of this letter, “Cause” shall have the meaning set forth in any employment agreement or other similar written agreement (including such similar term or concept, as determined by Sirius) between you and Sirius or any of its affiliates. If there is no such written agreement or if such agreement does not define “Cause,” then “Cause” shall mean (i) a material and continued failure to perform your duties, other than due to death or disability, which failure has continued for more than 30 days following written notice of such nonperformance from Sirius; (ii) your conviction of or pleading guilty or no contest to an act of fraud, embezzlement, or misappropriation of assets or property (tangible or intangible) of Sirius or any of its affiliates; (iii) a material breach of any restrictive covenant agreement to which you are subject; (iv) your commission of a felony, including a plea of guilty or nolo contendere, or an indictment or written admission thereof; (v) your gross negligence or willful misconduct in the performance of your duties that is reasonably likely to have an adverse effect on the business or reputation of Sirius or any of its affiliates; or (vi) your material violation of the material written policies of Sirius (e.g., sexual harassment, data protection policy, etc.). For the avoidance of doubt, the definition of Cause shall apply regardless of whether such termination of employment may be justified under any applicable employment protection legislation, and regardless of whether you may challenge such termination, and regardless of whether such termination is invalidated by verdict or a court order.

Your Retention Award is personal and confidential, as not all Sirius employees are being given this opportunity.

If you have further questions, please direct them to Gene Boxer, EVP, Chief Strategy Officer and Group General Counsel, Sirius Group. Thank you for being part of our team and for your contribution to our continued success.

The Retention Award shall be null and void unless you agree to be bound by and execute this letter agreement on or before December [●], 2019.

Sincerely yours,

SIRIUS INTERNATIONAL INSURANCE GROUP, LTD.

By: Kernan V. Oberting
Title: President & Chief Executive Officer

Acknowledgment, Acceptance and Agreement:

By accepting this Retention Award, I acknowledge and agree to be bound by the terms and conditions of this letter agreement.

[Name]

Date

SUBSIDIARIES OF SIRIUS INTERNATIONAL INSURANCE GROUP, LTD.
(as of December 31, 2019)

Subsidiary	Jurisdiction of Organization
A La Carte Healthcare Limited	UK
Akeso Care Management, Inc.	Indiana
ALC Health (Hong Kong) Limited	Hong Kong
Alstead Reinsurance Ltd.	Bermuda
Armada Administrators, LLC	Maryland
ArmadaCare, LLC	Maryland
ArmadaCorp Capital, LLC	Maryland
ArmadaHealth, LLC	Maryland
Cedar Insurance Company	New York
Empire Insurance Company	New York
Fund American Holdings AB	Sweden
Global Response, Ltd.	UK
IMG Acquisition, Inc.	Delaware
IMG Europe, Ltd.	UK
IMG Healthcare (Europé) Limited	Ireland
International Medical Administrators, Inc.	Nebraska
International Medical Group Holdings, Ltd.	UK
International Medical Group, Inc.	Indiana
International Medical Holdings, Inc.	Indiana
iTravelInsured, Inc.	Indiana
Oakwood Insurance Company	Tennessee
S.I. Holdings (Luxembourg) S.à r.l.	Luxembourg
SI Caleta (Gibraltar) Limited	Gibraltar
SI Cumberland (Gibraltar) Limited	Gibraltar
Sirius Acquisitions Holding Company	Delaware
Sirius Acquisitions Holding Company II	Delaware
Sirius Acquisitions Holding Company III	Delaware
Sirius America Administrators, LLC	Delaware
Sirius America Insurance Company	New York
Sirius Belgium Reassurances S.A.	Belgium
Sirius Bermuda Insurance Company Ltd.	Bermuda
Sirius Capital Markets, Inc.	Delaware
Sirius Global Services LLC	Delaware
Sirius Global Solutions Holding Company	Connecticut
Sirius Global Solutions, Inc.	Connecticut
Sirius Group International S.à r.l.	Luxembourg
Sirius Insurance Agency, LLC	Delaware
Sirius Insurance Holding Sweden AB	Sweden
Sirius International Advisory Zurich LLC	Switzerland
Sirius International Corporate Member Limited	UK
Sirius International Group, Ltd.	Bermuda
Sirius International Holding Company, Inc.	New York
Sirius International Holdings Ltd.	Bermuda
Sirius International Insurance Corporation	Sweden
Sirius International Managing Agency Limited	UK
Sirius International UK Holdings II Ltd.	England & Wales

Sirius International UK Holdings Ltd.	England & Wales
Sirius International Managers, LLC	New York
Sirius Investment Advisors LLC	Delaware
Sirius Re Holdings, Inc.	Delaware
Sirius Ruckversicherungs Service GmbH	Germany
White Sands Holdings (Luxembourg) S.à r.l.	Luxembourg

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-228148 and 333-228150) of Sirius International Insurance Group, Ltd. of our report dated March 5, 2020 relating to the consolidated financial statements and financial statement schedules, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
New York, New York
March 5, 2020

Certification
Sirius International Insurance Group, Ltd.
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Kernan “Kip” V. Oberting, certify that:

1. I have reviewed this Annual Report on Form 10-K of Sirius International Insurance Group, Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) internal control over financial reporting (as defined by Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting.
5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: March 5, 2020

By: /s/ Kernan “Kip” V. Oberting

Name: Kernan “Kip” V. Oberting

Title: President and Chief Executive Officer

Certification
Sirius International Insurance Group, Ltd.
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Ralph A. Salamone, certify that:

1. I have reviewed this Annual Report on Form 10-K of Sirius International Insurance Group, Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) internal control over financial reporting (as defined by Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 5, 2020

By: /s/ Ralph A. Salamone

Name: Ralph A. Salamone

Title: Chief Financial Officer

Sirius International Insurance Group, Ltd.
Certification Pursuant to Chapter 63, Title 18 United States Code §1350
As Adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report of Sirius International Insurance Group, Ltd. (the "Company") on Form 10-K for the year ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kernan "Kip" V. Oberting, President and Chief Executive Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 5, 2020

By: /s/ Kernan "Kip" V. Oberting

Name: Kernan "Kip" V. Oberting

Title: President and Chief Executive Officer

A signed original of this written statement required by Section 906 has been provided to Sirius International Insurance Group, Ltd. and will be retained by Sirius International Insurance Group, Ltd. and furnished to the Securities and Exchange Commission or its staff upon request.

Sirius International Insurance Group, Ltd.
Certification Pursuant to Chapter 63, Title 18 United States Code §1350
As Adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report of Sirius International Insurance Group, Ltd. (the "Company") on Form 10-K for the year ended December 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ralph A. Salamone, Chief Financial Officer of the Company, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 5, 2020

By: /s/ Ralph A. Salamone

Name: Ralph A. Salamone

Title: Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to Sirius International Insurance Group, Ltd. and will be retained by Sirius International Insurance Group, Ltd. and furnished to the Securities and Exchange Commission or its staff upon request.
