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Schedules other than those listed are omitted for the reason that they are not required, are not applicable or that equivalent information has been included in the financial statements, notes thereto, or elsewhere herein.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of
Validus Holdings, Ltd.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the consolidated financial statements, including the related notes and financial statement schedules, of Validus Holdings, Ltd. and its subsidiaries as listed in the accompanying index (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2017 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As described in Management's Report on Internal Control Over Financial Reporting, management has excluded Crop Risk Services Inc. ("CRS") from its assessment of internal control over financial reporting as of December 31, 2017 because it was acquired by the Company in a purchase business combination during 2017. We have also excluded CRS from our audit of internal control over financial reporting. CRS is a wholly-owned subsidiary whose total assets and total revenues excluded from management's assessment and our audit of internal control over financial reporting represent 4.7% and 8.5%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2017.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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.

/s/ PricewaterhouseCoopers Ltd.
Hamilton, Bermuda
February 28, 2018

We have served as the Company's auditor since 2005.

PART I. FINANCIAL INFORMATION

ITEM I. FINANCIAL STATEMENTS

Validus Holdings, Ltd.
Consolidated Balance Sheets
As at December 31, 2017 and 2016
(Expressed in thousands of U.S. dollars, except share and per share information)

	December 31, 2017	December 31, 2016
Assets		
Fixed maturity investments trading, at fair value (amortized cost: 2017—$5,876,261; 2016—$5,584,599)	$ 5,858,348	$ 5,543,030
Short-term investments trading, at fair value (amortized cost: 2017—$3,381,714; 2016—$2,796,358)	3,381,757	2,796,170
Other investments, at fair value (cost: 2017—$330,416; 2016—$380,130)	355,218	405,712
Investments in investment affiliates, equity method (cost: 2017—$61,944; 2016—$84,840)	100,137	100,431
Cash and cash equivalents	754,990	419,976
Restricted cash	394,663	70,956
Total investments and cash	10,845,113	9,336,275
Premiums receivable	939,487	725,390
Deferred acquisition costs	213,816	209,227
Prepaid reinsurance premiums	132,938	77,996
Securities lending collateral	2,717	9,779
Loss reserves recoverable	1,233,997	430,421
Paid losses recoverable	46,873	35,247
Income taxes recoverable	9,044	4,870
Deferred tax asset	52,467	43,529
Receivable for investments sold	12,182	3,901
Intangible assets	171,411	115,592
Goodwill	229,573	196,758
Accrued investment income	29,096	26,488
Other assets	508,165	134,282
Total assets	$ 14,426,879	$ 11,349,755
Liabilities		
Reserve for losses and loss expenses	$ 4,831,390	$ 2,995,195
Unearned premiums	1,147,186	1,076,049
Reinsurance balances payable	331,645	54,781
Securities lending payable	2,717	10,245
Deferred tax liability	4,600	3,331
Payable for investments purchased	74,496	29,447
Accounts payable and accrued expenses	1,225,875	587,648
Notes payable to AlphaCat investors	1,108,364	278,202
Senior notes payable	245,564	245,362
Debentures payable	539,158	537,226
Total liabilities	9,510,995	5,817,486
Commitments and contingent liabilities		
Redeemable noncontrolling interests	1,004,094	1,528,001
Shareholders' equity		
Preferred shares (Issued and Outstanding: 2017—16,000; 2016—6,000)	400,000	150,000
Common shares (Issued: 2017—161,994,491; 2016—161,279,976; Outstanding: 2017—79,319,550; 2016—79,132,252)	28,349	28,224
Treasury shares (2017—82,674,941; 2016—82,147,724)	(14,468)	(14,376)
Additional paid-in capital	814,641	821,023
Accumulated other comprehensive loss	(22,192)	(23,216)
Retained earnings	2,688,742	2,876,636
Total shareholders' equity available to Validus	3,895,072	3,838,291
Noncontrolling interests	16,718	165,977
Total shareholders' equity	3,911,790	4,004,268
Total liabilities, noncontrolling interests and shareholders' equity	$ 14,426,879	$ 11,349,755

The accompanying notes are an integral part of these Consolidated Financial Statements.

Validus Holdings, Ltd.
Consolidated Statements of (Loss) Income and Comprehensive (Loss) Income
For the Years Ended December 31, 2017, 2016 and 2015
(Expressed in thousands of U.S. dollars, except share and per share information)

	December 31, 2017	December 31, 2016	December 31, 2015
Revenues			
Gross premiums written	$ 2,950,938	$ 2,648,705	$ 2,557,506
Reinsurance premiums ceded	(469,633)	(289,705)	(328,681)
Net premiums written	2,481,305	2,359,000	2,228,825
Change in unearned premiums	99,783	(109,835)	18,064
Net premiums earned	2,581,088	2,249,165	2,246,889
Net investment income	177,873	150,385	127,824
Net realized gains on investments	7,623	15,757	2,298
Change in net unrealized gains (losses) on investments	3,215	16,871	(32,395)
Income (loss) from investment affiliates	22,010	(2,083)	4,281
Other insurance related income and other income	13,179	2,195	5,111
Foreign exchange (losses) gains	(7,447)	10,864	(8,731)
Total revenues	2,797,541	2,443,154	2,345,277
Expenses			
Losses and loss expenses	2,300,178	1,065,097	977,833
Policy acquisition costs	471,553	449,482	410,058
General and administrative expenses	352,137	336,294	363,709
Share compensation expenses	40,111	42,907	38,341
Finance expenses	58,546	58,520	74,742
Transaction expenses	4,427	—	—
Total expenses	3,226,952	1,952,300	1,864,683
(Loss) income before taxes, (loss) from operating affiliate and loss (income) attributable to AlphaCat investors	(429,411)	490,854	480,594
Tax benefit (expense)	7,580	19,729	(6,376)
(Loss) from operating affiliate	—	(23)	(3,949)
Loss (income) attributable to AlphaCat investors	16,929	(23,358)	(2,412)
Net (loss) income	(404,902)	487,202	467,857
Net loss (income) attributable to noncontrolling interests	357,280	(123,363)	(92,964)
Net (loss) income (attributable) available to Validus	(47,622)	363,839	374,893
Dividends on preferred shares	(15,861)	(4,455)	—
Net (loss) income (attributable) available to Validus common shareholders	$ (63,483)	$ 359,384	$ 374,893
Comprehensive (loss) income:			
Net (loss) income	$ (404,902)	$ 487,202	$ 467,857
Other comprehensive income (loss), net of tax:			
Change in foreign currency translation adjustments	4,057	(10,440)	(3,716)
Change in minimum pension liability	2,869	(484)	544
Change in fair value of cash flow hedges	(6,352)	277	(841)
Other comprehensive income (loss), net of tax	574	(10,647)	(4,013)
Comprehensive loss (income) attributable to noncontrolling interests	357,280	(123,363)	(92,964)
Comprehensive (loss) income (attributable) available to Validus	$ (47,048)	$ 353,192	$ 370,880
(Loss) earnings per common share			
Basic (loss) earnings per share (attributable) available to Validus common shareholders	$ (0.80)	$ 4.43	$ 4.47
(Loss) earnings per diluted share (attributable) available to Validus common shareholders	$ (0.80)	$ 4.36	$ 4.34
Cash dividends declared per common share	$ 1.52	$ 1.40	$ 1.28
Weighted average number of common shares and common share equivalents outstanding:			
Basic	79,091,376	81,041,974	83,107,236
Diluted	79,091,376	82,359,460	86,426,760

The accompanying notes are an integral part of these Consolidated Financial Statements.

Validus Holdings, Ltd.
Consolidated Statements of Shareholders' Equity
For the Years Ended December 31, 2017, 2016 and 2015
(Expressed in thousands of U.S. dollars)

	December 31, 2017	December 31, 2016	December 31, 2015
Preferred shares			
Balance, beginning of year	$ 150,000	$ —	$ —
Preferred shares issued	250,000	150,000	—
Balance, end of year	$ 400,000	$ 150,000	$ —
Common shares			
Balance, beginning of year	$ 28,224	$ 28,100	$ 27,222
Common shares issued, net	125	124	878
Balance, end of year	$ 28,349	$ 28,224	$ 28,100
Treasury shares			
Balance, beginning of year	$ (14,376)	$ (13,592)	$ (12,545)
Repurchase of common shares	(92)	(784)	(1,047)
Balance, end of year	$ (14,468)	$ (14,376)	$ (13,592)
Additional paid-in capital			
Balance, beginning of year	$ 821,023	$ 1,002,980	$ 1,207,493
Offering expenses on preferred shares	(8,314)	(5,148)	—
Common shares (redeemed) issued, net	(11,703)	(7,825)	16,529
Repurchase of common shares	(26,476)	(211,891)	(259,383)
Share compensation expenses	40,111	42,907	38,341
Balance, end of year	$ 814,641	$ 821,023	$ 1,002,980
Accumulated other comprehensive loss			
Balance, beginning of year	$ (23,216)	$ (12,569)	$ (8,556)
Other comprehensive income (loss)	574	(10,647)	(4,013)
Amounts reclassified from accumulated other comprehensive loss	450	—	—
Balance, end of year	$ (22,192)	$ (23,216)	$ (12,569)
Retained earnings			
Balance, beginning of year	$ 2,876,636	$ 2,634,056	$ 2,372,972
Net (loss) income	(404,902)	487,202	467,857
Net loss (income) attributable to noncontrolling interests	357,280	(123,363)	(92,964)
Dividends on preferred shares	(15,861)	(4,455)	—
Dividends on common shares	(124,411)	(116,804)	(113,809)
Balance, end of year	$ 2,688,742	$ 2,876,636	$ 2,634,056
Total shareholders' equity available to Validus	$ 3,895,072	$ 3,838,291	$ 3,638,975
Noncontrolling interests	16,718	165,977	154,662
Total shareholders' equity	$ 3,911,790	$ 4,004,268	$ 3,793,637

The accompanying notes are an integral part of these Consolidated Financial Statements.

Validus Holdings, Ltd.
Consolidated Statements of Cash Flows
For the Years Ended December 31, 2017, 2016 and 2015
(Expressed in thousands of U.S. dollars)

	December 31, 2017	December 31, 2016	December 31, 2015
Cash flows provided by (used in) operating activities			
Net (loss) income	$ (404,902)	$ 487,202	$ 467,857
Adjustments to reconcile net (loss) income to cash provided by (used in) operating activities:			
Share compensation expenses	40,111	42,907	38,341
Loss on redemption of AlphaCat ILS fund	402	—	—
Amortization of discount on Senior Notes	108	108	108
(Income) loss from investment and operating affiliates	(22,010)	2,106	(332)
Net realized and change in net unrealized (gains) losses on investments	(10,838)	(32,628)	30,097
Amortization of intangible assets	8,261	5,666	5,666
Foreign exchange (gains) losses included in net income	(14,719)	3,043	18,907
Amortization of premium on fixed maturity investments	15,910	17,961	23,075
Change in operational balance sheet items:			
Premiums receivable	353,787	(76,659)	44,154
Deferred acquisition costs	(8,705)	(28,225)	(19,980)
Prepaid reinsurance premiums	172,215	(4)	4,955
Loss reserves recoverable	(745,979)	(85,264)	24,659
Paid losses recoverable	6,352	(11,932)	15,111
Reserve for losses and loss expenses	1,717,794	37,042	(231,345)
Unearned premiums	(335,512)	109,839	(23,019)
Reinsurance balances payable	(18,381)	(18,487)	(52,785)
Other operational balance sheet items, net	(364,160)	(42,472)	(10,963)
Net cash provided by operating activities	389,734	410,203	334,506
Cash flows provided by (used in) investing activities			
Proceeds on sales of fixed maturity investments	3,135,835	2,671,226	3,842,408
Proceeds on maturities of fixed maturity investments	482,006	349,722	332,410
Purchases of fixed maturity investments	(3,850,224)	(3,074,703)	(4,225,031)
Purchases of short-term investments, net	(577,391)	(856,021)	(436,690)
Purchases of other investments, net	(7,093)	(64,943)	(5,988)
Decrease (increase) in securities lending collateral	7,062	(4,916)	(4,393)
Distributions from operating affiliates	—	369	46,603
Distributions (investments) in investment affiliates, net	22,304	(14,841)	(19,886)
Purchase of subsidiary, net of cash	(183,923)	—	—
Net cash used in investing activities	(971,424)	(994,107)	(470,567)
Cash flows provided by (used in) financing activities			
Net proceeds on issuance of notes payable to AlphaCat investors	311,054	296,325	75,493
Proceeds drawn on credit facilities	206,000	—	—
Net proceeds on issuance of preferred shares	241,686	144,852	—
(Redemption) issuance of common shares, net	(11,578)	(7,701)	17,407
Purchases of common shares under share repurchase program	(26,568)	(212,675)	(260,430)
Dividends paid on preferred shares	(15,861)	(4,455)	—
Dividends paid on common shares	(123,859)	(115,625)	(112,967)
(Decrease) increase in securities lending payable	(7,528)	4,916	4,393
Third party investments in redeemable noncontrolling interests	397,199	393,450	499,200
Third party redemptions of redeemable noncontrolling interests	(258,869)	(17,285)	(86,933)
Third party investments in noncontrolling interests	258,300	171,674	9,600
Third party distributions of noncontrolling interests	(200,690)	(127,103)	(168,758)
Third party subscriptions received (deployed) on funds and sidecars, net	458,881	(225,284)	249,636
Net cash provided by financing activities	1,228,167	301,089	226,641
Effect of foreign currency rate changes on cash and cash equivalents and restricted cash	12,244	(22,632)	(17,605)
Net increase (decrease) in cash and cash equivalents and restricted cash	658,721	(305,447)	72,975
Cash and cash equivalents and restricted cash—beginning of year	490,932	796,379	723,404
Cash and cash equivalents and restricted cash—end of year	$ 1,149,653	$ 490,932	$ 796,379
Supplemental disclosure of cash flow information:			
Taxes paid during the year	$ 4,321	$ 6,034	$ 16,050
Interest paid during the year	$ 54,433	$ 54,638	$ 55,047

The accompanying notes are an integral part of these Consolidated Financial Statements.

Validus Holdings, Ltd.

Notes to the Consolidated Financial Statements

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

1. Nature of the business

Validus Holdings, Ltd. (together with its wholly and majority owned subsidiaries, the "Company" or "Validus") was incorporated under the laws of Bermuda on October 19, 2005. The Company provides reinsurance and insurance coverage, and insurance-linked securities ("ILS") management.

Reportable Segments

In accordance with authoritative accounting guidance, the Company continually monitors and reviews its segment reporting structure to determine whether any changes have occurred that would impact the composition of the Company's reportable segments. As a result of the evolution of the Company's operations, the global nature of the industry and synergies obtained through the acquisition and integration of Talbot Holdings Ltd. ("Talbot"), Western World Insurance Group, Inc. ("Western World") and Crop Risk Services, Inc. ("CRS"), the Company's previous reportable segments had integrated in such a way that during the fourth quarter of 2017, the Company changed its reportable segments to "Reinsurance," "Insurance," and "Asset Management." Furthermore, to better align the Company's disclosures with its current strategy, the Company also changed its primary lines of business to "Property," "Specialty - Short-tail" and "Specialty - Other."

The change in reportable segments and primary lines of business had no impact on the Company's historical consolidated financial positions, results of operations or cash flows as previously reported. Where applicable, all prior periods presented have been reclassified to conform to this new presentation.

A description of each of these three reportable segments is as follows:

Reinsurance

The Reinsurance segment operates as a global provider of reinsurance products and primarily concentrates on property and other reinsurance risks commonly referred to as short-tail in nature due to the relatively brief period between the occurrence and payment of a claim. The segment operates primarily through Validus Reinsurance, Ltd. ("Validus Re") and Validus Reinsurance (Switzerland) Ltd. ("Validus Re Swiss"), as well as Lloyd's Syndicate 1183 (the "Talbot Syndicate"), which is managed by Talbot through its wholly–owned subsidiaries. The Talbot Syndicate has a short-tail treaty reinsurance portfolio that provides the Company with access to the Lloyd's marketplace.

Insurance

The Insurance segment operates globally and focuses on property and specialty insurance business, as well as facultative reinsurance, which provides coverage on a single-risk basis. The segment operates primarily through two insurance companies, the Talbot Syndicate and Western World. Western World provides the company access to the U.S. commercial insurance market and primarily insures small to medium size commercial and institutional risks through three wholly–owned insurance subsidiaries: Western World Insurance Company ("WWIC"), Tudor Insurance Company ("Tudor") and Stratford Insurance Company ("Stratford"). On May 1, 2017, Western World acquired all of the outstanding capital stock of CRS, a U.S. based primary crop insurance managing general agent. Refer to Note 5, *"Business combinations,"* for further details.

Asset Management

The Asset Management segment participates in the market for ILS, which are financial instruments, the values of which are determined by insurance losses caused primarily by natural catastrophes such as major earthquakes and hurricanes. The Asset Management segment operates primarily through AlphaCat Managers Ltd. ("AlphaCat Managers"), an asset manager primarily for third party investors.

Corporate and Investments

The Company also has a corporate and investments function ("Corporate and Investments"), which includes the activities of the parent company, and which carries out certain functions for the group, including investment management. Detailed financial information about each of the Company's reportable segments and Corporate and Investments is presented in Note 25, *"Segment information."*

Validus Holdings, Ltd.

Notes to the Consolidated Financial Statements

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

2. Basis of preparation and consolidation

These Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). The Company consolidates in these Consolidated Financial Statements the results of operations and financial position of every voting interest entity ("VOE") in which the Company has a controlling financial interest and variable interest entity ("VIE") in which the Company is considered to be the primary beneficiary. The consolidation assessment, including the determination as to whether an entity qualifies as a VIE or VOE, depends on the facts and circumstances surrounding each entity.

All significant intercompany accounts and transactions have been eliminated.

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

- the reserve for losses and loss expenses;
- the premium written on a line slip or proportional basis;
- the valuation of goodwill and intangible assets;
- the loss reserves recoverable, including the provision for uncollectible amounts; and
- the valuation of invested assets and other financial instruments.

The term "ASC" used in these notes refers to Accounting Standard Codification issued by the United States Financial Accounting Standards Board (the "FASB").

3. Significant accounting policies

The following is a summary of significant accounting policies adopted by the Company.

(a) Premiums

Reinsurance contracts can be written on a risks attaching or losses occurring basis. Under risks attaching reinsurance contracts, all claims from cedants' underlying policies incepting during the contract period are covered, even if they occur after the expiration date of the reinsurance contract. In contrast, losses occurring reinsurance contracts cover all claims occurring during the period of the contract, regardless of the inception dates of the underlying policies. Any claims occurring after the expiration of the losses occurring contract are not covered.

Insurance and reinsurance premiums written are recorded at the inception of the policy. Reinsurance premiums are estimated based on information received from brokers, ceding companies and reinsureds, and any subsequent differences arising on such estimates are recorded in the periods in which they are determined.

Premiums written are earned on a pro-rated basis over the term of the related policy or contract. For direct insurance, and for facultative and losses occurring reinsurance contracts, the earnings period is generally the same as the term of the related contract or policy. For reinsurance contracts written on a risks attaching basis, the earnings period is based on the terms of the underlying contracts and policies and is generally assumed to be 24 months. The portion of the premiums written applicable to the unexpired terms of the underlying contracts and policies in force is recorded as unearned premiums.

Reinstatement premiums are recorded at the time a loss event occurs and coverage limits for the remaining life of the contract are reinstated under predefined contract terms. The accrual of reinstatement premiums is based on our estimate of losses and loss expenses, which reflects management's judgment, as described in Note 3(c), "*Reserve for losses and loss expenses*" below.

(b) Policy acquisition costs

Policy acquisition costs are costs that vary with, and are directly related to, the successful production of new and renewal business, and consist principally of commissions and brokerage expenses. Acquisition costs are shown net of commissions earned on reinsurance ceded. However, if the sum of a contract's expected losses and loss expenses and deferred acquisition costs exceeds

related unearned premiums, a premium deficiency is determined to exist. In this event, deferred acquisition costs are immediately expensed to the extent necessary to eliminate the premium deficiency. If the premium deficiency exceeds deferred acquisition costs then a liability is accrued for the excess deficiency. There were no significant premium deficiency adjustments recognized during the periods presented herein.

Policy acquisition costs also include profit commissions, which are recognized on a basis consistent with our estimate of losses and loss expenses.

(c) Reserve for losses and loss expenses

The reserve for losses and loss expenses includes reserves for unpaid reported losses ("case reserves") and for losses incurred but not reported ("IBNR"). Case reserves are established by management based on reports from brokers, ceding companies and insureds and represents the unpaid portion of the estimated ultimate cost of events or conditions that have been reported to, or specifically identified by, the Company. IBNR reserves are established by management based on actuarially determined estimates of ultimate losses and loss expenses. Inherent in the estimate of ultimate losses and loss expenses are expected trends in claim severity and frequency and other factors which may vary significantly as claims are settled.

The period of time from the occurrence of a loss to the reporting of a loss to the Company and to the settlement of the Company's liability may be several months or years. During this period, additional facts and trends may be revealed. Accordingly, losses and loss expenses ultimately paid may differ materially from the amounts recorded in the Consolidated Financial Statements. These estimates are reviewed regularly and, as experience develops and new information becomes known, the reserves are adjusted as necessary. These adjustments sometimes lead to an increase or decrease in ultimate losses, and at other times lead to a reallocation between IBNR and specific case reserves. Adjustments to ultimate loss estimates, if any, are recorded in earnings in the period in which they become known. Prior period development arises from changes to these estimates recognized in the current year that relate to losses and loss expenses that were incurred in previous calendar years.

Although there is normally a lag in receiving reinsurance data from cedants, the Company currently has adequate procedures in place regarding the timeliness related to the processing of assumed reinsurance information and there is no significant backlog. The Company actively manages its relationships with brokers and clients and considers existing disputes with counterparties to be in the normal course of business.

(d) Reinsurance

The Company enters into reinsurance and retrocession agreements in order to mitigate its accumulation of loss, reduce its liability on individual risks, enable it to underwrite policies with higher limits and increase its aggregate capacity. Ceded reinsurance premiums are accounted for on bases consistent with those used in accounting for the underlying premiums assumed. Prepaid reinsurance premiums represent the portion of premiums ceded applicable to the unexpired term of policies in force.

Loss reserves recoverable on unpaid losses represent amounts that will be collectible from reinsurers once the losses are paid. Reinsurance recoverable on paid losses represents amounts currently due from reinsurers. The recognition of reinsurance recoverable requires two key judgments. In determining the Company's ceded IBNR, the first judgment involves the estimation of the amount of gross IBNR to be ceded to reinsurers. Ceded IBNR is developed as part of the Company's loss reserving process and consequently, its estimation is subject to risks and uncertainties similar to the estimation of gross IBNR.

(e) Investments

The Company classifies its fixed maturity and short-term investments as trading and accounts for its other investments in accordance with ASC Topic 825 *"Financial Instruments."* As such, all investments are carried at fair value with interest and dividend income and realized and unrealized gains and losses included in net income.

All investment transactions are recorded on a first-in-first-out basis and realized gains and losses on the sale of investments are determined on the basis of amortized cost (or cost). Interest on fixed maturity securities is recorded in net investment income when earned and includes amortization of premium or accretion of discount.

For mortgage-backed securities, and any other holdings which carry the risk of prepayment, prepayment assumptions are evaluated and revised as necessary. Any adjustments required due to the resultant change in effective yields and maturities are recognized retrospectively. Prepayment fees or call premiums that are only payable to the Company when a security is called prior to its maturity, are earned when received and reflected in net investment income.

Short-term investments primarily comprise investments with a remaining maturity of less than one year at time of purchase and money market funds held at the Company's investment managers. Certain short-term investments relate to funds held in trust in support of collateralized reinsurance transactions.

Restricted cash primarily relates to funds held in trust in support of collateralized reinsurance transactions.

The fair value of other investments is generally recorded on the basis of the net asset valuation criteria established by the managers of the investments, normally based upon the governing documents of such investments. 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, the Company estimates the fair value of these funds by starting with the prior month's or prior quarter's fund valuation, adjusting these valuations for capital calls, redemptions or distributions and the impact of changes in foreign currency exchange rates, and then estimating the return for the current period. In circumstances in which the Company estimates the return for the current period, it uses all credible information available. This includes utilizing preliminary estimates reported by its fund managers, obtaining the valuation of underlying portfolio investments where such underlying investments are publicly traded and therefore have a readily observable price, using information that is available to the Company with respect to the underlying investments, reviewing various indices for similar investments or asset classes, as well as estimating returns based on the results of similar types of investments for which the Company has reported results, or other valuation methods, as necessary. Actual final fund valuations may differ, perhaps materially so, from the Company's estimates and these differences are recorded in the period they become known as a change in estimate.

Investments in which the Company has significant influence over the operating and financial policies of the investee are accounted for under the equity method of accounting. Under this method, the Company records its proportionate share of income or loss from such investments in its results for the period.

(f) Fair value of financial instruments

Fair value is defined as the price received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date reflecting the highest and best use valuation concepts. ASC Topic 820 "*Fair Value Measurement and Disclosure*" provides a framework for measuring fair value by creating a hierarchy of fair value measurements that distinguishes market data between observable independent market inputs and unobservable market assumptions by the reporting entity. The guidance further expands disclosures about such fair value measurements. The guidance applies broadly to most existing accounting pronouncements that require or permit fair value measurements (including both financial and non-financial assets and liabilities) but does not require any new fair value measurements. The Company has adopted all authoritative guidance in effect as of the balance sheet date regarding certain market conditions that allow for fair value measurements that incorporate unobservable inputs where active market transaction based measurements are unavailable.

(g) Derivative instruments

The Company enters into various derivative instruments in the form of foreign currency forward exchange contracts, interest rate swap contracts and weather derivative instruments. These derivative instruments are used to manage exposures to currency and interest rate risks, to enhance the efficiency of the Company's investment portfolio and to provide protection against cedants' financial exposure to variability in weather patterns. All of the Company's outstanding derivative financial instruments are recognized in the Consolidated Balance Sheets at their fair values. The effect on earnings from recognizing the fair values of these derivative financial instruments depends on their intended use, their hedge designation, and their effectiveness in offsetting changes in the fair values of the exposures they are hedging.

To qualify for hedge accounting treatment, a derivative must be highly effective in mitigating the changes in the fair value or cash flows of the hedged item. The Company formally documents all relationships between designated hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions. The documentation process includes linking derivatives to specific assets or liabilities on the balance sheet, and assessing, both at the hedge's inception and on an ongoing basis, whether the derivatives that are used in hedging transactions are highly effective in offsetting the designated changes of the hedged items. The Company currently applies the long haul method when assessing a hedge's effectiveness.

The Company discontinues hedge accounting prospectively when it is determined that the derivative is no longer highly effective in offsetting the designated changes of the hedged item, the derivative is de-designated as a hedging instrument, or the derivative expires or is sold, terminated or exercised. When hedge accounting is discontinued because the Company becomes aware that it is not probable that the forecasted transaction will occur, the derivative continues to be carried on the balance sheet at its fair value,

and gains and losses that were included as part of accumulated other comprehensive income are reclassified and recognized immediately in earnings.

Derivatives not designated as hedging instruments

Changes in the fair values of derivative instruments that are not designated as hedges are reported currently in earnings. Refer to Note 11(a), *"Derivatives not designated as hedging instruments,"* for further details.

Fair Value Hedges

Fair value hedges are derivative instruments designated to reduce or eliminate adverse fluctuations in the fair values of recognized assets and liabilities. Changes in the fair values of fair value hedges are reported currently in earnings along with changes in the fair values of the hedged items.

Up to September 30, 2015, the Company had designated certain foreign currency forward exchange contracts as fair value hedges, with the changes in fair value recorded as a net foreign exchange gain or loss in the Company's Statements of Income and Comprehensive Income.

Cash Flow Hedges

Cash flow hedges are derivative instruments used to reduce or eliminate adverse fluctuations in cash flows of anticipated or forecasted transactions. Changes in their fair values are reported in equity as a component of accumulated other comprehensive income. Amounts in accumulated other comprehensive income are reclassified to earnings when the related hedged items affect earnings or the anticipated transactions are no longer probable.

(h) Cash and cash equivalents

The Company considers time deposits and money market funds with an original maturity of one month or less as equivalent to cash.

(i) Foreign exchange

The U.S. dollar is the functional currency of the Company and the majority of its subsidiaries. For these companies, monetary assets and liabilities denominated in foreign currencies are revalued at the exchange rates in effect at the balance sheet date and revenues and expenses denominated in foreign currencies are translated at the prevailing exchange rate on the transaction date with the resulting foreign exchange gains and losses included in earnings. Non-monetary assets and liabilities denominated in foreign currencies are revalued at the exchange rate in effect at the time of the underlying transaction.

Assets and liabilities of subsidiaries whose functional currency is not the U.S. dollar are translated at prevailing year end exchange rates. Revenue and expenses of such foreign operations are translated at average exchange rates during the year. The net effect of translation differences between functional and reporting currencies in foreign operations, net of applicable deferred income taxes, is included in accumulated other comprehensive income.

(j) Stock plans

The Company accounts for its stock plans in accordance with the ASC Topic 718 *"Compensation - Stock Compensation."* Accordingly, the Company recognizes the compensation expense for stock option grants, restricted share grants and performance share awards based on the fair value of the award on the date of grant over the requisite service period.

For the years presented, the Company assumed forfeiture rates between 5.0% and 6.8%, depending on the jurisdiction and terms of the individual awards. The Company's forfeiture assumptions serve to reduce the unamortized grant date fair value of outstanding restricted shares as well as the associated restricted shares expense. As restricted shares are actually forfeited, the number outstanding is reduced and the expenses relating to the unvested restricted shares are reversed. True-up adjustments are made as the restricted shares approach the vesting period.

(k) Warrants

The Company has accounted for certain warrant contracts issued to our sponsoring investors in conjunction with the capitalization of the Company, and which may be settled by the Company using either the physical settlement or net-share settlement

methods, in accordance with ASC Topic 815 *"Derivatives and Hedging, Contracts in Entity's Own Equity."* Accordingly, the fair value of these warrants has been recorded in equity as an addition to additional paid-in capital.

(l) Earnings per share

Basic earnings per common share is calculated in accordance with ASC Topic 260 "Earnings per Share" by dividing net income available to common shareholders by the weighted average number of common shares outstanding. Earnings per diluted common share are based on the weighted average number of common shares and share equivalents excluding any anti-dilutive effects of warrants, options and other awards under stock plans. Dilutive potential common shares are calculated in accordance with the treasury stock method, which assumes that proceeds from the exercise of all warrants and options are used to repurchase common stock at market value. The amount of shares remaining after the proceeds are exhausted represents the potentially dilutive effect of the securities.

(m) Income taxes and uncertain tax provisions

Deferred tax assets and liabilities are recorded in accordance with ASC Topic 740 "*Income Taxes*." Consistent with ASC 740, the Company records deferred income taxes which reflect operating losses and tax credits carried forward and the tax effect of the temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and their respective tax bases.

The Company and its Bermuda domiciled subsidiaries are not subject to any income, withholding or capital gains taxes under current Bermuda law. The Company has operating subsidiaries in various other jurisdictions around the world, including but not limited to the U.K., U.S., Switzerland, Luxembourg and Canada that are subject to relevant taxes in those jurisdictions.

The Company recognizes the tax benefits of uncertain tax positions only where the position is more likely than not to be sustained upon examination by tax authorities based upon the technical merits of the position. Based on the more-likely-than-not recognition threshold, we 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 Company classifies all interest and penalties related to uncertain tax positions in income tax expenses.

(n) Business combinations, goodwill and intangible assets

The Company accounts for business combinations in accordance with ASC Topic 805 *"Business Combinations"* and goodwill and intangible assets that arise from business combinations in accordance with ASC Topic 350 *"Intangibles – Goodwill and Other."*

A purchase price paid that is in excess of the fair value of the net assets acquired ("goodwill") arising from a business combination is recorded as an asset, and is not amortized. Intangible assets with a finite life are amortized over the estimated useful life of the assets, whereas intangible assets with an indefinite useful life are not amortized.

Goodwill and intangible assets are 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 performing this assessment, the Company may first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the quantitative goodwill impairment test. Similarly, the Company may first assess qualitative factors to determine whether it is more likely than not that an other intangible asset is impaired as a basis for determining whether it is necessary to perform the quantitative impairment test. The factors assessed in making this determination included the overall insurance industry outlook, business strategy, premium rates, earnings sustainability, market capitalization and the regulatory and political environment.

If goodwill or intangible assets are impaired, they are written down to their fair value with a corresponding expense reflected in the Consolidated Statements of Income and Comprehensive Income.

(o) Variable interest entities

The Company determines whether it has relationships with entities defined as VIEs in accordance with ASC Topic 810 "*Consolidation.*" A VIE is consolidated by the variable interest holder that is determined to be the primary beneficiary.

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An entity in which the Company 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, the Company determines whether it is the primary beneficiary based on the facts and circumstances surrounding each entity.

(p) Noncontrolling interests

The Company accounts for its noncontrolling interests in accordance with ASC Topic 810 "*Consolidation*." Redeemable noncontrolling interests are presented as a mezzanine item, between liabilities and shareholders' equity, in the Company's Consolidated Balance Sheet and the non-redeemable noncontrolling interests are presented within shareholders' equity in the Company's Consolidated Balance Sheets and Consolidated Statements of Shareholders' Equity. The net (income) loss attributable to noncontrolling interests is presented separately in the Company's Consolidated Statements of Income and Comprehensive Income.

4. Recent accounting pronouncements

Accounting Standards Adopted in 2017

In March 2016, the FASB issued Accounting Standards Update ("ASU") 2016-07, *"Investments - Equity Method and Joint Ventures (Topic 323) - Simplifying the Transition to the Equity Method of Accounting."* The amendments in this ASU eliminate the requirement to retroactively adopt the equity method of accounting when an investment becomes qualified for the equity method of accounting as a result of an increase in the level of ownership interest or degree of influence. The amendments in this ASU became effective for the Company on January 1, 2017. Adoption of this guidance did not have a material impact on the Company's Consolidated Financial Statements.

In March 2016, the FASB issued ASU 2016-09, *"Compensation - Stock Compensation (Topic 718) - Improvements to Employee Share-Based Payment Accounting."* The amendments in this ASU simplify several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities and classification on the statement of cash flows. The amendments in this ASU became effective for the Company on January 1, 2017. Adoption of this guidance did not have a material impact on the Company's Consolidated Financial Statements.

In October 2016, the FASB issued ASU 2016-17, *"Consolidation (Topic 810) - Interests Held Through Related Parties That Are Under Common Control."* The amendments in this ASU do not change the characteristics of a primary beneficiary in current U.S. GAAP. Rather, the ASU requires that a reporting entity, in determining whether it satisfies the second characteristic of a primary beneficiary, include all of its direct variable interests in a VIE and, on a proportionate basis, its indirect variable interests in a VIE held through related parties, including related parties that are under common control with the reporting entity. The amendments in this ASU became effective for the Company on January 1, 2017. Adoption of this guidance did not have a material impact on the Company's Consolidated Financial Statements.

In November 2016, the FASB issued ASU 2016-18, *"Statement of Cash Flows (Topic 320) - Restricted Cash."* This ASU is directed at reducing diversity that exists in the classification and presentation of changes in restricted cash on the statement of cash flows. The ASU is effective for fiscal periods beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. During the fourth quarter of 2017, the Company early adopted and implemented this guidance utilizing the full retrospective approach for all periods presented in the Company's Consolidated Financial Statements.

As a result of the adoption of ASU 2016-18, the Company's Consolidated Statements of Cash Flows now explain the change during the period in the total of cash, cash equivalents, and restricted cash. Therefore, restricted cash is now included with cash and cash equivalents in the reconciliation the beginning-of-period and end-of-period total amounts shown on the statement of cash flows.

Prior to adoption, changes in restricted cash had been presented as a cash flow provided by (used in) investing activities. Consequently, the Consolidated Statements of Cash Flows for the years ended December 31, 2016 and 2015 include revisions to increase net cash used in investing activities by $2,314 and $99,733, respectively.

In August 2017, the FASB issued ASU 2017-12, *"Derivatives and Hedging (Topic 815)."* This ASU is directed at targeted improvements to accounting for hedging activities. This ASU is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. During the fourth quarter of 2017, the Company early adopted and implemented this guidance with the effect of the adoption reflected as of January 1, 2017 in these Consolidated Financial Statements. Adoption of this guidance did not have a material impact on the Company's Consolidated Financial Statements.

Recently Issued Accounting Standards Not Yet Adopted

In February 2018, the FASB issued ASU 2018-02, *"Income Statement - Reporting Comprehensive Income (Topic 220)."* Current GAAP requires that deferred tax liabilities and assets be adjusted for the effect of a change in tax laws or rates with the effect included in net income. This guidance is applicable even in situations in which the related income tax effects on items in accumulated other comprehensive income were originally recognized in other comprehensive income (rather than in net income). The amendments in this update allow a reclassification from accumulated other comprehensive income to retained earnings for the tax effects of items within accumulated other comprehensive income (referred to as "stranded tax effects") resulting from the Tax Cuts and Jobs Act enacted by the U.S. on December 22, 2017 ("2017 Tax Act"). Consequently, the amendments eliminate the stranded tax effects resulting from the 2017 Tax Act. The amendments in this Update also require certain disclosures about stranded tax effects. This ASU is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. The Company has evaluated the impact of this guidance and has determined that it will not have a material impact on the Company's Consolidated Financial Statements. The Company intends to adopt this guidance on January 1, 2019.

5. Business combinations

American International Group, Inc. ("AIG")

On January 21, 2018, the Company entered into a definitive agreement and plan of merger with AIG. Refer to Note 27, *"Subsequent Events,"* for further details.

CRS

On May 1, 2017, Western World, a wholly–owned subsidiary of the Company acquired all of the outstanding capital stock of CRS for an aggregate purchase price of $185,576 in cash. CRS is a primary crop insurance managing general agent ("MGA") based in Decatur, Illinois with 1,170 agents across 36 states. CRS does not have insurance licenses of its own, but acts solely as an MGA in that it can produce business for any properly licensed entity on a commission basis. Concurrent with closing of the transaction, Stratford, a wholly–owned subsidiary of Western World, was granted the required licenses to write crop insurance in the United States and executed several agreements to transfer the related agriculture book of business to Stratford.

The CRS acquisition was undertaken to expand the Company's presence in U.S. primary specialty lines.

For segmental reporting purposes, the results of CRS' operations, including the related agricultural book of business have been included within the Insurance segment in the Consolidated Financial Statements from the date of acquisition.

On closing, the Company recorded intangible assets totaling $63,921 for Distribution Channels, Trade Name and Technology. Distribution Channels and Trade Name were estimated to have finite useful economic lives of ten years on acquisition and are being amortized on a straight line basis over such period. Technology was estimated to have a finite useful economic life of two years on acquisition and is being amortized on a straight line basis over such a period.

The purchase price was allocated to the acquired assets and liabilities of CRS based on estimated fair values on May 1, 2017, the date the transaction closed, as detailed below. The Company recognized goodwill of $30,943 primarily attributable to CRS' assembled workforce and synergies expected to result upon the integration of CRS and its related book of business into the Company's operations. The estimates of fair values for tangible assets acquired and liabilities assumed were determined by management based on various market and income analyses. The Company estimated the fair values of intangible assets acquired based on variations of the income and cost approaches. Significant judgment was required to arrive at these estimates of fair value and changes to assumptions used could have led to materially different results.

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The purchase of CRS was a taxable transaction and as such, goodwill and intangibles recorded at closing will be deductible for income tax purposes. The Company has recognized and recorded a deferred tax asset of $6,443 which results from the excess of tax-deductible goodwill over book value goodwill as recognized in the purchase price allocation.

The fair value of net assets acquired, including GAAP adjustments, are summarized as follows:

Total purchase price			**$**	**185,576**
Assets acquired				
Cash and cash equivalents	$	1,653		
Premiums receivable		537,383		
Prepaid reinsurance premiums		227,157		
Other assets		184,216		
Tangible assets acquired				950,409
Intangible asset - Distribution channels	$	52,898		
Intangible asset - Trade name		9,568		
Intangible asset - Technology		1,455		
Intangible assets acquired				63,921
Deferred tax arising on Goodwill				6,443
Liabilities acquired				
Reinsurance balances payable		294,201		
Unearned premiums		406,649		
Net loss reserves		42,575		
Other liabilities		122,715		
Liabilities acquired				866,140
Excess purchase price (goodwill) at acquisition			**$**	**30,943**
Measurement period adjustments [(a)]				1,872
Excess purchase price (goodwill) at December 31, 2017			**$**	**32,815**

(a) During the year ended December 31, 2017, the Company recorded tax related measurement period adjustments of $1,872.

The Company also incurred transaction expenses related to the CRS acquisition of $4,427. Transaction expenses included legal, financial advisory and audit related services.

For details on the intangible assets acquired, refer to Note 6, "*Goodwill and other intangible assets.*"

Operating results of CRS have been included in the Consolidated Financial Statements from the May 1, 2017 acquisition date. The following selected unaudited information has been provided to present a summary of the results of CRS that have been included in the Consolidated Financial Statements for the year ended December 31, 2017:

		Year Ended December 31, 2017
		Unaudited
Total underwriting revenues	$	236,769
Total underwriting deductions	$	183,637
Underwriting income, before general and administrative expenses	$	53,132

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6. Goodwill and intangible assets

The following tables present a reconciliation of the beginning and ending goodwill and intangible assets for the years ended December 31, 2017 and 2016:

	Year Ended December 31, 2017					
	Goodwill			Intangible Assets		
	Reinsurance Segment	Insurance Segment	Total	Reinsurance Segment	Insurance Segment	Total
Balance, beginning of year	$ 2,039	$ 194,719	$ 196,758	$ 9,392	$ 106,200	$ 115,592
Additions	—	30,943	30,943	—	64,080	64,080
Amortization	—	—	—	(208)	(8,053)	(8,261)
Measurement period adjustments [(a)]	—	1,872	1,872	—	—	—
Balance, end of year	$ 2,039	$ 227,534	$ 229,573	$ 9,184	$ 162,227	$ 171,411

(a) During the year ended December 31, 2017, the Company recorded tax related measurement period adjustments of $1,872.

	Year Ended December 31, 2016					
	Goodwill			Intangible Assets		
	Reinsurance Segment	Insurance Segment	Total	Reinsurance Segment	Insurance Segment	Total
Balance, beginning of year	$ 2,039	$ 194,719	$ 196,758	$ 9,808	$ 111,450	$ 121,258
Amortization	—	—	—	(416)	(5,250)	(5,666)
Balance, end of year	$ 2,039	$ 194,719	$ 196,758	$ 9,392	$ 106,200	$ 115,592

	Year Ended December 31, 2017			Year Ended December 31, 2016		
	Intangible Assets			Intangible Assets		
	With a Finite Life	With an Indefinite Life	Total	With a Finite Life	With an Indefinite Life	Total
Balance, beginning of year	$ 11,424	$ 104,168	$ 115,592	$ 17,090	$ 104,168	$ 121,258
Additions	64,080	—	64,080	—	—	—
Amortization	(8,261)	—	(8,261)	(5,666)	—	(5,666)
Balance, end of year	$ 67,243	$ 104,168	$ 171,411	$ 11,424	$ 104,168	$ 115,592

Goodwill relates to the Company's 2007 acquisition of Talbot, 2014 acquisition of Western World and 2017 acquisition of CRS.

Intangible assets with a finite life includes the distribution network, technology, trade name and customer relationships related to the Company's acquisitions of Talbot, Western World and CRS. These assets are amortized on a straight-line basis over a period ranging from two to ten years. Amortization expense associated with these assets for the years ended December 31, 2017, 2016 and 2015 was $8,261, $5,666 and $5,666, respectively.

Intangible assets with an indefinite life consist of Lloyd's Syndicate capacity related to the Company's acquisition of Talbot, along with U.S. state licenses that provide a legal right to transact business indefinitely which were acquired with the Company's acquisition of Western World.

The Company completed its qualitative and quantitative assessments of goodwill and other intangible assets and concluded that there had been no impairment as at December 31, 2017 and 2016.

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The gross carrying values, accumulated amortization and net carrying values of other intangible assets by type as at December 31, 2017 and 2016 were as follows:

	December 31, 2017			December 31, 2016		
	Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Intangible assets with a finite life						
Trade name and customer relationships	$ 27,757	$ (14,940)	$ 12,817	$ 18,189	$ (13,406)	$ 4,783
Distribution network	92,729	(40,218)	52,511	39,831	(34,468)	5,363
Technology	3,937	(2,022)	1,915	2,323	(1,045)	1,278
Total	$ 124,423	$ (57,180)	$ 67,243	$ 60,343	$ (48,919)	$ 11,424
Intangible assets with an indefinite life						
Syndicate capacity	$ 91,843	n/a	$ 91,843	$ 91,843	n/a	$ 91,843
State licenses	12,325	n/a	12,325	12,325	n/a	12,325
Total	$ 104,168		$ 104,168	$ 104,168		$ 104,168

The estimated aggregate amortization expense for the Company's intangible assets with a finite life is as follows:

	Estimated Aggregate Amortization Expense, by Period
2018	$ 8,511
2019	7,910
2020	7,319
2021	7,319
2022	7,306
2023 and thereafter	28,878
	$ 67,243

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7. Investments

Managed investments represent assets governed by the Company's investment policy statement ("IPS") whereas, non-managed investments represent assets held in support of consolidated AlphaCat VIEs which are not governed by the Company's IPS. Refer to Note 9, *"Variable interest entities,"* for further details.

The amortized cost (or cost) and fair value of the Company's investments as at December 31, 2017 and 2016 were as follows:

	December 31, 2017		December 31, 2016	
	Amortized Cost or Cost	Fair Value	Amortized Cost or Cost	Fair Value
Managed investments				
U.S. government and government agency	$ 733,510	$ 727,397	$ 809,392	$ 804,126
Non-U.S. government and government agency	310,845	312,239	245,651	240,791
U.S. states, municipalities and political subdivisions	201,347	201,303	271,742	271,830
Agency residential mortgage-backed securities	984,387	978,049	684,490	679,595
Non-agency residential mortgage-backed securities	40,264	40,373	15,858	15,477
U.S. corporate	1,531,498	1,533,395	1,540,036	1,534,508
Non-U.S. corporate	420,522	422,249	418,520	410,227
Bank loans	450,320	442,951	579,121	570,399
Asset-backed securities	657,234	658,303	528,563	526,814
Commercial mortgage-backed securities	315,002	312,395	333,740	330,932
Total fixed maturities	5,644,929	5,628,654	5,427,113	5,384,699
Short-term investments	229,968	230,011	228,574	228,386
Other investments				
Fund of hedge funds	—	—	1,457	955
Hedge funds	6,954	15,774	11,292	17,381
Private equity investments	63,684	78,407	66,383	82,627
Fixed income investment funds	203,167	204,426	247,967	249,275
Overseas deposits	56,611	56,611	50,106	50,106
Mutual funds	—	—	2,925	5,368
Total other investments	330,416	355,218	380,130	405,712
Investments in investment affiliates [a]	61,944	100,137	84,840	100,431
Total managed investments	$ 6,267,257	$ 6,314,020	$ 6,120,657	$ 6,119,228
Non-managed investments				
Catastrophe bonds	$ 231,332	$ 229,694	$ 157,486	$ 158,331
Short-term investments	3,151,746	3,151,746	2,567,784	2,567,784
Total non-managed investments	3,383,078	3,381,440	2,725,270	2,726,115
Total investments	$ 9,650,335	$ 9,695,460	$ 8,845,927	$ 8,845,343

(a) The Company's investments in investment affiliates have been treated as equity method investments with the corresponding gains and losses recorded in income as *"Income (loss) from investment affiliates."*

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

(a) Fixed maturity investments

The following table sets forth certain information regarding Standard & Poor's credit quality ratings (or an equivalent rating with another recognized rating agency) of the Company's fixed maturity investments as at December 31, 2017 and 2016:

	December 31, 2017		December 31, 2016	
	Fair Value	% of Total	Fair Value	% of Total
Managed fixed maturities				
AAA	$ 2,715,074	46.4%	$ 2,405,597	43.4%
AA	442,397	7.6%	538,289	9.7%
A	1,137,795	19.4%	1,081,949	19.5%
BBB	828,392	14.1%	740,861	13.4%
Total investment grade managed fixed maturities	5,123,658	87.5%	4,766,696	86.0%
BB	168,967	2.9%	213,568	3.9%
B	237,131	4.0%	177,737	3.2%
CCC	18,217	0.3%	13,371	0.2%
NR	80,681	1.4%	213,327	3.8%
Total non-investment grade managed fixed maturities	504,996	8.6%	618,003	11.1%
Total managed fixed maturities	$ 5,628,654	96.1%	$ 5,384,699	97.1%
Non-managed catastrophe bonds				
BB	22,110	0.3%	29,731	0.6%
B	3,265	0.1%	4,524	0.1%
NR	204,319	3.5%	124,076	2.2%
Total non-investment grade non-managed catastrophe bonds	229,694	3.9%	158,331	2.9%
Total non-managed catastrophe bonds	229,694	3.9%	158,331	2.9%
Total fixed maturities	$ 5,858,348	100.0%	$ 5,543,030	100.0%

Validus Holdings, Ltd.

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The amortized cost and fair values for the Company's fixed maturity investments held at December 31, 2017 and 2016 are shown below by contractual maturity. Actual maturity may differ from contractual maturity due to prepayment rights associated with certain investments.

	December 31, 2017		December 31, 2016	
	Amortized Cost or Cost	Fair Value	Amortized Cost or Cost	Fair Value
Managed fixed maturities				
Due in one year or less	$ 343,360	$ 343,541	$ 350,733	$ 346,161
Due after one year through five years	2,527,018	2,513,620	2,954,856	2,933,146
Due after five years through ten years	577,347	577,109	430,365	426,647
Due after ten years	200,317	205,264	128,508	125,927
	3,648,042	3,639,534	3,864,462	3,831,881
Asset-backed and mortgage-backed securities	1,996,887	1,989,120	1,562,651	1,552,818
Total managed fixed maturities	$ 5,644,929	$ 5,628,654	$ 5,427,113	$ 5,384,699
Non-managed catastrophe bonds				
Due in one year or less	$ 88,797	$ 88,367	$ 43,664	$ 45,418
Due after one year through five years	140,035	138,844	112,572	111,656
Due after five years through ten years	2,500	2,483	1,250	1,257
Total non-managed catastrophe bonds	231,332	229,694	157,486	158,331
Total fixed maturities	$ 5,876,261	$ 5,858,348	$ 5,584,599	$ 5,543,030

(b) Other investments

The following tables set forth certain information regarding the Company's other investment portfolio as at December 31, 2017 and 2016:

	December 31, 2017				
	Fair Value	Investments with redemption restrictions	Investments without redemption restrictions	Redemption frequency [a]	Redemption notice period [a]
Hedge funds	$ 15,774	$ 15,774	$ —		
Private equity investments	78,407	78,407	—		
Fixed income investment funds	204,426	200,532	3,894	Daily	Daily to 2 days
Overseas deposits	56,611	56,611	—		
Total other investments	$ 355,218	$ 351,324	$ 3,894		

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

	December 31, 2016				
	Fair Value	Investments with redemption restrictions	Investments without redemption restrictions	Redemption frequency [a]	Redemption notice period [a]
Fund of hedge funds	$ 955	$ 955	$ —		
Hedge funds	17,381	17,381	—		
Private equity investments	82,627	82,627	—		
Fixed income investment funds	249,275	218,333	30,942	Daily	2 days
Overseas deposits	50,106	50,106	—		
Mutual funds	5,368	—	5,368	Daily	Daily
Total other investments	$ 405,712	$ 369,402	$ 36,310		

(a) The redemption frequency and notice periods only apply to investments without redemption restrictions.

Other investments include investments in various funds and pooled investment schemes. These alternative investments employ various investment strategies primarily involving, but not limited to, investments in collateralized obligations, fixed income securities, private equities, distressed debt and equity securities. Certain debt-like investments totaling $186,734 (December 31, 2016: $265,796) are either rated or consist of underlying securities or instruments which carry credit ratings issued by nationally recognized statistical rating organizations. Other equity-like investments totaling $168,484 (December 31, 2016: $139,916) are unrated given the nature of their underlying assets, such as private equity investments, and as such do not carry credit ratings.

Certain securities included in other investments are subject to redemption restrictions. Distributions from these funds will be received as the underlying investments of the funds are liquidated. Currently, it is not known to the Company when these underlying assets will be sold by their investment managers; however, it is estimated that the majority of the underlying assets of the investments will liquidate over five to ten-year periods from inception of the funds. In addition, one of the fixed income investment funds with a fair value of $130,123 (December 31, 2016: $184,749), has various lock-up periods of approximately two years or less as at December 31, 2017 and may also impose a redemption gate. A lock-up period refers to the initial amount of time an investor is contractually required to remain invested before having the ability to redeem. Typically, the imposition of a gate delays a portion of the requested redemption, with the remaining portion settled in cash shortly after the redemption date. Furthermore, the underlying investments held in the overseas deposit funds are liquid and will generally trade freely in an open market. However, the Company's ability to withdraw from the overseas deposit funds is restricted by annual and quarterly funding and release processes for Lloyd's market participants.

The Company's maximum exposure to any of these alternative investments is limited to the invested amounts and any remaining capital commitments. Refer to Note 22, *"Commitments and contingencies,"* for further details. As at December 31, 2017, the Company does not have any plans to sell any of the other investments listed above.

(c) Investments in investment affiliates

Included in the Company's managed investment portfolio as at December 31, 2017 are investments in Aquiline Financial Services Fund II L.P. ("Aquiline II"), Aquiline Financial Services Fund III L.P. ("Aquiline III"), Aquiline Technology Growth Fund L.P. ("Aquiline Tech") and Aquiline Armour Co-Invest L.P. ("Aquiline Armour").

Aquiline II

On December 20, 2011, the Company entered into an Assignment and Assumption Agreement (the "Agreement") with Aquiline Capital Partners LLC, a Delaware limited liability company (the "Assignor") and Aquiline Capital Partners II GP (Offshore) Ltd., a Cayman Islands company limited by shares (the "Aquiline II General Partner") pursuant to which the Company has assumed 100% of the Assignor's interest in Aquiline Financial Services Fund II L.P. (the "Aquiline II Partnership") representing a total capital commitment of $50,000 (the "Aquiline II Commitment"), as a limited partner in the Partnership (the "Transferred Interest"). The Transferred Interest is governed by the terms of an Amended and Restated Exempted Limited Partnership Agreement of the Fund.

On October 2, 2014, the Company assumed an additional investment in the Aquiline II Partnership as part of the Western World acquisition representing a total capital commitment of $10,000. This interest is also governed by the terms of the Aquiline II Limited Partnership Agreement.

The Aquiline II Partnership is a VIE and the Company is not the primary beneficiary. The Company's investment in the Aquiline II Partnership has been treated as an equity method investment. The Aquiline II Partnership provides a quarterly capital account statement, with a three month delay in its valuation, which was used as the basis for calculating the Company's share of partnership income for the period.

In accordance with the terms of the Agreement, no limited partner has the right to withdraw from the Aquiline II Partnership or to withdraw any part of its capital account without prior consent from the Aquiline II General Partner. The Company's maximum exposure to the Aquiline II Partnership is limited to the amount invested and any remaining capital commitment. Refer to Note 22, *"Commitments and contingencies,"* for further details.

Aquiline III

On November 7, 2014, the Company entered into a Subscription Agreement (the "Subscription Agreement") with Aquiline Capital Partners III GP (Offshore) Ltd., a Cayman Islands company limited by shares (the "Aquiline III General Partner") pursuant to which the Company committed and agreed to purchase limited partnership or other comparable limited liability equity interests (the "Limited Partnership Interests") in Aquiline Financial Services Fund III L.P., a Cayman Islands exempted limited partnership (the "Aquiline III Partnership"), and/or one or more Alternative Investment Vehicles and Intermediate Entities (together with the Aquiline III Partnership, the "Fund" or the "Entities") with a capital commitment (the "Aquiline III Commitment") in an amount equal to $100,000, as a limited partner in the Aquiline III Partnership. The Limited Partnership Interests are governed by the terms of an Amended and Restated Exempted Limited Partnership Agreement.

The Aquiline III Partnership is a VIE and the Company is not the primary beneficiary. Therefore, the Company's investment in the Aquiline III Partnership has been treated as an equity method investment. The Aquiline III Partnership provides a quarterly capital account statement, with a three month delay in its valuation, which was used as the basis for calculating the Company's share of partnership income for the period.

In accordance with the terms of the Agreement, no limited partner has the right to withdraw from the Aquiline III Partnership or to withdraw any part of its capital account without prior consent from the Aquiline III General Partner. The Company's maximum exposure to the Aquiline III Partnership is limited to the amount invested and any remaining capital commitment. Refer to Note 22, *"Commitments and contingencies,"* for further details.

Aquiline Tech

On March 20, 2017, the Company entered into a Subscription Agreement with Aquiline Technology Growth GP Ltd, (the "Aquiline Tech General Partner") pursuant to which the Company committed and agreed to purchase limited partnership or other comparable limited liability equity interests (the "Limited Partnership Interests") in Aquiline Tech, a Cayman Islands exempted limited partnership (the "Aquiline Tech Partnership"), with a capital commitment in an amount equal to $20,000. The limited partnership interests are governed by the terms of an amended and restated exempted limited partnership agreement.

The Aquiline Tech Partnership is a VIE and the Company is not the primary beneficiary. Therefore, the Company's investment in the Aquiline Tech Partnership has been treated as an equity method investment. The Aquiline Tech Partnership provides a quarterly capital account statement, with a three month delay in its valuation, which was used as the basis for calculating the Company's share of partnership income for the period.

In accordance with the terms of the Agreement, no limited partner has the right to withdraw from the Aquiline Tech Partnership or to withdraw any part of its capital account without prior consent from the Aquiline Tech General Partner. The Company's maximum exposure to the Aquiline Tech Partnership is limited to the amount invested and any remaining capital commitment. Refer to Note 22, *"Commitments and contingencies,"* for further details.

Aquiline Armour

On December 22, 2017, the Company entered into a Subscription Agreement with Aquiline Co-Invest III GP Ltd., a Cayman Islands exempted company (the "Aquiline Armour General Partner") pursuant to which the Company committed and agreed to purchase limited partnership or other comparable limited liability equity interests in Aquiline Armour, a Cayman Islands exempted limited partnership (the "Aquiline Armour Partnership"), and/or one or more Alternative Investment Vehicles and Intermediate Entities (together with the Aquiline Armour Partnership, the "Fund" or the "Entities") with a capital commitment (the "Aquiline Armour Commitment") in an amount equal to $40,340 as a limited partner in the Aquiline Armour Partnership. As at December 31,

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2017, no capital contributions had been made in relation to this commitment. The Limited Partnership Interests are governed by the terms of an Amended and Restated Exempted Limited Partnership Agreement dated as of December 22, 2017.

The Aquiline Armour Partnership is a VIE and the Company is not the primary beneficiary. Therefore, the Company's investment in the Aquiline Armour Partnership has been treated as an equity method investment. The Aquiline Armour Partnership provides a quarterly capital account statement, with a three month delay in its valuation, which was used as the basis for calculating the Company's share of partnership income for the period.

In accordance with the terms of the Agreement, no limited partner has the right to withdraw from the Aquiline Armour Partnership or to withdraw any part of its capital account without prior consent from the Aquiline Armour General Partner. The Company's maximum exposure to the Aquiline Armour Partnership is limited to the amount invested and any remaining capital commitment. Refer to Note 22, *"Commitments and contingencies,"* for further details.

The following table presents a reconciliation of the Company's beginning and ending investments in investment affiliates for the years ended December 31, 2017 and 2016:

	Years Ended December 31,	
	2017	2016
Investment affiliates, beginning of year	$ 100,431	$ 87,673
Net capital (distributions) contributions	(22,304)	14,841
Income (loss) from investment affiliate	22,010	(2,083)
Investment affiliates, end of year	$ 100,137	$ 100,431

The following table presents the Company's investments in the partnerships as at December 31, 2017 and 2016:

	December 31, 2017			
	Investment at cost	Voting ownership %	Equity ownership %	Carrying value
Aquiline II	$ 33,349	—%	8.1%	$ 51,914
Aquiline III	24,737	—%	9.0%	44,733
Aquiline Tech	3,858	—%	10.6%	3,490
Total investments in investment affiliates	$ 61,944			$ 100,137

	December 31, 2016			
	Investment at cost	Voting ownership %	Equity ownership %	Carrying value
Aquiline II	$ 46,871	—%	8.1%	$ 61,999
Aquiline III	37,969	—%	9.0%	38,432
Total investments in investment affiliates	$ 84,840			$ 100,431

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(d) Net investment income

Net investment income was derived from the following sources:

	Years Ended December 31,		
	2017	2016	2015
Managed investments			
Fixed maturities and short-term investments	$ 127,600	$ 119,085	$ 113,627
Other investments	29,930	27,860	13,307
Cash and cash equivalents and restricted cash	4,069	2,939	1,911
Securities lending income	25	55	16
Total gross investment income	161,624	149,939	128,861
Investment expenses	(8,669)	(8,221)	(7,695)
Total managed net investment income	$ 152,955	$ 141,718	$ 121,166
Non managed investments			
Fixed maturities and short-term investments	$ 14,833	$ 6,931	$ 6,528
Cash and cash equivalents and restricted cash	10,085	1,736	130
Total non-managed net investment income	24,918	8,667	6,658
Total net investment income	$ 177,873	$ 150,385	$ 127,824

Net investment income from other investments includes distributed and undistributed net income from certain fixed income investment funds.

(e) Net realized gains and change in net unrealized gains (losses) on investments

The following table sets forth an analysis of net realized gains and the change in net unrealized gains (losses) on investments:

	Years Ended December 31,		
	2017	2016	2015
Managed investments			
Gross realized gains	$ 25,070	$ 22,491	$ 15,678
Gross realized (losses)	(17,633)	(7,811)	(13,980)
Net realized gains on investments	7,437	14,680	1,698
Change in net unrealized gains (losses) on investments	6,371	14,106	(32,007)
Total net realized and change in net unrealized gains (losses) on managed investments	$ 13,808	$ 28,786	$ (30,309)
Non-managed investments			
Gross realized gains	$ 2,105	$ 1,086	$ 611
Gross realized (losses)	(1,919)	(9)	(11)
Net realized gains on investments	186	1,077	600
Change in net unrealized (losses) gains on investments	(3,156)	2,765	(388)
Total net realized and change in net unrealized (losses) gains on non-managed investments	(2,970)	3,842	212
Total net realized and change in net unrealized gains (losses) on total investments	$ 10,838	$ 32,628	$ (30,097)

(f) Pledged investments and cash

As at December 31, 2017, the Company had $5,853,744 (December 31, 2016: $5,173,966) of cash and cash equivalents, restricted cash, short-term investments and fixed maturity investments that were pledged during the normal course of business. Of those, $5,789,081 were held in trust (December 31, 2016: $5,068,092). Pledged assets are generally for the benefit of the Company's cedants and policyholders, to support AlphaCat's fully collateralized reinsurance transactions, as collateral for derivative instruments and to facilitate the accreditation of Validus Re, Validus Re Swiss and the Talbot Syndicate as alien (re)insurers by certain regulators.

In addition, the Company has pledged cash and investments as collateral under the Company's credit facilities in the amount of $576,864 (December 31, 2016: $442,184). For further details on the credit facilities, refer to Note 19 *"Debt and financing arrangements."*

(g) Securities lending

The Company participates in a securities lending program whereby certain securities from its portfolio are loaned to third parties for short periods of time through a lending agent. The Company retains all economic interest in the securities it lends and receives a fee from the borrower for the temporary use of the securities. Collateral in the form of cash, government securities and letters of credit is required at a rate of 102% of the market value of the loaned securities and is held by a third party.

8. Fair value measurements

(a) Classification within the fair value hierarchy

Fair value is defined as the price to sell an asset or transfer a liability in an orderly transaction between market participants. Under U.S. GAAP, a company must determine the appropriate level in the fair value hierarchy for each fair value measurement. The fair value hierarchy prioritizes the inputs, which refer broadly to assumptions market participants would use in pricing an asset or liability, into three levels. It gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. The level in the fair value hierarchy within which a fair value measurement in its entirety falls is determined based on the lowest level input that is significant to the fair value measurement in its entirety.

The three levels of the fair value hierarchy are described below:

Level 1 - Fair values are measured based on unadjusted quoted prices in active markets for identical assets or liabilities that we have the ability to access.

Level 2 - Fair values are measured based on quoted prices in active markets for similar assets or liabilities, quoted prices for identical assets or liabilities in inactive markets, or for which significant inputs are observable (e.g., interest rates, yield curves, prepayment speeds, default rates, loss severities, etc.) or can be corroborated by observable market data.

Level 3 - Fair values are measured based on unobservable inputs that reflect the Company's own judgments about assumptions where there is little, if any, market activity for that asset or liability that market participants might use.

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 the fair value hierarchy.

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At December 31, 2017, the Company's investments were allocated between Levels 1, 2 and 3 as follows:

	Level 1	Level 2	Level 3	Fair value based on NAV practical expedient [a]	Total
Managed investments					
U.S. government and government agency	$ —	$ 727,397	$ —	$ —	$ 727,397
Non-U.S. government and government agency	—	312,239	—	—	312,239
U.S. states, municipalities and political subdivisions	—	201,303	—	—	201,303
Agency residential mortgage-backed securities	—	978,049	—	—	978,049
Non-agency residential mortgage-backed securities	—	40,373	—	—	40,373
U.S. corporate	—	1,533,395	—	—	1,533,395
Non-U.S. corporate	—	422,249	—	—	422,249
Bank loans	—	232,886	210,065	—	442,951
Asset-backed securities	—	554,490	103,813	—	658,303
Commercial mortgage-backed securities	—	312,395	—	—	312,395
Total fixed maturities	—	5,314,776	313,878	—	5,628,654
Short-term investments	198,054	31,957	—	—	230,011
Other investments					
Hedge funds	—	—	—	15,774	15,774
Private equity investments	—	—	—	78,407	78,407
Fixed income investment funds	—	13,351	17,404	173,671	204,426
Overseas deposits	—	—	—	56,611	56,611
Total other investments	—	13,351	17,404	324,463	355,218
Investments in investment affiliates [b]	—	—	—	—	100,137
Total managed investments	$ 198,054	$ 5,360,084	$ 331,282	$ 324,463	$ 6,314,020
Non-managed investments					
Catastrophe bonds	$ —	$ 152,233	$ 77,461	$ —	$ 229,694
Short-term investments	3,151,746	—	—	—	3,151,746
Total non-managed investments	3,151,746	152,233	77,461	—	3,381,440
Total investments	$ 3,349,800	$ 5,512,317	$ 408,743	$ 324,463	$ 9,695,460

(a) In accordance with ASC Topic 820 *"Fair Value Measurements,"* investments measured at fair value using the net asset value ("NAV") per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy.

(b) In accordance with ASC Topic 825 *"Financial Instruments,"* the Company's investments in investment affiliates have not been classified in the fair value hierarchy.

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At December 31, 2016, the Company's investments were allocated between Levels 1, 2 and 3 as follows:

	Level 1	Level 2	Level 3	Fair value based on NAV practical expedient [a]	Total
Managed investments					
U.S. government and government agency	$ —	$ 804,126	$ —	$ —	$ 804,126
Non-U.S. government and government agency	—	240,791	—	—	240,791
U.S. states, municipalities and political subdivisions	—	271,830	—	—	271,830
Agency residential mortgage-backed securities	—	679,595	—	—	679,595
Non-agency residential mortgage-backed securities	—	15,477	—	—	15,477
U.S. corporate	—	1,534,508	—	—	1,534,508
Non-U.S. corporate	—	410,227	—	—	410,227
Bank loans	—	323,903	246,496	—	570,399
Asset-backed securities	—	502,883	23,931	—	526,814
Commercial mortgage-backed securities	—	330,932	—	—	330,932
Total fixed maturities	—	5,114,272	270,427	—	5,384,699
Short-term investments	209,651	18,735	—	—	228,386
Other investments					
Fund of hedge funds	—	—	—	955	955
Hedge funds	—	—	—	17,381	17,381
Private equity investments	—	—	—	82,627	82,627
Fixed income investment funds	—	30,941	12,168	206,166	249,275
Overseas deposits	—	—	—	50,106	50,106
Mutual funds	—	5,368	—	—	5,368
Total other investments	—	36,309	12,168	357,235	405,712
Investments in investment affiliates [b]	—	—	—	—	100,431
Total managed investments	$ 209,651	$ 5,169,316	$ 282,595	$ 357,235	$ 6,119,228
Non-managed investments					
Catastrophe bonds	$ —	$ 109,956	$ 48,375	$ —	$ 158,331
Short-term investments	2,567,784	—	—	—	2,567,784
Total non-managed investments	2,567,784	109,956	48,375	—	2,726,115
Total investments	$ 2,777,435	$ 5,279,272	$ 330,970	$ 357,235	$ 8,845,343

(a) In accordance with ASC Topic 820 *"Fair Value Measurements,"* investments measured at fair value using the net asset value ("NAV") per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy.

(b) In accordance with ASC Topic 825 *"Financial Instruments,"* the Company's investments in investment affiliates have not been classified in the fair value hierarchy.

At December 31, 2017, managed Level 3 investments totaled $331,282 (December 31, 2016: $282,595), representing 5.2% (December 31, 2016: 4.6%) of total managed investments.

(b) Valuation techniques

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

Fixed maturity investments

In general, valuation of the Company's fixed maturity investment portfolio is provided by pricing services, such as index providers and pricing vendors, as well as broker quotations. The pricing vendors provide valuations for a high volume of liquid securities that are actively traded. For securities that do not trade on an exchange, the pricing services generally utilize market data and other observable inputs in matrix pricing models to determine month end prices. Prices are generally verified using third party data. Index providers generally utilize centralized trade reporting networks, available market makers and statistical techniques.

In general, broker-dealers value securities through their trading desks based on observable inputs. The methodologies include mapping securities based on trade data, bids or offers, observed spreads, and performance on newly issued securities. Broker-dealers also determine valuations by observing secondary trading of similar securities. Prices obtained from broker quotations are considered non-binding, however they are based on observable inputs and by observing secondary trading of similar securities obtained from active, non-distressed markets. The Company considers these Level 2 inputs as they are corroborated with other market observable inputs. The techniques generally used to determine the fair value of the Company's fixed maturity investments are detailed below by asset class.

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. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2.

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. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2.

U.S. states, municipalities and political subdivisions

The Company's 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 described for U.S. government and government agency securities described above. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2.

Agency residential mortgage-backed securities

The Company's agency residential mortgage-backed investments are primarily priced by pricing services using a mortgage pool specific model which utilizes daily inputs from the active to be announced market which is very liquid, as well as the U.S. treasury market. The model also utilizes additional information, such as the weighted average maturity, weighted average coupon and other available pool level data which is provided by the sponsoring agency. Valuations are also corroborated with daily active market quotes. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2.

Non-agency residential mortgage-backed securities

The Company's non-agency mortgage-backed investments include non-agency prime residential mortgage-backed fixed maturity investments. The Company has no fixed maturity investments classified as sub-prime held in its fixed maturity investments portfolio. Securities held in these sectors are primarily priced by pricing services using an option adjusted spread model or other relevant models, which principally utilize inputs including benchmark yields, available trade information or broker quotes, and issuer spreads. The pricing services also review collateral prepayment speeds, loss severity and delinquencies among other collateral performance indicators for the securities valuation, when applicable. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2.

U.S. corporate

U.S. corporate debt securities consist primarily of investment-grade debt of a wide variety of U.S. corporate issuers and industries. The Company's 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. In certain instances, securities are individually evaluated using a spread which is added to the U.S. treasury curve or a security specific swap curve as appropriate. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2.

Non-U.S. corporate

Non-U.S. corporate debt securities consist primarily of investment-grade debt of a wide variety of non-U.S. corporate issuers and industries. The Company's non-U.S. 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. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2.

Bank loans

The Company's bank loan investments consist primarily of below-investment-grade debt of a wide variety of corporate issuers and industries. The Company's bank loans 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. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2.

Also, included in the bank loan portfolio is a collection of loan participations held through an intermediary. A third party pricing service provides monthly valuation reports for each loan and participation using a combination of quotations from loan pricing services, leveraged loan indices or market price quotes obtained directly from the intermediary. Significant unobservable inputs used to price these securities include credit spreads and default rates; therefore, the fair value of these investments are classified as Level 3.

Asset-backed securities

Asset backed securities include mostly investment-grade debt securities backed by pools of loans with a variety of underlying collateral, including automobile loan receivables, student loans, credit card receivables, and collateralized loan obligations originated by a variety of financial institutions. Securities held in these sectors are primarily priced by pricing services. The pricing services apply dealer quotes and other available trade information such as bids and offers, prepayment speeds which may be adjusted for the underlying collateral or current price data, the U.S. treasury curve and swap curve as well as cash settlement. The pricing services determine the expected cash flows for each security held in this sector using historical prepayment and default projections for the underlying collateral and current market data. In addition, a spread is applied to the relevant benchmark and used to discount the cash flows noted above to determine the fair value of the securities held in this sector. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2. Where pricing is unavailable

from pricing services, we obtain non-binding quotes from broker-dealers. This is generally the case when there is a low volume of trading activity and current transactions are not orderly. Broker-dealer quotes for which significant observable inputs are unable to be corroborated with market observable information are classified as Level 3.

Commercial mortgage-backed securities

Commercial mortgage backed securities are investment-grade debt primarily priced by pricing services. The pricing services apply dealer quotes and other available trade information such as bids and offers, prepayment speeds which may be adjusted for the underlying collateral or current price data, the U.S. treasury curve and swap curve as well as cash settlement. The pricing services determine the expected cash flows for each security held in this sector using historical prepayment and default projections for the underlying collateral and current market data. In addition, a spread is applied to the relevant benchmark and used to discount the cash flows noted above to determine the fair value of the securities held in this sector. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2.

Catastrophe bonds

Catastrophe bonds are priced based on broker or underwriter bid indications. Level 2 catastrophe bonds are those traded over-the-counter; catastrophe bonds available only via private issuances are classified as Level 3.

Short-term investments

Short-term investments consist primarily of highly liquid securities, all with maturities of less than one year from the date of purchase. The fair value of the portfolio is generally determined using amortized cost which approximates fair value. As the highly liquid money market-type funds are actively traded, the fair value of these investments are classified as Level 1. To the extent that the remaining securities are not actively traded due to their approaching maturity, the fair value of these investments are classified as Level 2.

Other investments

Fund of hedge funds

During the year ended December 31, 2017, the Company's investment in a fund of hedge funds was liquidated. Prior to liquidation, the fund's administrator provided a monthly reported NAV with a three month delay in its valuation. The fund manager provided an estimate of the fund NAV at year end based on the estimated performance provided from the underlying funds. To determine the reasonableness of the estimated NAV, the Company compared the fund administrator's NAV to the fund manager's estimated NAV that incorporates relevant valuation sources. Prior to liquidation, the fair value of these investments were measured using the NAV practical expedient and therefore were not categorized within the fair value hierarchy.

Hedge funds

The hedge fund's administrator provides quarterly NAVs with a three month delay in valuation. The fair value of this investment is measured using the NAV practical expedient and therefore has not been categorized within the fair value hierarchy.

Private equity investments

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 the NAV practical expedient and therefore have not been categorized within the fair value hierarchy.

Fixed income investment funds

The Company's investment funds classified as Level 2 consist of a pooled investment fund. The pooled investment is invested in fixed income securities with high credit ratings and is only open to Lloyd's Trust Fund participants. The fair value of units in the investment fund is based on the NAV of the fund and is traded on a daily basis.

Included in investment funds is a residual equity tranche of a structured credit fund valued using a dynamic yield that calculates an income accrual based on an underlying valuation model with a typical cash flow waterfall structure. Significant unobservable inputs used to price this fund include default rates and prepayment rates; therefore, the fair value of the investment fund is classified as Level 3.

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The fair value of the Company's remaining investment funds is based on the NAV of the fund as reported by the independent fund administrator. The fund's administrators provide a monthly reported NAV with a one or three month delay in their valuation. The fair value of these investments are measured using the NAV practical expedient and therefore have not been categorized within the fair value hierarchy. None of these investments are probable of being sold at amounts different than their NAVs.

Overseas deposits

The Company's share of a portfolio of Lloyd's overseas deposits are managed centrally by Lloyd's and invested according to local regulatory requirements. The composition of the portfolio varies and the deposits are made across the market. The fair value of the deposits is based on the portfolio level reporting that is provided by Lloyd's. The fair value of these investments are measured using the NAV practical expedient and therefore have not been categorized within the fair value hierarchy.

Mutual funds

During the year ended December 31, 2017, the Company's investment in a mutual fund was liquidated. Prior to liquidation, the mutual fund consisted of an investment fund which invested in various quoted investments. The fair value of units in the mutual fund was based on the NAV of the fund as reported by the fund manager. The mutual fund had daily liquidity which allowed us to redeem our holdings at the applicable NAV in the near term. As such, the Company had classified this investment as Level 2.

(c) Level 3 investments

The following table presents a reconciliation of the beginning and ending balances for all investments measured at fair value on a recurring basis using Level 3 inputs during the years ended December 31, 2017 and 2016:

	Year Ended December 31, 2017				
	Bank Loans	Catastrophe Bonds	Fixed Income Investment Funds	Asset Backed Securities	Total
Level 3 investments, beginning of year	$ 246,496	$ 48,375	$ 12,168	$ 23,931	$ 330,970
Purchases	84,354	76,091	5,236	78,997	244,678
Sales	—	—	—	(195)	(195)
Settlements	(118,260)	(48,375)	—	—	(166,635)
Realized gains	—	1,728	—	—	1,728
Change in net unrealized (losses) gains	(2,525)	(358)	—	1,080	(1,803)
Level 3 investments, end of year	$ 210,065	$ 77,461	$ 17,404	$ 103,813	$ 408,743

	Year Ended December 31, 2016				
	Bank Loans	Catastrophe Bonds	Fixed Income Investment Funds	Asset Backed Securities	Total
Level 3 investments, beginning of year	$ 232,337	$ 13,500	$ —	$ —	$ 245,837
Purchases	87,345	33,272	12,168	23,896	156,681
Sales	(2,389)	—	—	—	(2,389)
Settlements	(69,496)	(125)	—	—	(69,621)
Change in net unrealized (losses) gains	(1,301)	1,728	—	35	462
Level 3 investments, end of year	$ 246,496	$ 48,375	$ 12,168	$ 23,931	$ 330,970

There were no transfers into or out of Level 3 during the years ended December 31, 2017 or 2016.

(d) Financial instruments not carried at fair value

ASC Topic 825 *"Financial Instruments"* is also applicable to disclosures of financial instruments not carried at fair value, except for certain financial instruments, including insurance contracts and investments in affiliates. The carrying values of cash and cash equivalents, restricted cash, accrued investment income, other assets, net payable for investments purchased and accounts payable and accrued expenses approximated their fair values at December 31, 2017, due to their respective short maturities. As these financial instruments are not actively traded, their respective fair values are classified within Level 2.

9. Variable interest entities

The Company consolidates all VIEs in which it is considered to be the primary beneficiary. The Company's VIEs are primarily entities in the AlphaCat segment.

(a) Consolidated VIEs

AlphaCat sidecars

Beginning on May 25, 2011, the Company joined with other investors in capitalizing a series of reinsurance and investment entities, referred to as "sidecars," for the purpose of investing in collateralized reinsurance and retrocessional contracts. Certain of these sidecars deployed their capital through transactions entered into by AlphaCat Reinsurance Ltd. ("AlphaCat Re"). Each of these entities returns capital once the risk period expires and all losses have been paid out. The AlphaCat sidecars are VIEs and are consolidated by the Company. The Company's maximum exposure to any of these sidecars is the amount of capital invested at any given time.

AlphaCat ILS funds

The AlphaCat ILS funds received third party subscriptions beginning on December 17, 2012. The Company and third party investors invest in the AlphaCat ILS funds for the purpose of investing in instruments with returns linked to property catastrophe reinsurance, retrocession and ILS contracts. The AlphaCat ILS funds have varying risk profiles and are categorized by the maximum permitted portfolio expected loss of the fund. The maximum permitted portfolio expected loss represents the average annual loss over the set of simulation scenarios divided by the total limit. Lower risk ILS funds are defined as having a maximum permitted portfolio expected loss of less than 7%, whereas higher risk ILS funds have a maximum permitted portfolio expected loss of 7% or greater. The AlphaCat ILS funds primarily deploy their capital through transactions entered into by AlphaCat Re and AlphaCat Master Fund Ltd. ("AlphaCat Master Fund"). All of the AlphaCat ILS funds are VIEs and were consolidated by the Company through May 31, 2017. However, on June 1, 2017, the Company redeemed its investment in one of the lower risk AlphaCat ILS funds. As a result, the Company was no longer deemed to be the primary beneficiary and therefore this fund was deconsolidated effective June 1, 2017. The Company recognized a loss upon redemption of $402, which has been included in the Consolidated Statements of Comprehensive (Loss) Income within other insurance related income for the year ended December 31, 2017.

The Company's maximum exposure to any of the funds is the amount of capital invested at any given time and any remaining capital commitments.

AlphaCat Re and AlphaCat Master Fund

The Company utilizes AlphaCat Re and AlphaCat Master Fund (collectively the "Master Funds"), both market facing entities, for the purpose of writing collateralized reinsurance and investing in capital markets products, respectively, on behalf of certain entities within the Asset Management segment and direct third party investors. AlphaCat Re enters into transactions on behalf of the AlphaCat sidecars and ILS funds (collectively the "Feeder Funds") and direct third party investors, whereas AlphaCat Master Fund only enters into transactions on behalf of certain AlphaCat ILS funds. All of the risks and rewards of the underlying transactions are allocated to the Feeder Funds and direct third party investors using variable funding notes. The Master Funds are VIEs and are consolidated by the Company.

Notes Payable to AlphaCat Investors

The Master Funds issue variable funding notes to the Feeder Funds, and direct to third party investors, in order to write collateralized reinsurance and invest in capital markets products on their behalf. The Company's investments in the Feeder Funds, together with investments made by third parties in the Feeder Funds and on a direct basis, are provided as consideration for the notes to the Master Funds. The duration of the underlying collateralized reinsurance contracts and capital market products is typically twelve months; however, the variable funding notes do not have a stated maturity date or principal amount since repayment

is dependent on the settlement and income or loss of the underlying transactions. Therefore, the notes are redeemed as the underlying transactions are settled. The income or loss generated by the underlying transactions is then transferred to the Feeder Funds and direct third party investors via the variable funding notes.

Any notes issued by the Master Funds to the consolidated Feeder Funds are eliminated on consolidation and only variable funding notes issued by AlphaCat Re directly to third party investors and non-consolidated Feeder Funds remain on the Consolidated Balance Sheets as notes payable to AlphaCat investors with the related income or loss included in the Consolidated Statements of Income and Comprehensive Income as loss (income) attributable to AlphaCat investors. To the extent that the income has not been returned to the investors, it is included in accounts payable and accrued expenses in the Consolidated Balance Sheets.

During 2017 and 2016, one of the AlphaCat ILS funds (the "Fund") issued both common shares and structured notes to the Company and third party investors in order to capitalize the fund. The Fund deploys its capital through AlphaCat Re; therefore, the structured notes do not have a stated maturity date since repayment is dependent on the settlement and income or loss of the variable funding notes with AlphaCat Re. The structured notes rank senior to the common shares of the Fund and earn an interest rate of 7% (2016: 8%) per annum, payable on a cumulative basis in arrears.

As the Fund is consolidated by the Company, the structured notes issued to the Company are eliminated on consolidation and only the structured notes issued to third party investors remain on the Consolidated Balance Sheets as notes payable to AlphaCat investors, with any related interest included in the Consolidated Statements of (Loss) Income and Comprehensive (Loss) Income as loss (income) attributable to AlphaCat investors. To the extent that the accrued interest on the structured notes has not been returned to the investors, it is included in accounts payable and accrued expenses in the Consolidated Balance Sheets.

The following tables present reconciliations of the beginning and ending notes payable to AlphaCat investors during the years ended December 31, 2017 and 2016:

	Year Ended December 31, 2017		
	Variable Funding Notes	Structured Notes	Total
Notes payable to AlphaCat investors, beginning of year...	$ 278,202	$ —	$ 278,202
Notes payable to AlphaCat investors recognized on deconsolidation of AlphaCat ILS fund	423,269	—	423,269
Issuance of notes payable to AlphaCat investors	601,913	172,200	774,113
Redemption of notes payable to AlphaCat investors	(367,733)	—	(367,733)
Foreign exchange losses	513	—	513
Notes payable to AlphaCat investors, end of year	$ 936,164	$ 172,200	$ 1,108,364

	Year Ended December 31, 2016		
	Variable Funding Notes	Structured Notes	Total
Notes payable to AlphaCat investors, beginning of year...	$ 75,493	$ —	$ 75,493
Issuance of notes payable to AlphaCat investors	311,711	94,326	406,037
Redemption of notes payable to AlphaCat investors	(109,712)	(94,326)	(204,038)
Foreign exchange losses	710	—	710
Notes payable to AlphaCat investors, end of year	$ 278,202	$ —	$ 278,202

As at December 31, 2016, $1,000 of the structured notes redeemed were payable to AlphaCat investors and included in accounts payable and accrued expenses.

The loss attributable to AlphaCat investors for the year ended December 31, 2017 was $16,929 (2016: income of $23,358). As at December 31, 2017, amounts due to AlphaCat investors totaling $18,054 (December 31, 2016: $17,068) were included in accounts payable and accrued expenses.

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BetaCat ILS funds

The BetaCat ILS funds follow a passive buy-and-hold investment strategy, investing exclusively in catastrophe bonds (principal-at-risk variable rate notes and other event-linked securities, referred to collectively as "Cat Bonds") focused on property and casualty risks and issued under Rule 144A of the Securities Act of 1933, as amended. Two of the three BetaCat ILS funds are VIEs, one of which is consolidated by the Company. The remaining fund is a VOE and is consolidated by the Company as it owns all of the voting equity interests. The Company's maximum exposure to any of the funds is the amount of capital invested at any given time.

The following table presents the total assets and total liabilities of the Company's consolidated VIEs, excluding intercompany eliminations, as at December 31, 2017 and 2016:

	December 31, 2017		December 31, 2016	
	Total Assets	Total Liabilities	Total Assets	Total Liabilities
AlphaCat sidecars	$ 25,975	$ 3,267	$ 40,041	$ 3,206
AlphaCat ILS funds - Lower Risk	1,107,503	259,630	1,498,276	42,457
AlphaCat ILS funds - Higher Risk	1,310,071	912,341	972,633	381,332
AlphaCat Re and AlphaCat Master Fund	3,398,082	3,397,912	2,510,415	2,510,245
BetaCat ILS funds	77,221	261	82,471	30,663

Assets of consolidated VIEs can only be used to settle obligations and liabilities of the consolidated VIEs and do not have recourse to the general credit of the Company. Investments held by these entities are presented separately in Note 7, *"Investments,"* as non-managed investments.

(a) Non-Consolidated VIEs

The Company invests in private equity and other investment vehicles as part of the Company's investment portfolio. The activities of these VIEs are generally limited to holding investments and the Company's involvement in these entities is passive in nature. The Company's maximum exposure to the VIEs is the amount of capital invested at any given time, and the Company does not have the power to direct the activities which most significantly impact the VIEs economic performance. The Company is therefore not the primary beneficiary of these VIEs. See Note 7, *"Investments,"* for further details.

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10. Noncontrolling interests

Investors in certain of the AlphaCat and BetaCat ILS funds have rights that enable them, subject to certain limitations, to redeem their shares. Such investments held by third parties are therefore recorded in the Company's Consolidated Balance Sheets as redeemable noncontrolling interests, a mezzanine item between liabilities and shareholders' equity. If and when a redemption notice is received, the fair value of the redemption is reclassified to accounts payable and accrued expenses.

The AlphaCat sidecars and one of the AlphaCat ILS funds have no shareholder redemption rights. Therefore, the third party equity is recorded in the Company's Consolidated Balance Sheets as noncontrolling interests.

The following tables present a reconciliation of the beginning and ending balances of redeemable noncontrolling interests and noncontrolling interests for the years ended December 31, 2017 and 2016:

	Redeemable Noncontrolling Interests		Noncontrolling Interests		Total	
	Years Ended December 31,		Years Ended December 31,		Years Ended December 31,	
	2017	2016	2017	2016	2017	2016
Balance, beginning of year	$ 1,528,001	$ 1,111,714	$ 165,977	$ 154,662	$ 1,693,978	$ 1,266,376
Issuance of shares	397,200	393,450	258,300	171,674	655,500	565,124
Adjustment to noncontrolling interests as a result of deconsolidation	(459,021)	—	—	—	(459,021)	—
(Loss) income attributable to noncontrolling interests	(94,644)	100,852	(262,636)	22,511	(357,280)	123,363
Redemption of shares / Distributions	(367,442)	(78,015)	(144,923)	(182,870)	(512,365)	(260,885)
Balance, end of year	$ 1,004,094	$ 1,528,001	$ 16,718	$ 165,977	$ 1,020,812	$ 1,693,978

As at December 31, 2017, redemptions of $180,104 and distributions of $nil (December 31, 2016: $71,530 and $16,144) were payable to redeemable noncontrolling interests and noncontrolling interests, respectively. These amounts are classified within accounts payable and accrued expenses in the Company's Consolidated Balance Sheets.

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11. Derivative instruments

(a) Derivatives not designated as hedging instruments

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 at December 31, 2017 and 2016:

Derivatives not designated as hedging instruments	December 31, 2017			December 31, 2016		
	Notional Exposure	Asset Derivative at Fair Value [a]	Liability Derivative at Fair Value [a]	Notional Exposure	Asset Derivative at Fair Value [a]	Liability Derivative at Fair Value [a]
Foreign currency forward contracts	$ 283,765	$ 1,147	$ 906	$ 181,375	$ 2,351	$ 3,421
Interest rate swap contracts	$ 200,000	$ 1,589	$ —	$ —	$ —	$ —
Weather derivative contracts	$ 4,825	$ 853	$ —	$ —	$ —	$ —

(a) Asset and liability derivatives are classified within other assets and accounts payable and accrued expenses, respectively, within the Company's Consolidated Balance Sheets.

The foreign currency forward contracts and interest rate swap contracts are valued on the basis of standard industry valuation models. The inputs to these models are based on observable market inputs, and as such the fair values of these contracts are classified as Level 2. The weather derivative contracts are valued on the basis of modeled and other information provided by Validus' counterparties. Validus reviews this information, which represents Level 3 inputs, as it is ultimately management's responsibility to ensure that the fair values reflected in the Company's financial statements are appropriate.

The following table summarizes information on the classification and net impact on earnings, recognized in the Company's Consolidated Statements of (Loss) Income and Comprehensive (Loss) Income relating to derivatives that were not designated as hedging instruments during the years ended December 31, 2017, 2016 and 2015:

Derivatives not designated as hedging instruments	Classification of gains (losses) recognized in earnings	Years Ended December 31,		
		2017	2016	2015
Foreign currency forward contracts	Foreign exchange (losses) gains	$ (8,571)	$ (1,667)	$ (610)
Foreign currency forward contracts	Other insurance related income and other income	$ (979)	$ 142	$ 139
Interest rate swap contracts [a]	Net realized gains on investments	$ 989	$ 8,518	$ —
Weather derivative contracts	Other insurance related income and other income	$ 1,299	$ —	$ —

(a) Net realized gains during the year ended December 31, 2016 relate to net realized gains on two interest rate swap contracts which were entered into and terminated during that year to partially offset the impact of interest rate increases on the Company's fixed maturity investment portfolio.

(b) Derivatives designated as hedging instruments

Derivative instruments designated as fair value hedges

Up to September 30, 2015, the Company had designated certain foreign currency derivative instruments as fair value hedges. During the year ended December 31, 2015, the Company incurred losses of $12,279 recognized in income within foreign exchange gains (losses), with an equal and offsetting gain recognized in the same account on the hedged item.

Derivative instruments designated as cash flow hedges

During 2012 and 2013, the Company entered into several swap agreements with third parties in order to convert the floating interest rates associated with its Junior Subordinated Deferrable Debentures into fixed rates. See Note 19, "*Debt and financing arrangements,*" for further details. The Company also designates certain foreign exchange contracts as cash flow hedges of anticipated foreign currency-denominated sales or purchases.

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The following table summarizes information on the classification and amount of the fair value of derivatives designated as hedging instruments on the Consolidated Balance Sheets as at December 31, 2017 and 2016:

	December 31, 2017			December 31, 2016		
Derivatives designated as hedging instruments	**Notional Exposure**	**Asset Derivative at Fair Value [(a)]**	**Liability Derivative at Fair Value [(a)]**	**Notional Exposure**	**Asset Derivative at Fair Value [(a)]**	**Liability Derivative at Fair Value [(a)]**
Interest rate swap contracts	$ 552,263	$ 9,806	$ 18,840	$ 552,263	$ 20	$ 1,479
Foreign currency forward contracts	$ 96,293	$ 1,891	$ —	$ —	$ —	$ —

(a) Asset and liability derivatives are classified within other assets and accounts payable and accrued expenses, respectively, within the Company's Consolidated Balance Sheets.

The interest rate swap contracts and foreign currency forward contracts are valued on the basis of Level 2 inputs.

The following tables provide the total impact on other comprehensive (loss) income and earnings relating to the derivative instruments formally designated as cash flow hedges for the years ended December 31, 2017, 2016 and 2015:

	Years Ended December 31,		
Interest rate swap contracts	**2017**	**2016**	**2015**
Amount of effective portion recognized in other comprehensive (loss)	$ (8,243)	$ 277	$ (841)
Amount of effective portion reclassified to finance expenses	$ (450)	$ —	$ —

	Years Ended December 31,		
Foreign currency forward contracts	**2017**	**2016**	**2015**
Amount of effective portion recognized in other comprehensive income	$ 1,891	$ —	$ —
Amount of effective portion reclassified to general and administrative expenses	$ —	$ —	$ —

(c) Balance sheet offsetting

There was no balance sheet offsetting activity as at December 31, 2017 or 2016.

The Company provides investments as collateral for interest rate swap contracts and weather derivative contracts. The Company does not provide collateral or financial instruments as security for foreign currency forward contracts. Our derivative instruments are generally traded under International Swaps and Derivatives Association master agreements, which establish terms that apply to all transactions. On a periodic basis, the amounts receivable from or payable to the counterparties are settled in cash.

The Company has not elected to settle multiple transactions with an individual counterparty on a net basis.

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12. Premiums receivable

Premiums receivable are composed of premiums in the course of collection, net of commissions and brokerage, and premiums accrued but unbilled, net of commissions and brokerage. It is common practice in the (re)insurance industry for premiums to be paid on an installment basis, therefore significant amounts will be considered unbilled and will not become due until a future date, which is typically no later than expiration of the underlying coverage period. The following is a breakdown of the components of premiums receivable at December 31, 2017 and 2016:

	Year Ended December 31, 2017		
	Premiums in course of collection	Premiums accrued but unbilled	Total
Premiums receivable, beginning of year	$ 101,402	$ 623,988	$ 725,390
Change during year	143,760	70,337	214,097
Premiums receivable, end of year	$ 245,162	$ 694,325	$ 939,487

	Year Ended December 31, 2016		
	Premiums in course of collection	Premiums accrued but unbilled	Total
Premiums receivable, beginning of year	$ 95,152	$ 563,530	$ 658,682
Change during year	6,250	60,458	66,708
Premiums receivable, end of year	$ 101,402	$ 623,988	$ 725,390

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13. Reserve for losses and loss expenses

The following table summarizes the Company's reserve for losses and loss expenses as at December 31, 2017 and 2016:

	December 31, 2017	December 31, 2016
Case reserves	$ 1,753,844	$ 1,237,772
IBNR	3,077,546	1,757,423
Reserve for losses and loss expenses	$ 4,831,390	$ 2,995,195

The following table represents an analysis of paid and unpaid losses and loss expenses incurred and a reconciliation of the beginning and ending unpaid losses and loss expenses for the years ended December 31, 2017, 2016 and 2015:

	Years Ended December 31,		
	2017	2016	2015
Reserve for losses and loss expenses, beginning of year	$ 2,995,195	$ 2,996,567	$ 3,243,147
Loss reserves recoverable	(430,421)	(350,586)	(377,466)
Net reserves for losses and loss expenses, beginning of year	2,564,774	2,645,981	2,865,681
Net reserves acquired [(a)]	23,753	—	—
Increase (decrease) in net reserves for losses and loss expenses in respect of losses occurring in:			
Current year	2,522,711	1,281,289	1,283,970
Prior years [(b)]	(222,533)	(216,192)	(306,137)
Total incurred losses and loss expenses [(b)]	2,300,178	1,065,097	977,833
Foreign exchange loss (gain)	49,117	(31,902)	(29,694)
Less net losses and loss expenses paid in respect of losses occurring in:			
Current year	(600,877)	(389,234)	(326,167)
Prior years	(739,552)	(725,168)	(841,672)
Total net paid losses	(1,340,429)	(1,114,402)	(1,167,839)
Net reserve for losses and loss expenses, end of year	3,597,393	2,564,774	2,645,981
Loss reserves recoverable	1,233,997	430,421	350,586
Reserve for losses and loss expenses, end of year	$ 4,831,390	$ 2,995,195	$ 2,996,567

(a) Equals net reserves acquired of $42,575 less net reserves commuted at closing of $18,822.

(b) Upon closing the acquisition of Western World, an adjustment of $15,586 was made to increase net reserves to reflect fair value. This adjustment was fully amortized to income through a reduction in losses and loss expenses of $10,979 and $4,607 during the years ended December 31, 2015 and 2014, respectively.

Incurred losses and loss expenses comprise:

	Years Ended December 31,		
	2017	2016	2015
Gross losses and loss expenses [(a)]	$ 3,428,451	$ 1,244,539	$ 1,065,738
Reinsurance recoveries	(1,128,273)	(179,442)	(87,905)
Net incurred losses and loss expenses [(a)]	$ 2,300,178	$ 1,065,097	$ 977,833

(a) Upon closing the acquisition of Western World, an adjustment of $15,586 was made to increase net reserves to reflect fair value. This adjustment was fully amortized to income through a reduction in losses and loss expenses of $10,979 and $4,607 during the years ended December 31, 2015 and 2014, respectively.

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The net (favorable) adverse development on prior accident years by segment and line of business for the years ended December 31, 2017, 2016 and 2015 was as follows:

	Year Ended December 31, 2017			
	Property	Specialty - Short-tail	Specialty - Other	Total
Reinsurance Segment	$ (34,063)	$ (76,620)	$ (2,619)	$ (113,302)
Insurance Segment	(26,202)	(29,721)	(40,769)	(96,692)
Asset Management Segment	(10,653)	(1,886)	—	(12,539)
Net favorable development	$ (70,918)	$ (108,227)	$ (43,388)	$ (222,533)

	Year Ended December 31, 2016			
	Property	Specialty - Short-tail	Specialty - Other	Total
Reinsurance Segment	$ (61,102)	$ (70,439)	$ (4,085)	$ (135,626)
Insurance Segment	(37,855)	5,801	(45,775)	(77,829)
Asset Management Segment	(1,858)	(879)	—	(2,737)
Net favorable development	$ (100,815)	$ (65,517)	$ (49,860)	$ (216,192)

	Year Ended December 31, 2015			
	Property	Specialty - Short-tail	Specialty - Other	Total
Reinsurance Segment	$ (71,150)	$ (65,193)	$ (1,052)	$ (137,395)
Insurance Segment	(57,631)	(51,011)	(51,903)	(160,545)
Asset Management Segment	(8,197)	—	—	(8,197)
Net favorable development	$ (136,978)	$ (116,204)	$ (52,955)	$ (306,137)

The net favorable development on prior accident years for the years ended December 31, 2017, 2016 and 2015 was primarily driven by favorable development on attritional losses.

Short Duration Contract Disclosures

The Company has disaggregated its information presented in the tables below by line of business as appropriate for each of the Reinsurance and Insurance segments, and on a total basis for the Asset Management segment. The Company has presented the below development tables for all accident years shown using exchange rates as at December 31, 2017. All accident years prior to the current year have been restated and presented using the current year exchange rate.

(a) Loss Development Tables

(i) Reinsurance Segment

The Reinsurance segment loss development tables have been produced by line of business for accident years 2012 through to 2017. The Company determined that it was impracticable to produce IBNR by accident year by lines of business for years prior to 2012 as the necessary data in original currency was not readily available. In addition, the Reinsurance segment provides treaty reinsurance products on a global basis for all of its lines of business and does not receive or maintain claims count information associated with its reserved claims. As such, the Company has determined that it is impracticable to provide this information.

The net reserves for losses and loss expenses related to the acquisitions of IPC Holdings Ltd. ("IPC"), acquired on September 4, 2009, and Flagstone Reinsurance Holdings, S.A. ("Flagstone"), acquired on November 30, 2012, have been incorporated in the Reinsurance segment's reserves for losses and loss expenses on a prospective basis. IPC and Flagstone were put into run-off as at the acquisition date of each. The prospective treatment for the acquisition of Flagstone was adopted primarily as a result of the data necessary to produce the loss development tables by accident year and by lines of business not being migrated over on acquisition as it was not requested or received and as a result does not exist within the Company's data systems.

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Reinsurance: Property

	Incurred Losses and Loss Expenses, Net of Reinsurance						December 31, 2017	
	Years Ended December 31,							
Accident Year	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total of IBNR Reserves Plus Expected Development on Reported Losses**	**Cumulative Reported Claims Count**
	<---------- *Unaudited* ---------->							
2012	$ 407,180	$ 324,527	$ 309,364	$ 282,470	$ 281,746	$ 280,121	$ 22,507	n/a
2013		188,055	167,604	152,818	144,770	139,608	2,781	n/a
2014			112,063	105,415	98,501	99,497	4,846	n/a
2015				165,991	123,742	103,800	16,882	n/a
2016					164,354	170,224	49,006	n/a
2017						397,297	130,143	n/a
					Total	$ 1,190,547		

	Cumulative Paid Losses and Loss Expenses, Net of Reinsurance					
	Years Ended December 31,					
Accident Year	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
	<---------- *Unaudited* ---------->					
2012	$ 63,194	$ 147,482	$ 199,042	$ 223,090	$ 232,064	$ 237,388
2013		18,759	70,626	110,674	125,275	130,647
2014			26,747	65,090	80,758	88,218
2015				16,550	59,918	75,816
2016					28,964	87,994
2017						132,834
					Total	$ 752,897

Reserves for losses and loss expenses, before 2012, net of reinsurance [(a)]	$ 121,553
Reserves for losses and loss expenses, net of reinsurance	$ 559,203

(a) Includes reserves for losses and loss expense, net of reinsurance, of $63,115 and $8,854 related to Flagstone and IPC, respectively.

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

Reinsurance: Specialty - Short-tail

	Incurred Losses and Loss Expenses, Net of Reinsurance						December 31, 2017	
	Years Ended December 31,							
Accident Year	2012	2013	2014	2015	2016	2017	Total of IBNR Reserves Plus Expected Development on Reported Losses	Cumulative Reported Claims Count
	<---------- *Unaudited* ---------->							
2012	$ 291,994	$ 331,981	$ 328,335	$ 319,383	$ 317,712	$ 315,945	$ 17,164	n/a
2013		286,039	287,242	264,924	257,830	257,182	5,379	n/a
2014			308,367	282,335	263,694	257,924	9,977	n/a
2015				435,268	402,576	376,725	35,616	n/a
2016					351,892	310,764	51,550	n/a
2017						333,363	163,782	n/a
					Total	$ 1,851,903		

	Cumulative Paid Losses and Loss Expenses, Net of Reinsurance					
	Years Ended December 31,					
Accident Year	2012	2013	2014	2015	2016	2017
	<---------- *Unaudited* ---------->					
2012	$ 37,164	$ 165,173	$ 233,706	$ 258,564	$ 269,810	$ 280,165
2013		116,816	197,890	217,572	227,864	241,187
2014			107,781	187,695	209,085	215,473
2015				187,046	261,463	315,738
2016					158,649	219,688
2017						98,898
					Total	$ 1,371,149

Reserves for losses and loss expenses, before 2012, net of reinsurance [a]	$ 108,283
Reserves for losses and loss expenses, net of reinsurance	$ 589,037

(a) Includes reserves for losses and loss expense, net of reinsurance, of $39,416 and $6,686 related to Flagstone and IPC, respectively.

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

Reinsurance: Specialty - Other

	Incurred Losses and Loss Expenses, Net of Reinsurance						December 31, 2017	
	Years Ended December 31,							
Accident Year	2012	2013	2014	2015	2016	2017	Total of IBNR Reserves Plus Expected Development on Reported Losses	Cumulative Reported Claims Count
	<---------- *Unaudited* ---------->							
2012	$ 6,650	$ 6,431	$ 4,026	$ 2,425	$ 1,976	$ 2,180	$ 231	n/a
2013		4,033	3,043	1,587	284	54	—	n/a
2014			3,596	3,298	1,797	672	597	n/a
2015				6,160	7,155	2,669	1,973	n/a
2016					28,694	33,237	29,717	n/a
2017						72,626	67,390	n/a
					Total	$ 111,438		

	Cumulative Paid Losses and Loss Expenses, Net of Reinsurance					
	Years Ended December 31,					
Accident Year	2012	2013	2014	2015	2016	2017
	<---------- *Unaudited* ---------->					
2012	$ 482	$ 1,582	$ 1,868	$ 1,937	$ 1,925	$ 1,925
2013		—	54	54	54	54
2014			—	2	11	60
2015				21	148	610
2016					316	2,032
2017						1,144
					Total	$ 5,825

Reserves for losses and loss expenses, before 2012, net of reinsurance [a]	$ 6,168
Reserves for losses and loss expenses, net of reinsurance	$ 111,781

(a) Includes reserves for losses and loss expense, net of reinsurance, of $6,021 and $98 related to Flagstone and IPC, respectively.

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(ii) Insurance Segment

The Insurance segment loss development tables have been produced by line of business for accident years 2012 through to 2017. The Company determined that it was impracticable to produce IBNR by accident year for years prior to 2012 as the Company did not record this data for years prior to 2012 and as such, did not allocate IBNR by line of business for these years.

On May 1, 2017, the Company acquired $23,753 of net loss and loss expense reserves in connection with the CRS acquisition. All of these net reserves acquired, as well as losses and loss expenses incurred and paid by CRS subsequent to the acquisition and reflected in the tables below, were incurred during accident year 2017.

Insurance: Property

	Incurred Losses and Loss Expenses, Net of Reinsurance						December 31, 2017	
	Years Ended December 31,							
Accident Year	2012	2013	2014	2015	2016	2017	Total of IBNR Reserves Plus Expected Development on Reported Losses	Cumulative Reported Claims Count
	<---------- *Unaudited* ---------->							
2012	$ 145,215	$ 128,981	$ 119,683	$ 120,251	$ 118,352	$ 118,617	$ 373	4,239
2013		135,281	118,677	105,265	101,754	102,157	28	4,795
2014			184,006	151,689	144,500	140,322	2,504	6,479
2015				161,385	135,555	129,313	2,947	7,108
2016					219,257	203,944	23,729	7,901
2017						336,802	124,680	9,012
					Total	$ 1,031,155		

	Cumulative Paid Losses and Loss Expenses, Net of Reinsurance					
	Years Ended December 31,					
Accident Year	2012	2013	2014	2015	2016	2017
	<---------- *Unaudited* ---------->					
2012	$ 28,191	$ 80,367	$ 105,195	$ 109,095	$ 113,462	$ 114,602
2013		28,127	69,137	88,226	94,052	97,137
2014			42,486	102,454	124,696	130,772
2015				43,006	88,872	111,506
2016					66,026	133,470
2017						116,316
					Total	$ 703,803

Reserves for losses and loss expenses, before 2012, net of reinsurance	$ 7,526
Reserves for losses and loss expenses, net of reinsurance	$ 334,878

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

Insurance: Specialty - Short-tail

	Incurred Losses and Loss Expenses, Net of Reinsurance						December 31, 2017	
	Years Ended December 31,							
Accident Year	2012	2013	2014	2015	2016	2017	Total of IBNR Reserves Plus Expected Development on Reported Losses	Cumulative Reported Claims Count
	<---------- *Unaudited* ---------->							
2012	$ 218,215	$ 208,861	$ 195,703	$ 188,576	$ 184,859	$ 185,980	$ 613	6,258
2013		231,549	239,572	222,945	217,896	211,300	5,335	7,044
2014			225,911	206,367	200,359	193,384	8,673	7,744
2015				215,631	236,320	226,374	32,307	8,045
2016					195,575	188,810	26,288	7,991
2017						426,295	195,343	36,335
					Total	$ 1,432,143		

	Cumulative Paid Losses and Loss Expenses, Net of Reinsurance					
	Years Ended December 31,					
Accident Year	2012	2013	2014	2015	2016	2017
	<---------- *Unaudited* ---------->					
2012	$ 44,883	$ 113,840	$ 149,950	$ 163,075	$ 167,806	$ 178,652
2013		73,517	143,772	173,020	183,879	188,486
2014			53,965	128,052	158,808	168,642
2015				50,740	118,707	161,130
2016					61,049	122,103
2017						182,644
					Total	$ 1,001,657

Reserves for losses and loss expenses, before 2012, net of reinsurance	$ 30,996
Reserves for losses and loss expenses, net of reinsurance [(a)]	$ 461,482

(a) The 2017 accident year includes incurred losses and loss expenses, and cumulative paid losses and loss expenses, net of reinsurance, of $226,190 and $122,088, respectively, related to CRS.

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Insurance: Specialty - Other

	Incurred Losses and Loss Expenses, Net of Reinsurance						December 31, 2017	
	Years Ended December 31,							
Accident Year	2012	2013	2014	2015	2016	2017	Total of IBNR Reserves Plus Expected Development on Reported Losses	Cumulative Reported Claims Count
	<---------- *Unaudited* ---------->							
2012	$ 209,614	$ 190,816	$ 200,265	$ 201,410	$ 193,952	$ 190,640	$ 1,043	7,036
2013		231,049	240,827	224,161	209,513	206,462	12,649	8,838
2014			338,578	332,985	332,878	336,921	50,322	10,593
2015				270,732	261,192	259,218	68,779	8,991
2016					253,825	227,372	122,828	7,188
2017						280,105	232,409	4,926
					Total	$ 1,500,718		

	Cumulative Paid Losses and Loss Expenses, Net of Reinsurance					
	Years Ended December 31,					
Accident Year	2012	2013	2014	2015	2016	2017
	<---------- *Unaudited* ---------->					
2012	$ 20,591	$ 56,035	$ 100,259	$ 133,198	$ 164,488	$ 175,012
2013		13,538	55,779	99,429	137,739	166,969
2014			24,091	96,178	166,637	214,970
2015				18,363	74,179	125,011
2016					17,557	50,831
2017						15,053
					Total	$ 747,846

Reserves for losses and loss expenses, before 2012, net of reinsurance	$ 58,209
Reserves for losses and loss expenses, net of reinsurance	$ 811,081

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(iii) Asset Management Segment

The Asset Management segment loss development tables have been produced in total below. The Company does not receive or maintain claims count information associated with its reserved claims for the Asset Management segment. As such, the Company has determined that it is impracticable to provide this information.

Asset Management

	Incurred Losses and Loss Expenses, Net of Reinsurance											
	Years Ended December 31,										December 31, 2017	
Accident Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total of IBNR Reserves Plus Expected Development on Reported Losses	Cumulative Reported Claims Count
	<---------- *Unaudited* ---------->											
2008	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	n/a
2009		—	—	—	—	—	—	—	—	—	—	n/a
2010			—	—	—	—	—	—	—	—	—	n/a
2011				10,000	10,000	10,000	10,000	10,000	10,000	10,000	—	n/a
2012					36,031	15,710	12,151	7,200	7,000	7,191	—	n/a
2013						17,432	5,225	2,752	2,179	1,759	3	n/a
2014							2,287	1,350	1,200	1,139	201	n/a
2015								8,743	6,948	4,578	1,962	n/a
2016									48,321	38,588	14,946	n/a
2017										684,250	369,562	n/a
									Total	$ 747,505		

	Cumulative Paid Losses and Loss Expenses, Net of Reinsurance									
Accident Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	<---------- *Unaudited* ---------->									
2008	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
2009		—	—	—	—	—	—	—	—	—
2010			—	—	—	—	—	—	—	—
2011				—	5,000	5,000	10,000	10,000	10,000	10,000
2012					—	927	3,021	6,742	6,772	7,191
2013						—	1,233	1,586	1,685	1,717
2014							—	803	905	918
2015								—	—	271
2016									6,800	15,317
2017										44,292
									Total	$ 79,706

Reserves for losses and loss expenses, net of reinsurance $ 667,799

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(b) Reconciliation of Loss Development Information to the Reserve for Losses and Loss Expenses

The following table reconciles the loss development information to the Company's reserves for losses and loss expenses as at December 31, 2017:

	December 31, 2017
Reserves for losses and loss expenses, net of reinsurance	
Reinsurance: Property	$ 559,203
Reinsurance: Specialty - Short-tail	589,037
Reinsurance: Specialty - Other	111,781
Insurance: Property	334,878
Insurance: Specialty - Short-tail	461,482
Insurance: Specialty - Other	811,081
Asset Management	667,799
Total reserves for losses and loss expenses, net of reinsurance	3,535,261
Loss reserves recoverable	
Reinsurance: Property	412,592
Reinsurance: Specialty - Short-tail	131,287
Reinsurance: Specialty - Other	4,252
Insurance: Property	281,561
Insurance: Specialty - Short-tail	225,331
Insurance: Specialty - Other	133,974
Asset Management	45,000
Total loss reserves recoverable	1,233,997
Unallocated loss expenses	53,233
Provisions for uncollectible reinsurance	8,848
Other	51
Total reserves for losses and loss expenses	$ 4,831,390

(c) Historical Loss Duration

The following table summarizes the historic average annual percentage payout of incurred losses by age, net of reinsurance, as of December 31, 2017:

	Average Annual Percentage Payout of Incurred Losses by Age, Net of Reinsurance									
	December 31, 2017									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Reinsurance: Property	21.5%	36.4%	19.5%	8.8%	3.5 %	1.9%	n/a	n/a	n/a	n/a
Reinsurance: Specialty - Short-tail	38.2%	28.5%	13.0%	4.8%	4.4 %	3.3%	n/a	n/a	n/a	n/a
Reinsurance: Specialty - Other	4.2%	32.1%	7.9%	3.5%	(0.3)%	—%	n/a	n/a	n/a	n/a
Insurance: Property	30.3%	39.1%	18.2%	4.4%	3.4 %	1.0%	n/a	n/a	n/a	n/a
Insurance: Specialty - Short-tail	30.7%	34.2%	17.0%	5.8%	2.4 %	5.8%	n/a	n/a	n/a	n/a
Insurance: Specialty - Other	7.4%	19.3%	21.2%	16.7%	15.3 %	5.5%	n/a	n/a	n/a	n/a
Asset Management	3.4%	45.5%	13.3%	14.6%	0.7 %	2.9%	—%	—%	—%	—%

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14. Accounts payable and accrued expenses

The Company's account payable and accrued expenses relate primarily to amounts due to third party investors in the funds and sidecars, and to amounts borrowed in connection with the Company's credit facilities. See Note 19, "*Debt and financing arrangements*," for further details concerning these borrowings.

The following are the components of accounts payable and accrued expenses:

	December 31, 2017	December 31, 2016
Accrued interest on debt	$ 10,519	$ 10,286
Subscriptions received in advance on funds and sidecars	660,000	326,900
Redemptions/distributions payable to noncontrolling interests	180,104	87,674
Structured notes payable to AlphaCat investors	—	1,000
Amounts payable to AlphaCat investors	18,054	17,068
Income tax payable	3,591	1,036
Accrued pension liability	11,955	16,979
Trade and compensation payables	115,906	121,805
FHLB secured facility borrowings	206,000	—
Derivative liabilities	19,746	4,900
Total accounts payable and accrued expenses	$ 1,225,875	$ 587,648

For the year ended December 31, 2017, non-cash movements in accounts payable and accrued expenses in relation to the funds and sidecars were $(48,018) (2016: $217,322; 2015: $(10,239)). Of this, redemptions/distributions payable to noncontrolling interests included non-cash movements of $91,431 (2016: $77,873; 2015: $(10,239)). Subscriptions received in advance on funds and sidecars included non-cash movements related to reinvestment of noncontrolling interests and structured notes of $(139,449) (2016: $139,449; 2015: $nil).

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15. Reinsurance

The Company's reinsurance balances recoverable at December 31, 2017 and 2016 were as follows:

	December 31, 2017	December 31, 2016
Loss reserves recoverable on unpaid:		
Case reserves	$ 275,450	$ 165,328
IBNR	958,547	265,093
Total loss reserves recoverable	1,233,997	430,421
Paid losses recoverable	46,873	35,247
Total reinsurance recoverable	$ 1,280,870	$ 465,668

(a) Effects of reinsurance on premiums ceded, net premiums earned and losses and loss expenses

The effects of reinsurance on net premiums written and earned, and on losses and loss expenses for the years ended December 31, 2017, 2016 and 2015 were as follows:

	Years Ended December 31,		
Premiums written:	2017	2016	2015
Treaty Reinsurance	$ 1,531,934	$ 1,501,079	$ 1,393,440
Facultative Reinsurance	280,320	293,741	325,311
Direct	1,138,684	853,885	838,755
Ceded	(469,633)	(289,705)	(328,681)
Net premiums written	$ 2,481,305	$ 2,359,000	$ 2,228,825

	Years Ended December 31,		
Premiums earned:	2017	2016	2015
Treaty Reinsurance	$ 1,527,845	$ 1,408,995	$ 1,397,409
Facultative Reinsurance	284,243	307,351	330,472
Direct	1,413,122	823,641	852,256
Ceded	(644,122)	(290,822)	(333,248)
Net premiums earned	$ 2,581,088	$ 2,249,165	$ 2,246,889

	Years Ended December 31,		
Losses and loss expenses:	2017	2016	2015
Treaty Reinsurance	$ 1,953,191	$ 557,824	$ 479,170
Facultative Reinsurance	273,303	147,231	162,256
Direct	1,201,957	539,484	424,312
Ceded	(1,128,273)	(179,442)	(87,905)
Losses and loss expenses	$ 2,300,178	$ 1,065,097	$ 977,833

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(b) Credit risk

The cession of reinsurance does not legally discharge the Company from its primary liability for the full amount of the (re)insurance policies it writes, and the Company is required to pay the loss and bear collection risk regarding reinsurers' obligations under reinsurance and retrocession agreements. Validus records provisions for uncollectible reinsurance recoverable when collection becomes unlikely due to the reinsurer's inability to pay.

To the extent the creditworthiness of the Company's reinsurers were to deteriorate due to adverse events affecting the reinsurance industry, such as a large number of major catastrophes, actual uncollectible amounts could be significantly greater than the Company's provision. Amounts recoverable from reinsurers are estimated in a manner consistent with the underlying loss reserves.

The Company evaluates the financial condition of its reinsurers and monitors concentration of credit risk arising from its exposure to individual reinsurers. The reinsurance program is generally placed with reinsurers whose rating, at the time of placement, was A- or better as rated by Standard & Poor's or the equivalent with other rating agencies. Exposure to a single reinsurer is also controlled with restrictions dependent on rating. As at December 31, 2017, $1,270,503 or 99.2% (December 31, 2016: $461,369 or 99.1%) of the Company's reinsurance balances recoverable were either fully collateralized or recoverable from reinsurers rated A- or better.

Information regarding the Company's concentration of credit risk arising from its exposure to individual reinsurers as at December 31, 2017 and 2016 is as follows:

	December 31, 2017		December 31, 2016	
	Reinsurance Recoverable	% of Total	Reinsurance Recoverable	% of Total
Top 10 reinsurers	$ 1,055,445	82.5%	$ 395,308	84.9%
Other reinsurers' balances > $1 million	218,226	17.0%	66,944	14.4%
Other reinsurers' balances < $1 million	7,199	0.5%	3,416	0.7%
Total	$ 1,280,870	100.0%	$ 465,668	100.0%

		December 31, 2017	
Top 10 Reinsurers	**Rating**	**Reinsurance Recoverable**	**% of Total**
Fully collateralized reinsurers	NR	$ 459,339	35.9%
Everest Re	A+	128,206	10.0%
Munich Re	AA-	94,180	7.4%
Lloyd's Syndicates	A+	74,277	5.8%
Federal Crop Insurance Corporation	(a)	68,745	5.4%
Swiss Re	AA-	65,218	5.1%
Hannover Re	AA-	53,523	4.2%
Qatar Insurance Company	A	50,160	3.9%
Transatlantic Re	A+	33,729	2.6%
Markel	A	28,068	2.2%
Total		$ 1,055,445	82.5%

NR: Not rated

(a) The Company participates in a crop reinsurance program sponsored by the U.S. federal government. The Company remains obligated for amounts ceded in the event that its reinsurers or retrocessionaires do not meet their obligations, except for amounts ceded to the U.S. federal government in the Insurance segment agriculture line of business.

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	December 31, 2016		
Top 10 Reinsurers	**Rating**	**Reinsurance Recoverable**	**% of Total**
Lloyd's Syndicates	A+	$ 84,419	18.2%
Swiss Re	AA-	84,044	18.1%
Fully collateralized reinsurers	NR	83,088	17.8%
Hannover Re	AA-	50,603	10.9%
Everest Re	A+	36,912	7.9%
Munich Re	AA-	18,214	3.9%
Transatlantic Re	A+	10,593	2.3%
Hamilton Re	A-	10,343	2.2%
Toa Re	A+	9,510	2.0%
National Indemnity Company	AA+	7,582	1.6%
Total		$ 395,308	84.9%

NR: Not rated

At December 31, 2017 and 2016, the provision for uncollectible reinsurance relating to reinsurance recoverables was $8,848 and $5,153, respectively.

16. Share capital

The Company's share capital consists of Preferred Shares and Common Shares, each with a par value of $0.175 per share. Holders of Preferred Shares have no voting rights with respect to matters that generally require the approval of voting shareholders but are entitled to vote in certain extraordinary instances. Holders of common shares are entitled to one vote for each share held, subject to certain voting limitations.

The Company is authorized to issue up to an aggregate of 571,428,571 common and preferred shares with a par value of $0.175 per share.

(a) Preferred shares

5.875% Non-Cumulative Preferred Shares, Series A (the "Series A Preferred Shares")

On June 13, 2016, the Company issued 6,000 shares of its 5.875% Non-Cumulative Preferred Shares, Series A (the "Series A Preferred Shares") (equivalent to 6,000,000 Depositary Shares, each of which represents a 1/1,000th interest in a Series A Preferred Share), $0.175 par value and $25,000 liquidation preference per share (equivalent to $25 per Depositary Share). The Series A Preferred Shares were registered and sold under the Securities Act of 1933, as amended, and were issued at a price to the public of $25,000 per share (equivalent to $25 per Depositary Share). After underwriting discounts and expenses, the Company received net proceeds of $144,852 which was used for general corporate purposes.

The Depositary Shares, representing the Series A Preferred Shares, are traded on the New York Stock Exchange ("NYSE") under the symbol "VRPRA." The Series A Preferred Shares have no stated maturity date and are redeemable, in whole or in part, at the Company's option on and after June 15, 2021, at a redemption price of $25,000 per Series A Preferred Share (equivalent to $25 per Depositary Share), plus declared and unpaid dividends. The Company may also redeem all, but not less than all, of the Series A Preferred Shares before the redemption date at a redemption price of $26,000 per share (equivalent to $26 per Depositary Share), plus declared and unpaid dividends, if the Company is required to submit a proposal to the holders of the Series A Preferred Shares concerning an amalgamation, consolidation, merger or other similar corporate transaction or change in Bermuda law. The Series A Preferred Shares may also be redeemed before the redemption date at a redemption price of $25,000 per Series A Preferred Share (equivalent to $25 per Depositary Share), plus declared and unpaid dividends, in whole, if there is a change in tax law, or in whole or in part, in the case of a capital disqualification event.

Dividends on the Series A Preferred Shares, when, as and if declared by the Company's Board of Directors or a duly authorized committee thereof, will accrue and be payable on the liquidation preference amount from the original issue date, on a non-cumulative

basis, quarterly in arrears on each dividend payment date at an annual rate of 5.875%. The Company will be restricted from paying dividends on and repurchasing its common shares, unless certain dividend payments are made on the Series A Preferred Shares.

Upon any voluntary or involuntary liquidation, dissolution or winding up of the Company, holders of the Series A Preferred Shares and any parity shares are entitled to receive out of the Company's assets available for distribution to shareholders, before any distribution is made to holders of common shares or other junior shares, a liquidating distribution in the amount of $25,000 per Series A Preferred Share (equivalent to $25 per Depositary Share) plus declared and unpaid dividends. Distributions will be made pro rata in accordance with the respective aggregate liquidation preferences of the Series A Preferred Shares and any parity shares and only to the extent of our assets, if any, that are available after satisfaction of all liabilities to creditors.

Holders of the Series A Preferred Shares have no voting rights, except with respect to certain fundamental changes in the terms of the Series A Preferred Shares and in the case of certain dividend non-payments or as otherwise required by Bermuda law or the Company's bye-laws.

5.800% Non-Cumulative Preferred Shares, Series B (the "Series B Preferred Shares")

On June 12, 2017, the Company issued 10,000 shares of its 5.800% Non-Cumulative Preferred Shares, Series B (the "Series B Preferred Shares") (equivalent to 10,000,000 Depositary Shares, each of which represents a 1/1,000th interest in a Series B Preferred Share), $0.175 par value and $25,000 liquidation preference per share (equivalent to $25 per Depositary Share). The Series B Preferred Shares were registered and sold under the Securities Act of 1933, as amended, and were issued at a price to the public of $25,000 per share (equivalent to $25 per Depositary Share). After underwriting discounts and expenses, the Company received net proceeds of $241,686 which was used for general corporate purposes.

The Depositary Shares, representing the Series B Preferred Shares, are traded on the NYSE under the symbol "VRPRB." The Series B Preferred Shares have no stated maturity date and are redeemable, in whole or in part, at the Company's option on and after June 21, 2022, at a redemption price of $25,000 per Series B Preferred Share (equivalent to $25 per Depository Share), plus declared and unpaid dividends. The Company may also redeem all, but not less than all, of the Series B Preferred Shares before the redemption date at a redemption price of $26,000 per share (equivalent to $26 per Depository Share), plus declared and unpaid dividends, if the Company is required to submit a proposal to the holders of the Series B Preferred Shares concerning an amalgamation, consolidation, merger or other similar corporate transaction or change in Bermuda law. The Series B Preferred Shares may also be redeemed before the redemption date at a redemption price of $25,000 per Series B Preferred Share (equivalent to $25 per Depository Share), plus declared and unpaid dividends, in whole, if there is a certain change in tax law, or in whole or in part, in the case of a capital disqualification event. However, no redemption may occur prior to June 21, 2027 unless the Company has sufficient funds in order to meet the Bermuda Monetary Authority's ("the BMA") Enhanced Capital Requirements ("ECR") and the BMA approves of the redemption, or the Company replaces the capital represented by the Series B Preferred Shares with capital having equal or better capital treatment as the Series B Preferred Shares under the ECR.

Dividends on the Series B Preferred Shares, when, as and if declared by the Company's Board of Directors or a duly authorized committee thereof, will accrue and be payable on the liquidation preference amount from the original issue date, on a non-cumulative basis, quarterly in arrears on each dividend payment date at an annual rate of 5.800%. The Company will be restricted from paying dividends on and repurchasing its common shares, unless certain dividend payments are made on the Series B Preferred Shares.

Upon any voluntary or involuntary liquidation, dissolution or winding up of the Company, holders of the Series B Preferred Shares and any parity shares are entitled to receive out of our assets available for distribution to shareholders, before any distribution is made to holders of common shares or other junior shares, a liquidating distribution in the amount of $25,000 per Series B Preferred Share (equivalent to $25 per Depositary Share) plus declared and unpaid dividends. Distributions will be made pro rata in accordance with the respective aggregate liquidation preferences of the Series B Preferred Shares and any parity shares and only to the extent of our assets, if any, that are available after satisfaction of all liabilities to creditors.

Holders of the Series B Preferred Shares have no voting rights, except with respect to certain fundamental changes in the terms of the Series B Preferred Shares and in the case of certain dividend non-payments or as otherwise required by Bermuda law or the Company's bye-laws.

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The following table is a summary of the preferred share activity during the years ended December 31, 2017 and 2016:

	Years Ended December 31,	
	2017	2016
Preferred shares issued and outstanding, beginning of year	6,000	—
Preferred shares issued	10,000	6,000
Preferred shares issued and outstanding, end of year	16,000	6,000

The Company had 6,000 Series A Preferred Shares and 10,000 Series B Preferred Shares issued and outstanding as at December 31, 2017 and 6,000 Series A Preferred Shares issued and outstanding as at December 31, 2016.

(b) Common shares

The holders of common shares are entitled to receive dividends and are allocated one vote per share, provided that, if the controlled shares of any shareholder or group of related shareholders constitute more than 9.09 percent of the outstanding common shares of the Company, their voting power will be reduced to 9.09 percent.

The Company may from time to time repurchase its securities, including common shares, Junior Subordinated Deferrable Debentures and Senior Notes. On February 3, 2015, the Board of Directors of the Company approved an increase in the Company's common share repurchase authorization to $750,000. This amount was in addition to the $2,274,401 of common shares repurchased by the Company through February 3, 2015 under its previously authorized share repurchase programs.

The Company has repurchased 81,035,969 common shares for an aggregate purchase price of $2,730,975 from the inception of its share repurchase program to December 31, 2017. The Company had $293,426 remaining under its authorized share repurchase program as of December 31, 2017.

The Company expects the purchases under its share repurchase program to be made from time to time in the open market or in privately negotiated transactions. The timing, form and amount of the share repurchases under the program will depend on a variety of factors, including market conditions, the Company's capital position relative to internal and rating agency targets, legal requirements and other factors. The repurchase program may be modified, extended or terminated by the Board of Directors at any time.

The following table is a summary of the common shares issued and outstanding during the years ended December 31, 2017, 2016 and 2015:

	Years Ended December 31,		
	2017	2016	2015
Common shares issued, beginning of year	161,279,976	160,570,772	155,554,224
Restricted share awards vested, net of shares withheld	630,515	612,100	614,945
Restricted share units vested, net of shares withheld	15,454	18,486	13,260
Options exercised	26,136	30,530	782,465
Warrants exercised	—	—	3,593,715
Direct issuance of common stock	—	—	639
Performance shares vested, net of shares withheld	42,410	48,088	11,524
Common shares issued, end of year	161,994,491	161,279,976	160,570,772
Treasury shares, end of year	(82,674,941)	(82,147,724)	(77,670,155)
Common shares outstanding, end of year	79,319,550	79,132,252	82,900,617

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(c) Dividends

The Company announced four quarterly cash dividends of $0.38 per common share during the year ended December 31, 2017 (2016: $0.35). These dividends were paid on March 31, 2017, June 30, 2017, September 29, 2017 and December 29, 2017 to shareholders of record on March 15, 2017, June 15, 2017, September 15, 2017 and December 15, 2017, respectively.

On November 1, 2017, the Company announced cash dividends of $0.3671875 (2016: $0.3671875) and $0.3625000 per depositary share on its outstanding Series A and Series B Preferred Shares, respectively. The preferred share dividends were paid on December 15, 2017 to shareholders on record on December 1, 2017.

On August 9, 2017, the Company announced cash dividends of $0.3671875 (2016: $0.3753472) and $0.3423611 per depositary share on its outstanding Series A and Series B Preferred Shares, respectively. The preferred share dividends were paid on September 15, 2017 to shareholders of record on September 1, 2017.

On May 10, 2017, the Company announced a cash dividend of $0.3671875 per depositary share on its outstanding Series A Preferred Shares. The preferred share dividend was paid on June 15, 2017 to shareholders of record on June 1, 2017.

On February 9, 2017, the Company announced a cash dividend of $0.3671875 per depositary share on its outstanding Series A Preferred Shares. The preferred share dividend was paid on March 15, 2017 to shareholders of record on March 1, 2017.

17. Stock plans

(a) Long Term Incentive Plan

The Company's Amended and Restated 2005 Long Term Incentive Plan ("LTIP") provides for grants to employees of options, stock appreciation rights ("SARs"), restricted shares, restricted share units, performance shares, dividend equivalents or other share-based awards. The total number of shares reserved for issuance under the LTIP are 2,753,292, of which 702,305 shares are remaining. The LTIP is administered by the Compensation Committee of the Board of Directors. No SARs have been granted to date. The grant date fair value of each award is established at the fair market value of the Company's common shares at the date of grant.

(i) Options

The Company has not granted any stock option awards since September 4, 2009. These stock option awards were fully amortized as at December 31, 2012, and the final options outstanding were exercised during the year ended December 31, 2017.

While outstanding, the Company's options could be exercised for voting common shares upon vesting and had a term of ten years. The fair value of the option awards at the date of grant was determined using the Black-Scholes option-pricing model. Expected volatility was based on the stock price volatility of comparable publicly-traded companies. The Company used the simplified method consistent with U.S. GAAP authoritative guidance on stock compensation expenses to estimate expected lives for options granted during the period.

Activity with respect to options for the year ended December 31, 2017 was as follows:

	Options	Weighted Average Grant Date Fair Value	Weighted Average Grant Date Exercise Price	Total Intrinsic Value [a]	Company Proceeds Received
Options outstanding, beginning of year	26,136	$ 6.78	$ 23.48		
Options exercised	(26,136)	6.78	23.48	$ 748	$ 614
Options outstanding, end of year	—	$ —	$ —		

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Activity with respect to options for the year ended December 31, 2016 was as follows:

	Options	Weighted Average Grant Date Fair Value	Weighted Average Grant Date Exercise Price	Total Intrinsic Value [a]	Company Proceeds Received
Options outstanding, beginning of year	65,401	$ 7.74	$ 20.17		
Options exercised	(39,265)	8.37	17.96	$ 1,260	$ 277
Options outstanding, end of year	26,136	$ 6.78	$ 23.48		

Activity with respect to options for the year ended December 31, 2015 was as follows:

	Options	Weighted Average Grant Date Fair Value	Weighted Average Grant Date Exercise Price	Total Intrinsic Value [a]	Company Proceeds Received
Options outstanding, beginning of year	1,160,057	$ 7.12	$ 17.74		
Options exercised	(1,094,656)	7.09	17.60	$ 26,367	$ 6,277
Options outstanding, end of year	65,401	$ 7.74	$ 20.17		

(a) The total intrinsic value in the tables above represent the amount by which the market price of the Company's common stock exceeds the option strike price, multiplied by the number of options exercised during the year.

The aggregate intrinsic value of the options outstanding and exercisable at December 31, 2016 was $831.

(ii) Restricted share awards

Restricted shares granted under the LTIP vest either pro rata or 100% at the end of the required service period and contain certain restrictions during the vesting period, relating to, among other things, forfeiture in the event of termination of employment, and transferability. Share compensation expenses of $35,011 were recorded in connection with restricted share awards for the year ended December 31, 2017 (2016: $36,887; 2015: $35,386). The expenses represent the proportionate accrual of the fair value of each grant based on the remaining vesting period.

Activity with respect to unvested restricted share awards for the years ended December 31, 2017, 2016 and 2015 was as follows:

	Years Ended December 31,					
	2017		2016		2015	
	Restricted Share Awards	Weighted Average Grant Date Fair Value	Restricted Share Awards	Weighted Average Grant Date Fair Value	Restricted Share Awards	Weighted Average Grant Date Fair Value
Restricted share awards outstanding, beginning of year	2,469,982	$ 40.89	2,739,446	$ 38.25	2,858,711	$ 35.81
Restricted share awards granted	511,561	53.22	564,345	48.83	724,357	43.67
Restricted share awards vested	(842,469)	41.34	(796,716)	37.40	(788,758)	34.41
Restricted share awards forfeited	(58,677)	43.77	(37,093)	41.27	(54,864)	38.14
Restricted share awards outstanding, end of year	2,080,397	$ 43.66	2,469,982	$ 40.89	2,739,446	$ 38.25

At December 31, 2017, there were $48,907 (December 31, 2016: $58,804) of total unrecognized share compensation expenses in respect of restricted share awards that are expected to be recognized over a weighted-average period of 2.3 years (December 31, 2016: 2.3 years).

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(iii) Restricted share units

Restricted share units under the LTIP vest either ratably or 100% at the end of the required service period and contain certain restrictions during the vesting period, relating to, among other things, forfeiture in the event of termination of employment, and transferability. Share compensation expenses of $1,319 were recorded in connection with restricted share units for the year ended December 31, 2017 (2016: $1,285; 2015: $1,160). The expenses represent the proportionate accrual of the fair value of each grant based on the remaining vesting period.

Activity with respect to unvested restricted share units for the years ended December 31, 2017, 2016 and 2015 was as follows:

	Years Ended December 31,					
	2017		2016		2015	
	Restricted Share Units	Weighted Average Grant Date Fair Value	Restricted Share Units	Weighted Average Grant Date Fair Value	Restricted Share Units	Weighted Average Grant Date Fair Value
Restricted share units outstanding, beginning of year	112,808	$ 40.95	114,337	$ 38.47	103,484	$ 36.54
Restricted share units granted	12,236	53.40	27,609	50.03	28,057	42.91
Restricted share units vested	(18,748)	41.91	(23,982)	38.18	(19,455)	34.58
Restricted share units issued in lieu of cash dividends	3,098	41.63	3,182	39.36	3,143	37.53
Restricted share units forfeited	—	—	(8,338)	44.34	(892)	35.42
Restricted share units outstanding, end of year	109,394	$ 42.20	112,808	$ 40.95	114,337	$ 38.47

At December 31, 2017, there were $1,909 (December 31, 2016: $2,542) of total unrecognized share compensation expenses in respect of restricted share units that are expected to be recognized over a weighted-average period of 2.4 years (December 31, 2016: 2.6 years).

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(iv) Performance share awards

Performance share awards vest three years after the grant date, with the grant date fair value of each share awarded recognized evenly over this period. The number of performance shares initially granted is adjusted via "conversion adjustments" to reflect the compounded growth in the Dividend-Adjusted Book Value per Diluted Share over the three years. The cumulative compensation expense recognized and unrecognized as at any reporting period date represents the adjusted estimate of performance shares that will ultimately be awarded, valued at their original grant date fair values.

Share compensation expenses of $3,781 were recorded for the year ended December 31, 2017 (2016: $4,735; 2015: $1,795). The share compensation expenses represent the proportionate accrual of the fair value of each grant based on the remaining vesting period.

Activity with respect to unvested performance share awards for the years ended December 31, 2017, 2016 and 2015 was as follows:

	Years Ended December 31,					
	2017		2016		2015	
	Performance Share Awards	Weighted Average Grant Date Fair Value	Performance Share Awards	Weighted Average Grant Date Fair Value	Performance Share Awards	Weighted Average Grant Date Fair Value
Performance share awards outstanding, beginning of year	285,820	$ 44.53	172,594	$ 40.70	106,369	$ 36.03
Performance share awards granted	107,209	53.40	125,290	48.75	81,569	45.03
Performance share awards vested	(52,639)	37.33	(57,581)	36.11	(15,344)	31.38
Performance share awards conversion adjustment	(26,322)	36.82	45,517	36.82	—	—
Performance share awards outstanding, end of year	314,068	$ 49.37	285,820	$ 44.53	172,594	$ 40.70

At December 31, 2017, there were $7,813 (December 31, 2016: $6,902) of total unrecognized share compensation expenses in respect of performance share awards that are expected to be recognized over a weighted-average period of 1.9 years (December 31, 2016: 2.1 years).

(b) Total share compensation expenses

The breakdown of share compensation expenses by award type is as follows:

	Years Ended December 31,		
	2017	2016	2015
Restricted share awards	$ 35,011	$ 36,887	$ 35,386
Restricted share units	1,319	1,285	1,160
Performance share awards	3,781	4,735	1,795
Total	$ 40,111	$ 42,907	$ 38,341

In addition, the Company recorded $(246) of associated tax (expense) for the year ended December 31, 2017 (2016: benefit of $1,869; 2015: benefit of $3,436). The Company also recognized $1,837 of net windfall taxes during the year ended December 31, 2017 (2016: $1,203; 2015: $906) in relation to share vestings and option exercises.

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18. Retirement and pension plans

(a) Defined benefit plans

Certain senior executives and retired selected key employees of our U.S.-based insurance operations participate in non-qualified, unfunded, defined benefit plans. Benefits for these plans are based on final average earnings, social security benefits earned at retirement date and years of service.

The assumptions used to determine net periodic pension expense for the years ended December 31, 2017 and 2016 are as follows:

	Years Ended December 31,	
	2017	2016
Discount rate	3.75%	3.50%
Increase in compensation levels rate	5.00%	5.00%

The assumptions used to determine benefit obligations as at December 31, 2017 and 2016 are as follows:

	December 31, 2017	December 31, 2016
Discount rate	3.50%	4.00%
Increase in compensation levels rate	5.00%	5.00%

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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, 2017 and 2016:

	Years Ended December 31,	
	2017	2016
Change in benefit obligation		
Projected benefit obligation, beginning of year	$ 16,979	$ 15,722
Service cost	1,005	1,026
Interest cost	566	594
Actuarial (gains) losses	(3,719)	1,473
Benefit payments	(71)	(98)
Settlements	(2,805)	(1,738)
Projected benefit obligation, end of year	$ 11,955	$ 16,979
Change in plan assets		
Fair value of plan assets, beginning of year	$ —	$ —
Employer contributions	2,876	1,836
Benefit payments	(71)	(98)
Settlements	(2,805)	(1,738)
Fair value of plan assets, end of year	—	—
Funded status at end of year	$ (11,955)	$ (16,979)
Net amount recognized in accounts payable and accrued expenses	$ (11,955)	$ (16,979)
Amounts recognized in accumulated other comprehensive loss consist of		
Net (gain) loss	$ (4,188)	$ 226
Prior service credit	6	6
Net amount recognized	$ (4,182)	$ 232

	December 31, 2017	December 31, 2016
Projected benefit obligation	$ 11,955	$ 16,979
Accumulated benefit obligation	$ 10,666	$ 13,480
Fair value of plan assets	$ —	$ —

The components of net periodic pension expense for the years ended December 31, 2017, 2016 and 2015 are as follows:

	Years Ended December 31,		
	2017	2016	2015
Service cost	$ 1,005	$ 1,026	$ 1,024
Interest cost	566	594	434
Amortization of prior service credit	—	(2)	(2)
Amortization of net loss	158	374	312
Net periodic benefit cost	1,729	1,992	1,768
Settlement loss	537	356	484
Net periodic pension expense	$ 2,266	$ 2,348	$ 2,252

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Other changes in plan assets and benefit obligations recognized in other comprehensive loss for the years ended December 31, 2017, 2016 and 2015 are as follows:

	Years Ended December 31,		
	2017	2016	2015
Net (gain) loss	$ (3,719)	$ 1,473	$ (43)
Amortization of loss	(158)	(374)	(312)
Amortization of prior service credit	—	2	2
Settlement loss	(537)	(356)	(484)
Total recognized in other comprehensive (income) loss	$ (4,414)	$ 745	$ (837)
Total recognized in net pension expense and other comprehensive loss (before tax effects)	$ (2,148)	$ 3,093	$ 1,415

The estimated amount of net (gain) and prior service cost expected to be amortized from accumulated other comprehensive (loss) income into net periodic pension expense over the next fiscal year is $(10).

The employer benefit payments/settlements for the year ended December 31, 2017 were $2,876 (2016: $1,836). As at December 31, 2017, the projected benefits are as follows:

	December 31, 2017
2018	$ 336
2019	6,597
2020	2,696
2021	66
2022	64
2023-2026	4,765
Total benefit payments required	$ 14,524

(b) Other pension plans

The Company provides pension benefits to eligible employees through various plans which are managed externally and sponsored by the Company. The Company's contributions are expensed as incurred. The Company's expenses for its defined contribution retirement plans for the years ended December 31, 2017, 2016 and 2015 were $13,085, $13,419 and $13,684, respectively.

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19. Debt and financing arrangements

The Company's financing structure is comprised of debentures and senior notes payable along with credit and other facilities.

(a) Senior Notes and Junior Subordinated Deferrable Debentures

The Company's outstanding debentures and senior notes payable as at December 31, 2017 and 2016 were as follows:

	December 31, 2017	December 31, 2016
Deferrable debentures		
2006 Junior Subordinated	$ 150,000	$ 150,000
2007 Junior Subordinated	139,800	139,800
Flagstone 2006 Junior Subordinated	135,608	133,676
Flagstone 2007 Junior Subordinated	113,750	113,750
Total debentures payable	539,158	537,226
2010 Senior Notes due 2040	250,000	250,000
Less: Unamortized debt issuance costs	(4,436)	(4,638)
Total senior notes payable	245,564	245,362
Total debentures and senior notes payable	$ 784,722	$ 782,588

The following table summarizes the key terms of the Company's Senior Notes and Junior Subordinated deferrable debentures:

Description	Issuance date	Issued	Maturity date	Interest Rate as at Issuance Date	Interest Rate as at December 31, 2017	Interest payments due
2006 Junior Subordinated Deferrable Debentures	June 15, 2006	$ 150,000	June 15, 2036	9.069% [a]	5.831% [e]	Quarterly
Flagstone 2006 Junior Subordinated Deferrable Debentures	August 23, 2006	$ 135,608	September 15, 2036	3.540% [b]	6.463% [c]	Quarterly
2007 Junior Subordinated Deferrable Debentures	June 21, 2007	$ 200,000	June 15, 2037	8.480% [c]	5.180% [c]	Quarterly
Flagstone 2007 Junior Subordinated Deferrable Debentures	June 8, 2007	$ 100,000	July 30, 2037	3.000% [b]	5.900% [e]	Quarterly
Flagstone 2007 Junior Subordinated Deferrable Debentures	September 20, 2007	$ 25,000	September 15, 2037	3.100% [b]	5.983% [c]	Quarterly
2010 Senior Notes due 2040	January 26, 2010	$ 250,000	January 26, 2040	8.875% [d]	8.875% [d]	Semi-annually in arrears

(a) Fixed interest rate for 5 years, floating interest rate of three-month LIBOR plus 3.550% thereafter, reset quarterly.

(b) Floating interest rate of three-month LIBOR plus amount stated, reset quarterly.

(c) Fixed interest rate for 5 years, floating interest rate of three-month LIBOR plus 2.950% thereafter, reset quarterly.

(d) Fixed interest rate.

(e) Fixed interest rate as a result of interest rate swap contracts entered into by the Company.

Senior Notes

The 2010 Senior Notes due 2040 (the "2010 Senior Notes") were part of a registered public offering and mature on January 26, 2040. The Company may redeem the notes, in whole at any time, or in part from time to time, at the Company's option on not less than 30 nor more than 60 days' notice, at a make-whole redemption price as described in *"Description of the Notes - Optional Redemption"* in the 2010 Senior Notes prospectus supplement. In addition, the Company may redeem the notes, in whole, but not

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in part, at any time upon the occurrence of certain tax events as described in *"Description of the Notes - Redemption for Tax Purposes"* in the prospectus supplement.

Debt issuance costs are amortized to income over the life of the 2010 Senior Notes and are presented on a net basis within the senior notes payable balance in the Company's Consolidated Balance Sheets. There were no redemptions made during the year ended December 31, 2017 and 2016.

The 2010 Senior Notes are unsecured and unsubordinated obligations of the Company and rank equally in right of payment with all of the Company's existing and future unsecured and unsubordinated indebtedness. The 2010 Senior Notes will be effectively junior to all of the Company's future secured debt, to the extent of the value of the collateral securing such debt, and will rank senior to all our existing and future subordinated debt. The 2010 Senior Notes are structurally subordinated to all obligations of the Company's subsidiaries.

Future payments of principal of $250,000 on the 2010 Senior Notes are all expected to be after 2022.

Junior Subordinated Deferrable Debentures

The Company participated in private placements of Junior Subordinated Deferrable Debentures due 2036 and 2037 (respectively, the "2006 Junior Subordinated Deferrable Debentures" and "2007 Junior Subordinated Deferrable Debentures").

Debt issuance costs for the 2006 and 2007 Junior Subordinated Deferrable Debentures were amortized to income over the five year optional redemption periods. They are redeemable at the Company's option at par. There were no redemptions made during the year ended December 31, 2017 and 2016.

As part of the acquisition of Flagstone, the Company assumed Junior Subordinated Deferrable Debentures due 2036 and 2037 (respectively, the "Flagstone 2006 Junior Subordinated Deferrable Debentures" and "Flagstone 2007 Junior Subordinated Deferrable Debentures"). These debentures are redeemable quarterly at par. There were no redemptions made during the year ended December 31, 2017 and 2016.

Future payments of principal of $539,158 on the debentures discussed above are all expected to be after 2022.

(b) Credit and other facilities

The Company's outstanding credit facilities as at December 31, 2017 and 2016 were as follows:

	December 31, 2017			
Credit facility	**Commitment**	**Outstanding [a]**	**Drawn [b]**	**Cash and investments pledged as collateral**
$85,000 syndicated unsecured letter of credit facility	$ 85,000	$ —	$ —	$ —
$300,000 syndicated secured letter of credit facility	300,000	92,979	—	118,188
$24,000 secured bi-lateral letter of credit facility	24,000	5,765	—	22,340
$25,000 IPC bi-lateral facility	25,000	7,754	—	—
$236,000 Flagstone bi-lateral facility	236,000	115,682	—	184,569
$65,000 unsecured revolving credit facility	65,000	—	—	—
$100,000 unsecured revolving credit facility	100,000	—	—	—
FHLB secured facility	484,096	206,000	206,000	251,767
Total credit facilities	$ 1,319,096	$ 428,180	$ 206,000	$ 576,864

(a) Indicates utilization of commitment amount.

(b) Represents drawn borrowings included in accounts payable and accrued expenses.

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	December 31, 2016			
Credit facility	**Commitment**	**Outstanding [a]**	**Drawn [b]**	**Cash and investments pledged as collateral**
$85,000 syndicated unsecured letter of credit facility	$ 85,000	$ —	$ —	$ —
$300,000 syndicated secured letter of credit facility	300,000	121,428	—	157,597
$24,000 secured bi-lateral letter of credit facility	24,000	4,553	—	48,097
$20,000 AlphaCat Re secured letter of credit facility [c]	20,000	20,000	—	20,032
$25,000 IPC bi-lateral facility	25,000	8,807	—	—
$236,000 Flagstone bi-lateral facility	236,000	156,375	—	216,458
Total credit facilities	$ 690,000	$ 311,163	$ —	$ 442,184

(a) Indicates utilization of commitment amount.

(b) Represents drawn borrowings.

(c) The Company terminated its AlphaCat Re secured letter of credit facility on January 6, 2017.

(i) $85,000 syndicated unsecured letter of credit facility and $300,000 syndicated secured letter of credit facility

On December 9, 2015, the Company entered into a $85,000 five year unsecured facility with various counterparties as co-documentation agents and the lenders party thereto, which provides for letter of credit ("LOC") and revolving credit availability for the Company (the "Five Year Unsecured Facility") (the full $85,000 of which is available for LOCs and/or revolving loans). The Five Year Unsecured Facility was provided by a syndicate of commercial banks. LOCs under the Five Year Unsecured Facility are available to support obligations in connection with Validus' reinsurance business. Loans under the Five Year Unsecured Facility are available for the general corporate and working capital purposes of the Company. The Company may request that existing lenders under the Five Year Unsecured Facility or prospective additional lenders agree to make available additional commitments from time to time so long as the aggregate commitments under the Five Year Unsecured Facility do not exceed $150,000.

Also on December 9, 2015, the Company entered into a $300,000 five year secured credit facility, with the same parties, which provides for LOC availability for the Company (the "Five Year Secured Facility" and together with the Five Year Unsecured Facility, the "Credit Facilities"). The Five Year Secured Facility was also provided by a syndicate of commercial banks. LOCs under the Five Year Secured Facility will be available to support obligations in connection with Validus' reinsurance business. The Company may request that existing lenders under the Five Year Secured Facility or prospective additional lenders agree to make available additional commitments from time to time so long as the aggregate commitments under the Five Year Secured Facility do not exceed $400,000. The obligations of the Company under the Five Year Secured Facility are secured by cash and securities deposited into cash collateral accounts from time to time with The Bank of New York Mellon.

As of December 31, 2017, there was $nil (December 31, 2016: $nil) of outstanding LOCs under the Five Year Unsecured Facility and $92,979 (December 31, 2016: $121,428) of outstanding LOCs under the Five Year Secured Facility.

The Credit Facilities contain covenants that include, among other things (i) the requirement that Validus Holdings, Ltd. initially maintain a minimum level of consolidated net worth of at least $2,600,000 and, commencing with the end of the fiscal quarter ending June 30, 2015, to be increased quarterly by an amount equal to 25.0% of the Company's consolidated net income (if positive) for such quarter plus 50.0% of the aggregate increases in the consolidated shareholders' equity of the Company during such fiscal quarter by reason of the issuance and sale of common equity interests of the Company, including upon any conversion of debt securities of the Company into such equity interests, (ii) the requirement that Validus Holdings, Ltd. maintain at all times a consolidated total debt to consolidated total capital ratio not greater than 0.35:1.00, and (iii) the requirement that Validus Re and any other material insurance subsidiaries maintain a financial strength rating by A.M. Best of not less than "B++" (Fair). In addition, the Credit Facilities contain customary negative covenants applicable to the Company, including limitations on the ability to pay dividends and other payments in respect of equity interests at any time that the Company is otherwise in default with respect to certain provisions under the respective Credit Facilities, limitations on the ability to incur liens, sell assets, merge or consolidate with others, enter into transactions with affiliates, and limitations on the ability of its subsidiaries to incur indebtedness. The Credit Facilities also contain customary affirmative covenants, representations and warranties and events of default for credit facilities of its type. As of December 31, 2017, and throughout the reporting periods presented, the Company was in compliance with all covenants and restrictions under the Credit Facilities.

(ii) $24,000 secured bi-lateral letter of credit facility

The Company is party to an evergreen secured bi-lateral LOC facility with Citibank Europe plc (the "Secured bi-lateral LOC facility"). As of December 31, 2017, $5,765 (December 31, 2016: $4,553) of LOCs were outstanding under the Secured bi-lateral LOC facility. The Secured bi-lateral LOC facility has no fixed termination date and as of December 31, 2017, and throughout the reporting periods presented, the Company was in compliance with all covenants and restrictions under the Secured bi-lateral LOC facility.

(iii) $25,000 IPC bi-lateral facility

The Company assumed an existing evergreen LOC facility through the acquisition of IPC Holdings, Ltd. (the "IPC bi-lateral facility"). As of December 31, 2017, $7,754 of LOCs were outstanding under the IPC bi-lateral facility (December 31, 2016: $8,807). As of December 31, 2017, and throughout the reporting periods presented, the Company was in compliance with all covenants and restrictions under the IPC bi-lateral facility.

(iv) $20,000 AlphaCat Re secured letter of credit facility

During 2013, AlphaCat Re entered into a secured evergreen LOC facility with Comerica Bank. This facility provided for LOCs issued by AlphaCat Re to be used to support its reinsurance obligations. The Company terminated its AlphaCat Re secured letter of credit facility on January 6, 2017. As of December 31, 2016, $20,000 of LOCs were outstanding under this facility. As of December 31, 2016, and throughout the reporting periods presented, the Company was in compliance with all covenants and restrictions under the AlphaCat Re secured LOC facility.

(v) $236,000 Flagstone bi-lateral facility

As part of the acquisition of Flagstone, the Company assumed an evergreen LOC Master Agreement between Citibank Europe plc and Flagstone Reassurance Suisse, S.A. (the "Flagstone Bi-Lateral Facility"). As of December 31, 2017, $115,682 (December 31, 2016: $156,375) of LOCs were outstanding under the Flagstone Bi-Lateral Facility. As of December 31, 2017, and throughout the reporting periods presented, the Company was in compliance with all covenants and restrictions under the Flagstone Bi-Lateral Facility.

(vi) $65,000 unsecured revolving credit facility and $100,000 unsecured revolving credit facility

On August 7, 2017, Validus Holdings, Ltd. and Validus Re entered into a $65,000 unsecured revolving credit facility with Barclays Bank PLC, as the lender (the "Barclays Unsecured Revolving Facility") expiring August 6, 2018. Loans under the Barclays Unsecured Revolving Facility will be available for the general corporate and working capital purposes of the Company. Borrowings under the Barclays Unsecured Revolving Facility bear interest at the base rate (the higher of (i) the prime rate quoted in the Wall Street Journal, (ii) the federal reserve bank effective rate plus 0.50%, and (iii) the adjusted LIBOR rate plus 1.0%) or the adjusted LIBOR rate applicable to such loans, plus an applicable rate.

Also on August 7, 2017, Validus Holdings, Ltd. and Validus Re entered into a $100,000 unsecured revolving credit facility with HSBC Bank USA, National Association, as the lender (the "HSBC Unsecured Revolving Facility" and together with the Barclays Unsecured Revolving Facility, the "Barclays and HSBC Unsecured Revolving Credit Facilities") expiring December 31, 2019. Loans under the HSBC Unsecured Revolving Facility will be available for the general corporate and working capital purposes of the Company. Borrowings under the HSBC Unsecured Revolving Facility bear interest at the base rate (the higher of (i) the prime rate announced by HSBC Bank USA, National Association, (ii) the higher of the federal reserve bank effective rate the overnight bank funding rate plus 0.50%, or (iii) the adjusted LIBOR rate plus 1.0%).

As of December 31, 2017, there was $65,000 (December 31, 2016: $nil) of available credit under the Barclays Unsecured Revolving Facility and $100,000 (December 31, 2016: $nil) of available credit under the HSBC Unsecured Revolving Facility.

The Barclays and HSBC Unsecured Revolving Credit Facilities contain covenants that include, among other things (i) the requirement that the Company initially maintain a minimum level of consolidated net worth of at least $2,789,131 and, commencing with the end of the fiscal quarter ending September 30, 2017, to be increased quarterly by an amount equal to 25% of the Company's consolidated net income (if positive) for such quarter plus 50% of the aggregate increases in the consolidated shareholders' equity of the Company during such fiscal quarter by reason of the issuance and sale of common equity interests of the Company, including upon any conversion of debt securities of the Company into such equity interests, (ii) the requirement that Validus Holdings, Ltd. maintain at all times a consolidated total debt to consolidated total capital ratio not greater than 0.35:1.00, and (iii) the requirement that Validus Re and any certain other material insurance subsidiaries maintain a financial strength rating by A.M. Best of not less

than "B++" (Fair). In addition, the Barclays and HSBC Unsecured Revolving Credit Facilities contain customary negative covenants applicable to the Company, including limitations on the ability to pay dividends and other payments in respect of equity interests at any time that the Company is otherwise in default with respect to certain provisions under the respective Credit Facilities, limitations on the ability to incur liens, sell assets, merge or consolidate with others, enter into transactions with affiliates, and limitations on the ability of its subsidiaries to incur indebtedness. The Barclays and HSBC Unsecured Revolving Credit Facilities also contain customary affirmative covenants, representations and warranties and events of default for credit facilities of its type.

As of December 31, 2017, and throughout the reporting periods presented, the Company was in compliance with all covenants and restrictions under the Barclays and HSBC Unsecured Revolving Facilities.

(vii) Federal Home Loan Bank of New York ("FHLB") secured facility

On August 16, 2017, the Company became a member of the Federal Home Loan Bank of New York ("FHLB"), which provides the Company with access to a secured asset-based borrowing capacity (the "FHLB Secured Facility"). Loans under the FHLB Secured Facility are available for the Company's general corporate and working capital purposes. The Company's borrowing potential is based on the financial condition and eligible collateral availability of the Company's U.S. based insurance subsidiaries. Currently FHLB limits the borrowing capacity at 30% of each member company's statutory admitted assets as of the previous reporting quarter.

As at December 31, 2017, the Company's maximum borrowing capacity was $484,096. As at December 31, 2017, the Company's borrowings under the FHLB Secured Facility totaled $206,000, and had a weighted-average interest rate associated with them of 1.59%. The FHLB Secured Facility has no fixed termination date.

The Company is required to pledge a minimum level of collateral, including securities pledged as collateral, as specified in writing by the FHLB in order to maintain its borrowing potential. At December 31, 2017, the Company had pledged assets of $251,767 as collateral in support of borrowings under the FHLB Secured Facility. As of December 31, 2017, and throughout the reporting periods presented, the Company was in compliance with all covenants and restrictions under the FHLB Secured Facility.

(c) Finance expenses

Finance expenses consist of interest on the Junior Subordinated Deferrable Debentures and the 2010 Senior Notes, the amortization of debt offering costs, credit facility fees, bank charges, Talbot Funds at Lloyds ("FAL") facility costs, AlphaCat financing fees and other charges as follows:

	Years Ended December 31,		
	2017	2016	2015
2006 Junior Subordinated Deferrable Debentures	$ 8,868	$ 8,893	$ 8,868
2007 Junior Subordinated Deferrable Debentures	7,342	7,362	7,341
Flagstone 2006 Junior Subordinated Deferrable Debentures	9,012	9,028	8,989
Flagstone 2007 Junior Subordinated Deferrable Debentures	7,013	7,100	7,123
2010 Senior Notes	22,389	22,388	22,388
Credit facilities	2,014	2,060	6,006
Bank charges, Talbot FAL facility and other charges [(a)]	1,766	504	4,592
AlphaCat fees [(b)]	142	1,185	9,435
Total finance expenses	$ 58,546	$ 58,520	$ 74,742

(a) See Note 22, "*Commitments and contingencies*," for further details on the Company's FAL. On November 30, 2015, the Company terminated its Talbot FAL Facility provided and arranged by Lloyds Bank plc and ING Bank N.V., London Branch.

(b) Includes finance expenses incurred by AlphaCat Managers in relation to fund raising for the AlphaCat sidecars, the AlphaCat ILS funds and AlphaCat direct.

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20. Income taxes

The Company provides for income taxes based upon amounts reported in the financial statements and the provisions of currently enacted tax laws. The Company is registered in Bermuda and is subject to Bermuda law with respect to taxation. Under current Bermuda law, the Company is not taxed on any Bermuda income or capital gains and has received an undertaking from the Bermuda Minister of Finance that, in the event of any Bermuda income or capital gains taxes being imposed, the Company will be exempt from such taxes until March 31, 2035.

The Company has subsidiaries and branches with operations in several jurisdictions outside Bermuda, including but not limited to the U.K., U.S., Switzerland and Canada that are subject to relevant taxes in those jurisdictions. Within Note 25, *"Segment information,"* gross premiums written are allocated to the territory of coverage exposure and therefore do not correlate to pre-tax income generated in any of the territories identified.

The Company's (loss) income before income taxes for the years ended December 31, 2017, 2016 and 2015 was generated in the following domestic and foreign jurisdictions:

	Years Ended December 31,		
	2017	2016	2015
Domestic			
Bermuda	$ (419,890)	$ 447,257	$ 470,454
Foreign			
U.K.	11,368	4,308	13,621
U.S.	(61,914)	4,038	(4,176)
Switzerland	8,989	(1,084)	2,276
Canada	1,251	2,599	493
Other	30,785	33,736	(2,074)
Total (loss) income before income taxes	$ (429,411)	$ 490,854	$ 480,594

Income tax (benefit) expense is composed of both current and deferred tax attributable to U.S. and Non-U.S. jurisdictions as follows:

	Years Ended December 31,		
	2017	2016	2015
Current income tax (benefit) expense			
U.S.	$ (629)	$ 2,042	$ 739
Non-U.S.	(298)	711	6,028
Total current income tax (benefit) expense	$ (927)	$ 2,753	$ 6,767
Deferred income tax (benefit) expense			
U.S.	$ (4,295)	$ (3,487)	$ 1,360
Non-U.S.	(2,358)	(18,995)	(1,751)
Total deferred income tax benefit	$ (6,653)	$ (22,482)	$ (391)
Total income tax (benefit) expense			
U.S.	$ (4,924)	$ (1,445)	$ 2,099
Non-U.S.	(2,656)	(18,284)	4,277
Total income tax (benefit) expense	$ (7,580)	$ (19,729)	$ 6,376

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The table below is a reconciliation of the actual income tax (benefit) expense for the years ended December 31, 2017, 2016 and 2015 to the amount computed by applying the effective tax rate of 0% under Bermuda law to income before taxes:

	Years Ended December 31,		
	2017	2016	2015
Expected tax expense at Bermuda statutory rate of 0%	$ —	$ —	$ —
Foreign tax rate differential	(9,795)	11,394	6,462
Changes in valuation allowance	(7,997)	(36,990)	9,830
Tax exempt income and expenses not deductible	(1,034)	(757)	1,299
Impact of enacted changes in tax rates	13,008	8,931	69
Prior years tax adjustments	(1,892)	(5,199)	(12,272)
Other	130	2,892	988
Actual income tax (benefit) expense	$ (7,580)	$ (19,729)	$ 6,376

Deferred tax assets and liabilities primarily represent the tax effect of temporary differences between the carrying value of assets and liabilities for financial statement purposes and such values as measured by tax laws and regulations in countries in which the operations are taxable. Deferred tax assets may also represent the tax effect of tax losses carried forward.

In assessing whether a deferred tax asset can be recovered and assessing the need for a valuation allowance, the Company considers all positive and negative evidence to determine whether it is more likely than not that the tax benefit of part or all of a deferred tax asset will be realized. The Company's framework for assessing the recoverability of deferred tax assets primarily considers taxable income in prior carryback years when permitted by law, future reversal of existing taxable temporary differences, available tax planning strategies and the expected occurrence of future taxable income. The weighting of the positive and negative evidence is commensurate with the extent to which they can be objectively verified.

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Significant components of the Company's deferred tax assets and liabilities as at December 31, 2017 and 2016 were as follows:

	December 31, 2017	December 31, 2016
Deferred income tax assets related to:		
Tax losses carried forward	$ 115,579	$ 116,416
Deferred compensation	4,924	6,915
Deferred interest expense	1,226	2,039
Tax credits carried forward	5,755	5,469
Discounting of loss reserves	5,137	9,938
Unearned premiums reserve	8,622	6,647
Pension	2,511	5,943
Lloyd's underwriting loss deductible in future periods	—	581
Other	6,463	4,943
Total gross deferred income tax assets	150,217	158,891
Less: Valuation allowances	(86,272)	(98,065)
Total net deferred income tax assets	$ 63,945	$ 60,826
Deferred income tax liabilities related to:		
Deferred acquisition costs	5,962	4,633
Intangibles	4,230	7,583
Unrealized appreciation on investments	1,477	3,179
Properties and fixed assets	2,387	2,593
Other	2,022	2,640
Total deferred income tax liabilities	16,078	20,628
Net deferred tax asset	$ 47,867	$ 40,198

As part of the 2017 Tax Act, the U.S. statutory rate was reduced from 35% to 21%. Accordingly, the Company has re-measured U.S. deferred tax assets and liabilities based on the rate they are expected to reverse at in the future. As a result of the re-measurement, the Company's U.S. net deferred tax asset was reduced in 2017 by $12,934.

Additionally, the 2017 Tax Act prescribed a new method of discounting loss reserves for U.S. tax purposes which requires companies to calculate a revised tax loss reserve adjustment for periods prior to 2018 and then recognize this change in taxable income ratably over an eight year period. This would result in an increase to the deferred tax asset related to loss reserves and an equal increase to the deferred tax liability for the future taxable income, resulting in no impact to the net deferred tax asset as reported above. The new methodology will calculate the discount using a different index for the calculation than it had in the past. Specifically, it will use a lagging 60 month average of the "High Quality Corporate Bond Yield Curve." The legislation did not specify however, the maturity segment to use, and left the development of the precise methodology and calculation of the factors to the regulatory process. The U.S. Treasury is expected to publish the discount rates for the new method in time for the filing due date of the 2017 tax return on October 15, 2018. Since the U.S. Treasury has not yet published the rates and any estimation of them could result in a materially different adjustment than what the ultimate adjustment will be, the Company has chosen to not include a provisional amount for the deferred tax asset and liability in regards to the change in discounting methodology because the Company does not believe we have adequate information to provide a reasonable estimate. The Company will update its disclosure once the necessary information is available.

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The movement in the deferred tax asset on tax losses carried forward and related valuation allowance from December 31, 2016 to December 31, 2017 can be explained as follows:

	Deferred Tax Asset on Tax Losses Carried Forward	Valuation Allowance
Balance, beginning of year	$ 116,416	$ (98,065)
Movement due to creation of tax losses carried forward	14,327	(2,242)
Movement due to use of tax losses carried forward	(8,765)	2,456
Movement due to provision to return adjustments	1,521	(1,521)
Movement due to changes in enacted tax rates	(7,319)	3,195
Movement due to change in assessment of deferred tax asset recoverability	—	9,304
Forfeiture of tax losses carried forward	(2,576)	2,576
Foreign exchange	1,975	(1,975)
Balance, end of year	$ 115,579	$ (86,272)

The above movement of $14,327 represents the tax benefit on current year tax losses that can be carried forward in the U.K. ($1,837) and the U.S. ($12,490). The related change in valuation allowance of $2,242 reflects the tax expense for certain U.S. tax losses carried forward where a valuation allowance was provided. The movement of $8,765 reflects the impact from the use of tax losses carried forward in Luxembourg ($6,309), Switzerland ($1,888) and Singapore ($568). The related movement in valuation allowance of $2,456 represents the tax benefit from the use of tax losses carried forward where a full valuation allowance was previously provided (Switzerland: $1,888 and Singapore: $568). The movement of $1,521 represents prior year adjustments reflecting tax losses carried forward as per tax returns filed. The change in deferred tax asset of $7,319 and related valuation allowance of $3,195 reflects the impact of enacted changes in income tax rate, primarily in the U.S. The movement in valuation allowance of $9,304 is due to the partial release of valuation allowances which had previously been applied against deferred tax assets related to carried forward Swiss and Luxembourg tax losses acquired as part of the Flagstone acquisition.

As at December 31, 2017, the Company believes, after review of all available positive and negative evidence that it is more likely than not to have sufficient future taxable income to realize a portion of these deferred tax assets. As such, the Company has recorded a partial release from the previously held valuation allowance resulting in a current year tax benefit. The tax effect from forfeiture of tax losses carried forward of $2,576 results from the net reduction of Swiss tax losses association with the application of non-taxable income of Validus Re Swiss' Bermuda Branch in accordance with Swiss law. The movement of $1,975 represents the foreign exchange effect on the deferred tax asset and related valuation allowance for tax losses carried forward in local currency in Switzerland.

As at December 31, 2017, the Company had net operating and capital losses carried forward, inclusive of cumulative currency translation adjustments, as follows:

	Luxembourg	Switzerland	United States	United Kingdom	Singapore	Total
2018-2020	$ —	$ 145,669	$ —	$ —	$ —	$ 145,669
2029-2038	—	—	22,827	—	—	22,827
No expiration date	276,819	—	29,281	9,543	2,323	317,966
Total	276,819	145,669	52,108	9,543	2,323	486,462
Gross deferred tax asset	72,001	30,590	10,943	1,813	232	115,579
Valuation allowance	(53,899)	(27,347)	(4,794)	—	(232)	(86,272)
Net deferred tax asset	$ 18,102	$ 3,243	$ 6,149	$ 1,813	$ —	$ 29,307

Prior to the enactment of the 2017 Tax Act, the U.S. allowed for net operating losses to be carried back two years and forward 20 years. For years beginning after December 31, 2017, net operating losses on non-insurance companies in the U.S. may no longer

be carried back but will be allowed to be carried forward indefinitely. The 2017 Tax Act did not change the treatment of net operating losses for insurance companies. The new legislation does not provide for how to apply these rules where a company files a consolidated tax return which includes both insurance and non-insurance companies. As such, the $22,827 figure above relates to U.S. net operating losses of Validus Re Switzerland which is taxed as an insurance company. The $29,281 figure relates to net operating losses of the Validus U.S. consolidated group of which $7,768 relates to insurance companies within the consolidated group. The Company believes these will have no expiration date when the legislative guidance becomes available.

As of December 31, 2017, there are U.S. alternative minimum tax credit carryforwards of $5,755 which do not expire.

The valuation allowance as at December 31, 2017 of $86,272 (2016: $98,065) relates to tax losses carried forward in Luxembourg, Switzerland, Singapore and the U.S. The Company believes it is necessary to maintain a full valuation allowance against the deferred tax assets related to tax losses carried forward in Singapore and the U.S., outside the U.S. consolidated group, after review of all available positive and negative evidence, including uncertainty regarding the ability of the concerned operations to generate future taxable income to utilize the losses carried forward and realize the deferred tax assets. The weighting of the positive and negative evidence is commensurate with the extent to which they can be objectively verified.

As mentioned above, partial releases of $9,304 (Luxembourg: $6,061 and Switzerland: $3,243) of the valuation allowance previously held against a deferred tax asset related to tax losses carried forward was recorded as of December 31, 2017. The Company believes, after review of all positive and negative evidence, it is now more likely than not to have sufficient future taxable income to realize a portion of these deferred tax assets.

The U.S. consolidated group generated tax losses of $29,281 in 2017. As discussed above, absent further legislative guidance, the Company has attributed all of these losses to the non-insurance company members of the group. Accordingly, these losses will be carried forward indefinitely. As of December 31, 2017, the Company believes it is more likely than not that the U.S. consolidated group will have sufficient future taxable income to utilize these losses within a reasonable period of time.

The Company will continue to monitor all available positive and negative evidence, including its expectations for future taxable income in the relevant jurisdictions, in relation to the recoverability of its existing deferred tax balances. If the Company's positive evidence continues to develop favorably in the foreseeable future, it is possible that further releases of the valuation allowances related to deferred tax asset balances will occur.

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, the Company must presume the tax position will be subject to examination by a tax 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. As at December 31, 2017 and 2016, the Company had no accrued liabilities for tax, interest and penalties relating to uncertain tax positions. Interest and penalties related to uncertain tax positions would be recognized in income tax expense.

The Company has undistributed earnings in several foreign subsidiaries. If such earnings were to be distributed, as dividends or otherwise, they may be subject to income and withholding taxes. As a general rule, the Company intends to only distribute earnings that can be distributed in a tax free manner with the exception of a few smaller subsidiaries where the Company has accrued a withholding tax for such future distributions. In the United States, the Company intends to indefinitely reinvest any earnings such that no accrual of potential withholding tax was made. Were the Company to change its assertion that it would not indefinitely reinvest earnings in its U.S. subsidiaries, the Company estimates it would need to accrue $878 of withholding tax payable on future distributions.

The Company has open examinations by tax authorities in the U.S. (2013-2016) and Switzerland (2014-2015). The Company believes that these examinations will be concluded within the next 12 months and currently does not expect any material adjustments as a result of these audits.

The Company has open tax years that are potentially subject to examination by local tax authorities in the following major tax jurisdictions: the U.K. (2016-2017), the U.S. (2016-2017), Switzerland (2013-2017) and Canada (2014-2017).

Validus Holdings, Ltd.

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21. Accumulated other comprehensive (loss) income

The changes in accumulated other comprehensive (loss) income, by component for the years ended December 31, 2017, 2016 and 2015 are as follows:

	Year Ended December 31, 2017			
	Foreign currency translation adjustment	Minimum pension liability	Cash flow hedge	Total
Balance, net of tax, beginning of year	$ (22,274)	$ (150)	$ (792)	$ (23,216)
Other comprehensive income (loss), net of tax	4,057	2,869	(6,352)	574
Amounts reclassified from accumulated other comprehensive loss	—	—	450	450
Balance, net of tax, end of year	$ (18,217)	$ 2,719	$ (6,694)	$ (22,192)

	Year Ended December 31, 2016			
	Foreign currency translation adjustment	Minimum pension liability	Cash flow hedge	Total
Balance, net of tax, beginning of year	$ (11,834)	$ 334	$ (1,069)	$ (12,569)
Other comprehensive (loss) income, net of tax	(10,440)	(484)	277	(10,647)
Balance, net of tax, end of year	$ (22,274)	$ (150)	$ (792)	$ (23,216)

	Year Ended December 31, 2015			
	Foreign currency translation adjustment	Minimum pension liability	Cash flow hedge	Total
Balance, net of tax, beginning of year	$ (8,118)	$ (210)	$ (228)	$ (8,556)
Other comprehensive (loss) income, net of tax	(3,716)	544	(841)	(4,013)
Balance, net of tax, end of year	$ (11,834)	$ 334	$ (1,069)	$ (12,569)

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22. Commitments and contingencies

(a) Concentrations of credit risk

The Company underwrites a significant amount of its reinsurance business through three brokers as set out below. There is credit risk associated with payments of (re)insurance balances to the Company in regards to these brokers' ability to fulfill their contractual obligations. These brokerage companies are large and well established, and there are no indications they are financially distressed. There was no other broker or (re)insured party that accounted for more than 10% of gross premiums written for the periods mentioned.

The following table shows the percentage of Validus' gross premiums written through each of these three brokers for the years ended December 31, 2017, 2016 and 2015:

	Years Ended December 31,		
	2017	2016	2015
Marsh & McLennan Companies, Inc.	24.6%	28.8%	28.2%
Aon Benfield Group Ltd.	16.3%	16.2%	15.5%
Willis Towers Watson plc	12.1%	14.1%	14.3%

(b) Employment agreements

The Company has entered into employment agreements with certain individuals that provide for executive benefits and severance payments under certain circumstances.

(c) Operating leases

The Company leases office space and office equipment under operating leases. Total rent expense with respect to these operating leases for the year ended December 31, 2017 was approximately $11,833 (2016: $9,761, 2015: $10,143). Future minimum lease commitments are as follows:

	December 31, 2017
2018	$ 13,610
2019	13,212
2020	12,193
2021	10,942
2022	7,671
2023 and thereafter	39,940
Total	$ 97,568

(d) Funds at Lloyd's

The Company operates in Lloyd's through a corporate member, Talbot 2002 Underwriting Capital Ltd ("T02"), which is the sole participant in the Talbot Syndicate. Lloyd's sets T02's Economic Capital Assessment ("ECA") annually based on the Talbot Syndicate's business plan, rating environment and reserving environment together with input arising from Lloyd's discussions with regulatory and rating agencies, and other parties. This ECA is satisfied by syndicate net assets determined on a basis consistent with Solvency II, an EU directive covering capital adequacy, risk management and regulatory reporting for insurers. Any syndicate net liabilities on a Solvency II basis are required to be funded in addition to the ECA. Such additional funds, known as Funds at Lloyd's ("FAL"), comprises cash and investments. The Company provided FAL in the amount of $661,600 during the fourth quarter of 2017 (2016: $583,600).

The amounts which are provided as FAL are not available for distribution to the Company for the payment of dividends. T02 may also be required to maintain funds under the control of Lloyd's in excess of its capital requirement and such funds also may not be available for distribution to the Company for the payment of dividends.

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(e) Lloyd's Central Fund

Whenever a member of Lloyd's is unable to pay its debts to policyholders, such debts may be payable by the Lloyd's Central Fund. If Lloyd's determines that the Central Fund needs to be increased, it has the power to assess premium levies on current Lloyd's members up to 3% of a member's underwriting capacity in any one year. The Company does not believe that any assessment is likely in the foreseeable future and has not provided any allowance for such an assessment. However, based on the Company's 2018 estimated premium income at Lloyd's of £650,000, at December 31, 2017 using an exchange rate of £1 equals $1.35 and assuming the maximum 3% assessment, the Company would be assessed approximately $26,325 (December 31, 2016: $22,140).

(f) Investment affiliate commitments

As discussed in Note 7(c), *"Investments in investment affiliates,"* the Company has entered into agreements with the Aquiline II General Partner, the Aquiline III General Partner, the Aquiline Tech General Partner and the Aquiline Armour General Partner, pursuant to which it assumed total capital commitments at December 31, 2017 of $60,000, $100,000, $20,000 and $40,340, respectively. The Company's remaining capital commitments relating to these agreements at December 31, 2017 was $3,229, $66,285, $16,142 and $40,340, respectively (December 31, 2016: $2,040, $62,031, $nil and $nil, respectively).

(g) Fixed maturity commitments

At December 31, 2017, the Company had an outstanding commitment to participate in certain secured loan facilities through participation agreements with an established loan originator. The undrawn amount under the revolver facility participations as at December 31, 2017 was $22,082 (December 31, 2016: $28,499).

(h) Other investment commitments

At December 31, 2017, the Company had capital commitments in certain other investments of $268,000 (December 31, 2016: $308,000). The Company's remaining unfunded capital commitment to these investments at December 31, 2017 was $86,697 (December 31, 2016: $156,134).

(i) Structured settlements

As at December 31, 2017, the Company is contingently liable for the present value of amounts not yet due under annuities where the claimant is the payee for the amount of $3,203 (December 31, 2016: $3,186).

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23. Related party transactions

The transactions listed below are classified as related party transactions as principals and/or directors of each counterparty are members of the Company's board of directors.

(a) Aquiline Capital Partners LLC ("Aquiline Capital")

Group Ark Insurance

Christopher E. Watson, a director of the Company and senior principal of Aquiline Capital, serves as a director of Group Ark Insurance Holdings Ltd. ("Group Ark"). Prior to August, 2016, Aquiline Capital was also a shareholder of Group Ark.

Pursuant to reinsurance agreements with a subsidiary of Group Ark, the Company recognized gross premiums written during the year ended December 31, 2016 of $3,157 (2015: $2,718) with $292 included in premiums receivable at December 31, 2016. The Company also recognized reinsurance premiums ceded during the year ended December 31, 2016 of $40 (2015: $24). The Company recorded $798 of loss reserves recoverable at December 31, 2016 and earned premium adjustments of $3,115 during the year ended December 31, 2016 (2015: $2,833).

Wellington

Aquiline Capital are shareholders of Wellington Insurance Company ("Wellington") and Christopher E. Watson serves as a director of Wellington.

Pursuant to reinsurance agreements with a subsidiary of Wellington, the Company recognized gross premiums written during the year ended December 31, 2017 of $4,196 (2016: $2,860 and 2015: $nil) with $211 included in premiums receivable at December 31, 2017 (December 31, 2016: $666). The Company also recognized earned premium adjustments during the year ended December 31, 2017 of $4,377 (2016: $2,603 and 2015: $nil).

Aquiline II, Aquiline III, Aquiline Tech and Aquiline Armour

Jeffrey W. Greenberg and Christopher E. Watson, directors of the Company, serve as managing principal and senior principal, respectively, of Aquiline Capital. Additional information related to the Company's investments in Aquiline II, III, Tech and Armour is disclosed in Note 7(c), *"Investments in Investment Affiliates."*

The Company had, as of December 31, 2017 and December 31, 2016, investments in Aquiline II, III, Tech and Armour with a total value of $100,137 and $100,431 and outstanding unfunded commitments of $125,996 and $64,071, respectively. For the year ended December 31, 2017, the Company incurred $2,863 (2016: $2,874 and 2015: $3,333) in partnership fees associated with these investments.

(b) Other

Certain shareholders of the Company and their affiliates, as well as employees of entities associated with directors and officers may have purchased insurance and/or reinsurance from the Company in the ordinary course of business. The Company does not believe these transactions to be material.

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24. Earnings per common share

The following table sets forth the computation of basic (loss) earnings per common share and (loss) earnings per diluted common share available to Validus common shareholders for the years ended December 31, 2017, 2016 and 2015:

	Years Ended December 31,		
	2017	2016	2015
Basic (loss) earnings per common share			
Net (loss) income (attributable) available to Validus common shareholders	$ (63,483)	$ 359,384	$ 374,893
Less: Dividends on outstanding warrants	—	—	(3,566)
Net (loss) income allocated to Validus common shareholders	(63,483)	359,384	371,327
Weighted average number of common shares outstanding	79,091,376	81,041,974	83,107,236
Basic (loss) earnings per share (attributable) available to Validus common shareholders	**$ (0.80)**	**$ 4.43**	**$ 4.47**
(Loss) earnings per diluted common share			
Net (loss) income (attributable) available to Validus common shareholders	$ (63,483)	$ 359,384	$ 374,893
Weighted average number of common shares outstanding	79,091,376	81,041,974	83,107,236
Share equivalents:			
Warrants	—	—	2,090,248
Stock options	—	28,196	151,867
Unvested restricted shares	—	1,289,290	1,077,409
Weighted average number of diluted common shares outstanding	79,091,376	82,359,460	86,426,760
(Loss) earnings per diluted common share (attributable) available to Validus common shareholders	**$ (0.80)**	**$ 4.36**	**$ 4.34**

Earnings per diluted common share assumes the exercise of all dilutive stock options and restricted stock grants. Due to the net loss incurred during the year ended December 31, 2017, share equivalents were not included in the computation of loss per diluted share due to their anti-dilutive effect. Share equivalents that would result in the issuance of 133,810 and 167,417 common shares were outstanding for the years ended December 31, 2016 and 2015, respectively, but were not included in the computation of earnings per diluted share because the effect would be anti-dilutive.

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25. Segment information

The Company conducts its operations worldwide through three reportable segments, which have been determined under ASC Topic 280 *"Segment Reporting"* to be Reinsurance, Insurance and Asset Management. The Company's reportable segments are strategic business units that offer different products and services. They are managed and have capital allocated separately because each segment undertakes different strategies.

A description of each of the Company's reportable segments and its Corporate and Investments function is as follows:

Reinsurance Segment

The Reinsurance segment operates globally and is primarily focused on treaty reinsurance within the following lines and classes of business:

- Property: catastrophe excess of loss, per risk excess of loss, proportional and treaty;
- Specialty - Short-tail: aerospace and aviation, agriculture, composite, marine, other specialty (including contingency, crisis management and life and accident & health), technical lines, terrorism, trade credit and workers' compensation; and
- Specialty - Other: casualty and financial lines of business.

Insurance Segment

The Insurance segment operates globally and focuses on specialty insurance within both the Lloyd's and the U.S. commercial insurance markets and is focused on a wide range of insurance products within the following lines and classes of business:

- Property: direct property and downstream energy and power;
- Specialty - Short-tail: accident & health, agriculture, aviation, contingency, marine, and political lines (including war and political violence); and
- Specialty - Other: financial lines of business, liability (including general liability, professional liability, products liability and miscellaneous malpractice), marine and energy, political risk and products and airports.

Asset Management Segment

The Asset Management segment leverages the Company's underwriting and analytical expertise and earns management and performance fees from the Company and other third party investors primarily through the management of ILS funds and sidecars.

Corporate and Investments

The Company's Corporate and Investments function, which includes the activities of the parent company, carries out certain functions for the group, including investment management. Corporate and Investments includes investment income on a managed basis and other non-segment expenses, predominantly general and administrative, stock compensation, finance and transaction expenses. Transaction expenses are primarily comprised of legal, financial advisory and audit related services incurred in connection with the acquisition of CRS. Corporate and Investments also includes the activities of certain key executives such as the Chief Executive Officer and Chief Financial Officer. For reporting purposes, Corporate and Investments is reflected separately; however, it is not considered a reportable segment under these circumstances. Other reconciling items include, but are not limited to, the elimination of certain inter segment revenues and expenses and other items that are not allocated to the reportable segments.

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The following tables summarize the results of our reportable segments and "Corporate and Investments" function:

	Years Ended December 31,		
Reinsurance Segment Information	**2017**	**2016**	**2015**
Underwriting revenues			
Gross premiums written	$ 1,195,207	$ 1,184,912	$ 1,194,589
Reinsurance premiums ceded	(209,289)	(121,331)	(158,433)
Net premiums written	985,918	1,063,581	1,036,156
Change in unearned premiums	37,086	(67,432)	11,827
Net premiums earned	1,023,004	996,149	1,047,983
Other insurance related income	67	25	2,214
Total underwriting revenues	1,023,071	996,174	1,050,197
Underwriting deductions			
Losses and loss expenses	692,719	415,505	467,788
Policy acquisition costs	199,430	189,797	173,574
General and administrative expenses	80,177	85,000	94,531
Share compensation expenses	10,762	11,668	11,137
Total underwriting deductions	983,088	701,970	747,030
Underwriting income	**$ 39,983**	**$ 294,204**	**$ 303,167**
Selected ratios:			
Ratio of net to gross premiums written	82.5%	89.8%	86.7%
Losses and loss expense ratio	67.7 %	41.7 %	44.6 %
Policy acquisition cost ratio	19.5%	19.1%	16.6%
General and administrative expense ratio	8.9%	9.7%	10.1%
Expense ratio	28.4%	28.8%	26.7%
Combined ratio	96.1%	70.5%	71.3%

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Insurance Segment Information	Years Ended December 31, 2017	2016	2015
Underwriting revenues			
Gross premiums written	$ 1,453,133	$ 1,194,137	$ 1,191,199
Reinsurance premiums ceded	(261,055)	(162,669)	(170,118)
Net premiums written	1,192,078	1,031,468	1,021,081
Change in unearned premiums	64,007	(28,524)	17,890
Net premiums earned	1,256,085	1,002,944	1,038,971
Other insurance related income	7,035	1,367	1,894
Total underwriting revenues	1,263,120	1,004,311	1,040,865
Underwriting deductions			
Losses and loss expenses	934,199	604,741	509,388
Policy acquisition costs	241,186	232,780	220,157
General and administrative expenses	207,186	165,529	177,918
Share compensation expenses	12,774	14,987	13,669
Total underwriting deductions	1,395,345	1,018,037	921,132
Underwriting (loss) income	**$ (132,225)**	**$ (13,726)**	**$ 119,733**
Selected ratios:			
Ratio of net to gross premiums written	82.0%	86.4%	85.7%
Losses and loss expense ratio	74.4 %	60.3 %	49.0 %
Policy acquisition cost ratio	19.2%	23.2%	21.2%
General and administrative expense ratio	17.5%	18.0%	18.4%
Expense ratio	36.7%	41.2%	39.6%
Combined ratio	111.1%	101.5%	88.6%

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Asset Management Segment Information	Years Ended December 31, 2017	2016	2015
Fee revenues			
Third party	$ 20,349	$ 18,771	$ 19,661
Related party	2,150	3,329	5,309
Total fee revenues	22,499	22,100	24,970
Expenses			
General and administrative expenses	12,904	10,233	12,115
Share compensation expenses	389	249	580
Finance expenses	137	947	9,312
Tax expense	8	90	—
Foreign exchange losses (gains)	7	19	(16)
Total expenses	13,445	11,538	21,991
Income before investment (loss) income from funds and sidecars	9,054	10,562	2,979
Investment (loss) income from funds and sidecars [a]			
AlphaCat Sidecars	79	607	5,504
AlphaCat ILS Funds - Lower Risk [b]	(3,102)	8,901	7,491
AlphaCat ILS Funds - Higher Risk [b]	(22,662)	7,471	8,428
BetaCat ILS Funds	536	3,623	1,702
PaCRe	—	(23)	(3,949)
Validus' share of investment (loss) income from funds and sidecars	(25,149)	20,579	19,176
Asset Management segment (loss) income	**$ (16,095)**	**$ 31,141**	**$ 22,155**
Gross premiums written			
AlphaCat Sidecars	$ (181)	$ (341)	$ 45,755
AlphaCat ILS Funds - Lower Risk [b]	128,295	112,222	91,363
AlphaCat ILS Funds - Higher Risk [b]	157,976	140,022	34,228
AlphaCat Direct [c]	26,729	18,499	4,780
Total	**$ 312,819**	**$ 270,402**	**$ 176,126**

(a) The investment income (loss) from funds and sidecars is based on equity accounting.

(b) Lower risk AlphaCat ILS funds have a maximum permitted portfolio expected loss of less than 7%, whereas higher risk AlphaCat ILS funds have a maximum permitted portfolio expected loss of 7% or greater. The maximum permitted portfolio expected loss represents the average annual loss over the set of simulation scenarios divided by the total limit.

(c) AlphaCat Direct includes direct investments from a third party investor in AlphaCat Re.

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	Years Ended December 31,		
Corporate and Investments	**2017**	**2016**	**2015**
Managed investments			
Managed net investment income [(a)]	$ 152,955	$ 141,718	$ 121,166
Net realized gains on managed investments [(a)]	7,437	14,680	1,698
Change in net unrealized gains (losses) on managed investments [(a)]	6,371	14,106	(32,007)
Income (loss) from investment affiliates	22,010	(2,083)	4,281
Total managed investment return	**$ 188,773**	**$ 168,421**	**$ 95,138**
Corporate expenses			
General and administrative expenses	$ 48,598	$ 72,249	$ 75,724
Share compensation expenses	16,186	16,003	12,955
Finance expenses [(a)]	58,194	57,183	61,071
Dividends on preferred shares	15,861	4,455	—
Tax (benefit) expense [(a)]	(7,588)	(19,819)	6,376
Total Corporate expenses	**$ 131,251**	**$ 130,071**	**$ 156,126**
Other items			
Foreign exchange (losses) gains [(a)]	(8,544)	10,778	(8,172)
Other income (loss)	303	(766)	(1,002)
Transaction expenses	(4,427)	—	—
Total other items	**$ (12,668)**	**$ 10,012**	**$ (9,174)**
Total Corporate and Investments	**$ 44,854**	**$ 48,362**	**$ (70,162)**

(a) These items exclude the components which are included in the Asset Management segment income (loss) and amounts which are consolidated from VIEs.

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The following tables reconcile the results of our reportable segments and "Corporate & Investments" function to the Consolidated results of the Company for the years indicated:

	Year Ended December 31, 2017					
	Reinsurance Segment	Insurance Segment	Asset Management Segment and Consolidated VIEs	Corporate & Investments	Eliminations	Total
Underwriting revenues						
Gross premiums written	$ 1,195,207	$ 1,453,133	$ 312,819	$ —	$ (10,221)	$ 2,950,938
Reinsurance premiums ceded	(209,289)	(261,055)	(9,510)	—	10,221	(469,633)
Net premiums written	985,918	1,192,078	303,309	—	—	2,481,305
Change in unearned premiums	37,086	64,007	(1,310)	—	—	99,783
Net premiums earned	1,023,004	1,256,085	301,999	—	—	2,581,088
Other insurance related income	67	7,035	23,896	—	(18,122)	12,876
Total underwriting revenues	1,023,071	1,263,120	325,895	—	(18,122)	2,593,964
Underwriting deductions						
Losses and loss expenses	692,719	934,199	673,260	—	—	2,300,178
Policy acquisition costs	199,430	241,186	30,937	—	—	471,553
General and administrative expenses	80,177	207,186	34,298	48,598	(18,122)	352,137
Share compensation expenses	10,762	12,774	389	16,186	—	40,111
Total underwriting deductions	983,088	1,395,345	738,884	64,784	(18,122)	3,163,979
Underwriting income (loss)	$ 39,983	$ (132,225)	$ (412,989)	$ (64,784)	$ —	$ (570,015)
Net investment return [(a)]	—	—	21,948	188,773	—	210,721
Other items [(b)]	—	—	737	(79,135)	—	(78,398)
Loss attributable to AlphaCat investors	—	—	16,929	—	—	16,929
Net loss attributable to noncontrolling interests	—	—	357,280	—	—	357,280
Net income (loss) available (attributable) to Validus common shareholders	**$ 39,983**	**$ (132,225)**	**$ (16,095)**	**$ 44,854**	**$ —**	**$ (63,483)**

(a) Net investment return includes net investment income, net realized and change in net unrealized gains (losses) on investments and income (loss) from investment affiliates.

(b) Other items includes finance expenses, transaction expenses, dividends on preferred shares, tax benefit (expense), foreign exchange gains (losses), income (loss) from operating affiliate and other income (loss).

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	Year Ended December 31, 2016					
	Reinsurance Segment	Insurance Segment	Asset Management Segment and Consolidated VIEs	Corporate & Investments	Eliminations	Total
Underwriting revenues						
Gross premiums written	$ 1,184,912	$ 1,194,137	$ 270,402	$ —	$ (746)	$ 2,648,705
Reinsurance premiums ceded	(121,331)	(162,669)	(6,451)	—	746	(289,705)
Net premiums written	1,063,581	1,031,468	263,951	—	—	2,359,000
Change in unearned premiums	(67,432)	(28,524)	(13,879)	—	—	(109,835)
Net premiums earned	996,149	1,002,944	250,072	—	—	2,249,165
Other insurance related income	25	1,367	22,386	—	(20,817)	2,961
Total underwriting revenues	996,174	1,004,311	272,458	—	(20,817)	2,252,126
Underwriting deductions						
Losses and loss expenses	415,505	604,741	44,851	—	—	1,065,097
Policy acquisition costs	189,797	232,780	26,905	—	—	449,482
General and administrative expenses	85,000	165,529	34,333	72,249	(20,817)	336,294
Share compensation expenses	11,668	14,987	249	16,003	—	42,907
Total underwriting deductions	701,970	1,018,037	106,338	88,252	(20,817)	1,893,780
Underwriting income (loss)	$ 294,204	$ (13,726)	$ 166,120	$ (88,252)	$ —	$ 358,346
Net investment return [(a)]	—	—	13,106	168,421	(597)	180,930
Other items [(b)]	—	—	(1,364)	(31,807)	—	(33,171)
(Income) attributable to AlphaCat investors	—	—	(23,358)	—	—	(23,358)
Net (income) attributable to noncontrolling interests	—	—	(123,363)	—	—	(123,363)
Net income (loss) available (attributable) to Validus common shareholders	**$ 294,204**	**$ (13,726)**	**$ 31,141**	**$ 48,362**	**$ (597)**	**$ 359,384**

(a) Net investment return includes net investment income, net realized and change in net unrealized gains (losses) on investments and income (loss) from investment affiliates.

(b) Other items includes finance expenses, transaction expenses, dividends on preferred shares, tax benefit (expense), foreign exchange gains (losses), income (loss) from operating affiliate and other income (loss).

Validus Holdings, Ltd.

Notes to the Consolidated Financial Statements

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

	Year Ended December 31, 2015					
	Reinsurance Segment	Insurance Segment	Asset Management Segment and Consolidated VIEs	Corporate & Investments	Eliminations	Total
Underwriting revenues						
Gross premiums written	$ 1,194,589	$ 1,191,199	$ 176,126	$ —	$ (4,408)	$ 2,557,506
Reinsurance premiums ceded	(158,433)	(170,118)	(4,538)	—	4,408	(328,681)
Net premiums written	1,036,156	1,021,081	171,588	—	—	2,228,825
Change in unearned premiums	11,827	17,890	(11,653)	—	—	18,064
Net premiums earned	1,047,983	1,038,971	159,935	—	—	2,246,889
Other insurance related income	2,214	1,894	25,524	—	(23,519)	6,113
Total underwriting revenues	1,050,197	1,040,865	185,459	—	(23,519)	2,253,002
Underwriting deductions						
Losses and loss expenses	467,788	509,388	657	—	—	977,833
Policy acquisition costs	173,574	220,157	16,327	—	—	410,058
General and administrative expenses	94,531	177,918	39,055	75,724	(23,519)	363,709
Share compensation expenses	11,137	13,669	580	12,955	—	38,341
Total underwriting deductions	747,030	921,132	56,619	88,679	(23,519)	1,789,941
Underwriting income	$ 303,167	$ 119,733	$ 128,840	$ (88,679)	$ —	$ 463,061
Net investment return [(a)]	—	—	6,870	95,138	—	102,008
Other items [(b)]	—	—	(18,179)	(76,621)	—	(94,800)
(Income) attributable to AlphaCat investors	—	—	(2,412)	—	—	(2,412)
Net (income) attributable to noncontrolling interests	—	—	(92,964)	—	—	(92,964)
Net income available to Validus common shareholders	**$ 303,167**	**$ 119,733**	**$ 22,155**	**$ (70,162)**	**$ —**	**$ 374,893**

(a) Net investment return includes net investment income, net realized and change in net unrealized gains (losses) on investments and income (loss) from investment affiliates.

(b) Other items includes finance expenses, transaction expenses, dividends on preferred shares, tax benefit (expense), foreign exchange gains (losses), income (loss) from operating affiliate and other income (loss).

The following table sets forth the gross premiums written by line of business for the years indicated:

	Years Ended December 31,		
	2017	2016	2015
Property	$ 1,233,021	$ 1,128,524	$ 1,077,700
Specialty - Short-tail	1,101,909	962,722	1,040,068
Specialty - Other	616,008	557,459	439,738
Total	$ 2,950,938	$ 2,648,705	$ 2,557,506

Validus Holdings, Ltd.

Notes to the Consolidated Financial Statements

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

The Company's exposures are generally diversified across geographic zones. The following tables set forth the gross premiums written allocated to the territory of coverage exposure for the years indicated:

	Gross Premiums Written					
	Year Ended December 31, 2017					
	Reinsurance Segment	Insurance Segment	Asset Management Segment	Eliminations	Total	%
United States	$ 418,814	$ 701,669	$ 119,779	$ (10,221)	$ 1,230,041	41.7%
Worldwide excluding United States [a]	47,467	148,598	8,467	—	204,532	6.9%
Australia and New Zealand	4,072	12,849	2,003	—	18,924	0.6%
Europe	39,334	32,047	630	—	72,011	2.4%
Latin America and Caribbean	49,297	82,107	46	—	131,450	4.5%
Japan	43,002	5,004	3,855	—	51,861	1.8%
Canada	6,284	4,633	731	—	11,648	0.4%
Rest of the world [b]	21,927	90,907	—	—	112,834	3.8%
Sub-total, non United States	211,383	376,145	15,732	—	603,260	20.4%
Worldwide including United States [a]	188,383	99,377	170,126	—	457,886	15.5%
Other locations non-specific [c]	376,627	275,942	7,182	—	659,751	22.4%
Total	$ 1,195,207	$ 1,453,133	$ 312,819	$ (10,221)	$ 2,950,938	100.0%

	Gross Premiums Written					
	Year Ended December 31, 2016					
	Reinsurance Segment	Insurance Segment	Asset Management Segment	Eliminations	Total	%
United States	$ 464,212	$ 408,609	$ 64,766	$ —	$ 937,587	35.4%
Worldwide excluding United States [a]	53,369	146,191	22,206	—	221,766	8.4%
Australia and New Zealand	7,402	10,698	4,949	—	23,049	0.9%
Europe	32,875	29,661	3,245	—	65,781	2.5%
Latin America and Caribbean	52,080	88,315	—	—	140,395	5.3%
Japan	42,045	4,601	3,221	—	49,867	1.9%
Canada	4,365	5,671	207	—	10,243	0.4%
Rest of the world [b]	21,142	106,110	—	—	127,252	4.8%
Sub-total, non United States	213,278	391,247	33,828	—	638,353	24.1%
Worldwide including United States [a]	159,313	95,826	170,253	(746)	424,646	16.0%
Other locations non-specific [c]	348,109	298,455	1,555	—	648,119	24.5%
Total	$ 1,184,912	$ 1,194,137	$ 270,402	$ (746)	$ 2,648,705	100.0%

Validus Holdings, Ltd.

Notes to the Consolidated Financial Statements

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

	Gross Premiums Written					
	Year Ended December 31, 2015					
	Reinsurance Segment	Insurance Segment	Asset Management Segment	Eliminations	Total	%
United States	$ 544,783	$ 368,394	$ 41,134	$ —	$ 954,311	37.3%
Worldwide excluding United States [a]	54,293	124,921	8,107	—	187,321	7.3%
Australia and New Zealand	12,480	8,440	624	—	21,544	0.8%
Europe	53,653	32,109	2,504	—	88,266	3.5%
Latin America and Caribbean	48,923	85,172	38	—	134,133	5.2%
Japan	40,467	3,480	1,671	—	45,618	1.8%
Canada	3,830	5,734	458	—	10,022	0.4%
Rest of the world [b]	18,351	102,724	—	—	121,075	4.7%
Sub-total, non United States	231,997	362,580	13,402	—	607,979	23.8%
Worldwide including United States [a]	128,211	98,019	116,523	(4,408)	338,345	13.2%
Other locations non-specific [c]	289,598	362,206	5,067	—	656,871	25.7%
Total	$ 1,194,589	$ 1,191,199	$ 176,126	$ (4,408)	$ 2,557,506	100.0%

(a) Represents risks in two or more geographic zones.

(b) Represents risks in one geographic zone.

(c) The other locations non-specific category refers to business for which an analysis of exposure by geographic zone is not applicable since these exposures can span multiple geographic areas and, in some instances, are not fixed locations.

Validus Holdings, Ltd.

Notes to the Consolidated Financial Statements

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

26. Statutory and regulatory requirements

Validus Holdings, Ltd. has operations which are subject to laws and regulations in the jurisdictions in which they operate, the most significant of which are Bermuda, the United Kingdom, the United States and Switzerland.

As a holding company, Validus Holdings, Ltd.'s principal sources of income are dividends or other sources of permitted distributions from its subsidiaries. These funds provide the cash flow required for dividend payments to the Company's shareholders. The holding company has no material restrictions on its ability to make distributions to shareholders however, the ability of our (re)insurance subsidiaries to make distributions is limited by the applicable local laws and relevant regulations of the various countries in which we operate. The Company's subsidiaries are required to maintain certain measures of solvency and liquidity which provide restrictions on declaring dividends and distributions.

The Company's (re)insurance subsidiaries prepare their statutory financial statements in conformity with statutory accounting practices prescribed or permitted by the applicable local laws and relevant regulatory authority. The statutory financial statements may vary materially from statements prepared in accordance with U.S. GAAP.

Statutory capital and surplus as at December 31, 2017 and 2016 and statutory net income for the years ended December 31, 2017, 2016 and 2015 for our (re)insurance subsidiaries based in our most significant regulatory jurisdictions were as follows:

	Statutory Capital and Surplus						
	Required		Actual		Statutory Net Income (Loss)		
	December 31,		December 31,		Years Ended December 31,		
	2017	2016	2017	2016	2017	2016	2015
Bermuda	$ 677,050	$ 1,447,138	$ 4,203,912	$ 4,244,211	$ 13,449	$ 477,624	$ 329,260
United States	102,138	78,342	376,178	416,746	(7,968)	7,795	32,255
Switzerland	315,000	267,000	846,152	700,776	39,570	30,231	21,379

During the year ended December 31, 2017, dividends and distributions to the Company from its subsidiaries, net of amounts reinvested in subsidiaries were $8,000 (2016: $320,000).

(a) Bermuda

The Company has five Bermuda based insurance subsidiaries: Validus Re, a Class 4 insurer; Validus Re Swiss (Bermuda Branch), a Class 4 insurer; IPCRe Limited ("IPCRe"), a Class 3A insurer; AlphaCat Re, a Class 3 insurer; and Mont Fort Re Ltd., a Class 3 insurer. Each of these Bermuda insurance subsidiaries is registered under the Insurance Act. The Company also has two Bermuda based subsidiaries which are licensed as Special Purpose Insurers ("SPIs") under the Insurance Act, AlphaCat Re 2011, Ltd. and AlphaCat Re 2012, Ltd.

The Company's Bermuda based insurance subsidiaries are required to maintain minimum statutory capital and surplus equal to the greater of a minimum solvency margin ("MSM") and the Enhanced Capital Requirement ("ECR") where applicable. The ECR is equal to the higher of the MSM or the Bermuda Solvency Capital Requirement ("BSCR") model or approved internal capital model. The BSCR for the relevant insurers for the year ended December 31, 2017 will not be filed with the BMA until April 2018. As a result, the required statutory capital and surplus as at December 31, 2017, of $677,050 is based on the MSM of all relevant insurers, whereas the required statutory capital and surplus as at December 31, 2016 of $1,447,138 is based primarily on the December 31, 2016 ECR, which exceeded the December 31, 2016 MSM of $732,253.

Actual statutory capital and surplus includes capital held in support of FAL which is not available for distribution to the Company. For further details refer to Note 22, *"Commitments and contingencies."* At December 31, 2017 and 2016, the actual statutory capital and surplus of the Bermuda based insurance subsidiaries exceeded the relevant regulatory requirements.

The ability of certain of these insurance subsidiaries to pay dividends to the Company is limited under Bermuda law and regulations. The Insurance Act provides that each of the Class 3A and 4 Bermuda subsidiaries may not declare or pay, in any financial year, dividends of more than 25% of its total statutory capital and surplus (as shown on its statutory balance sheet in relation to the previous financial year) unless it files with the BMA at least seven days prior to the payment, an affidavit signed by at least two directors and such insurance subsidiary's principal representative, stating that in their opinion such subsidiary will continue to satisfy the required margins following declaration of those dividends, however, there is no additional requirement for BMA approval. In addition, before reducing its total statutory capital by 15% or more (as set out in its previous year's statutory

financial statements) each of the Class 3A and Class 4 Bermuda insurance subsidiaries must make application to the BMA for permission to do so; such application shall consist of an affidavit signed by at least two directors and such insurance subsidiary's principal representative stating that in their opinion the proposed reduction in capital will not cause such subsidiaries to fail to meet its relevant margins, and such other information as the BMA may require. The Insurance Act permits each of the Class 3 insurers to declare or pay any dividends during any financial year so long as it does not cause the insurance subsidiary to fail to meet its relevant margins subject to the restrictions set out herein and other than in respect of IPCRe. Class 3 insurers, before reducing by 15% or more of its total statutory capital, as set out in its previous year's financial statements, are required to apply to the BMA for its approval and provide such information as the BMA may require.

As at December 31, 2017, the Company's Bermuda insurance subsidiaries have the ability to distribute up to $1,517,694 of unrestricted net assets as dividend payments or return of capital to Validus Holdings, Ltd. (December 31, 2016: $1,506,210) without prior regulatory approval.

The Company's primary restrictions on net assets of insurance subsidiaries consist of regulatory requirements placed upon the regulated insurance subsidiaries to hold minimum amounts of total statutory capital and surplus and other than the restriction on IPCRe noted above, there were no other material restrictions on net assets in place as of December 31, 2017.

The Company's principal operating subsidiary in Bermuda, Validus Re, maintains a branch office in Singapore. As the branch office is not considered a separate entity for regulatory purposes, the required and actual statutory capital and surplus amount includes amounts, as set out above, related to the applicable branch office. The branch office is subject to additional minimum capital or asset requirements in its country of domicile. At December 31, 2017 and 2016, the actual capital and assets for the branch exceeded the relevant local regulatory requirements.

(b) United Kingdom - Lloyd's

As disclosed in Note 22(d), "*Commitments and contingencies,*" the Talbot Syndicate and T02 are subject to regulation by the Council of Lloyd's. The Talbot Syndicate and T02 are also subject to regulation by the U.K. Financial Conduct Authority ("FCA") and Prudential Regulation Authority ("PRA") under the Financial Services and Market Act 2000.

T02 is a corporate member of Lloyd's. As a corporate member of Lloyd's, T02 is bound by the rules of the Society of Lloyd's, which are prescribed by Bye-laws and Requirements made by the Council of Lloyd's under powers conferred by the Lloyd's Act 1982. These rules (among other matters) prescribe T02's membership subscription, the level of its contribution to the Lloyd's central fund and the assets it must deposit with Lloyd's in support of its underwriting, known as FAL. The Council of Lloyd's has broad power to sanction breaches of its rules, including the power to restrict or prohibit a member's participation on Lloyd's syndicates. The capital required to support a Syndicate's underwriting capacity is assessed annually and is determined by Lloyd's in accordance with the rules of the Society of Lloyd's. The capital requirement is satisfied by Syndicate net assets on a Solvency II basis and FAL. The FAL to support the underwriting of the Talbot Syndicate is provided by the Company's Bermuda based insurance subsidiaries in the form of cash and investments. Amounts provided as FAL are not available for distribution to the Company for the payment of dividends.

Each year, during the second quarter, T02 applies to Lloyd's to release accumulated funds, whether Syndicate profits, interest on FAL or other funds which are in excess of the agreed FAL amount. At December 31, 2017 and 2016, the actual capital and assets exceeded the relevant local regulatory requirements. The release for the year ended December 31, 2016 enabled a dividend payment to the Company of $7,000 during the year ended December 31, 2017 (2016: $30,000).

(c) United States

The Company has three U.S. based insurance subsidiaries domiciled in New Hampshire: WWIC, Tudor and Stratford, which are required to file financial statements prepared in accordance with statutory accounting practices prescribed or permitted by the New Hampshire State Insurance Department ("NHSID").

State insurance laws and regulations prescribe accounting practices for determining statutory net income and equity for insurance companies. In addition, state regulators may permit statutory accounting practices that differ from such prescribed practices. The Company's U.S. based insurance company subsidiaries did not use such permitted practices.

The Company's U.S. based insurance company subsidiaries are subject to certain Risk-Based Capital ("RBC") requirements as specified by the National Association of Insurance Commissioners. Under those requirements, the minimum amount of capital

and surplus required to be maintained by a property/casualty insurance company is based on various risk factors. At December 31, 2017 and 2016, the Company's U.S. based insurance company subsidiaries met the RBC requirements.

New Hampshire insurance laws limit the amount of dividends Western World may pay to the Company in a 12-month period without the approval of the NHSID. These limitations are based on the lesser of: (i) a maximum of 10.0% of prior year end statutory surplus as determined under statutory accounting practices; or (ii) statutory net income, not including realized capital gains, for the 12-month period ending December 31, next preceding, but shall not include pro rata distributions of any class of the insurer's own securities. In determining whether a dividend or distribution is extraordinary, an insurer may carry forward net income from the previous two calendar years that has not already been paid out as dividends. This carry-forward is computed by taking the net income from the second and third preceding calendar years, not including realized capital gains, less dividends paid in the second and immediate preceding calendar years. As at December 31, 2017, the maximum dividend that may be paid to the Company by its U.S. based insurance subsidiaries without obtaining prior approval was $nil (December 31, 2016: $490). During the year ended December 31, 2017, our U.S. based insurance subsidiaries paid dividends to the Company of $15,500 (2016: $18,500).

(d) Switzerland

Validus Re Swiss is a société anonyme headquartered in Zurich, Switzerland. The conduct of reinsurance business by a company headquartered in Switzerland requires a license granted by the Swiss Financial Market Supervisory Authority ("FINMA"). Validus Re Swiss maintains a branch office in Bermuda, Validus Reinsurance (Switzerland) Ltd. (Bermuda Branch), a Class 4 insurer.

Required statutory capital and surplus is based on the Target Capital requirements calculated under the Swiss Solvency Test ("SST") and includes both Validus Re Swiss and its Bermuda branch. At December 31, 2017 and 2016, the actual capital and assets exceeded the relevant local regulatory requirements.

Validus Re Swiss is funded by equity in the form of paid in capital by shares and in share premium. Under Swiss corporate law as modified by insurance supervisory law, a non-life insurance company is obliged to contribute to statutory legal reserves a minimum of 20% of any annual profit up to 50% of statutory capital, being paid in share capital. Validus Re Swiss has been substantially funded by share premium. Share premium can be distributed to shareholders without being subject to withholding tax. However, the distribution of any special dividend to shareholders remains subject to the approval of FINMA which considers the maintenance of solvency and the interests of reinsureds and creditors.

Validus Reinsurance (Switzerland) Ltd. (Bermuda Branch) is exempt from filing an Annual Statutory Financial Return and Annual Capital and Solvency Return but is subject to the minimum required statutory capital and surplus requirements for Class 4 insurers and the SST. At December 31, 2017 and 2016, the branch was in compliance with all relevant regulatory requirements.

Validus Holdings, Ltd.

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27. Subsequent events

(a) Merger Agreement

On January 21, 2018, the Company entered into a definitive agreement and plan of merger (the "Merger Agreement") with AIG. The Merger Agreement provides that, subject to the satisfaction or waiver of certain conditions set forth therein, the Company will merge with an existing AIG subsidiary in accordance with the Bermuda Companies Act (the "Merger"), with the Company surviving the Merger as a wholly–owned subsidiary of AIG (the "Surviving Company").

Pursuant to the Merger Agreement, at the effective time of the Merger, holders of the Company's common shares will be entitled to receive consideration of $68.00 in cash. Each of the Company's issued and outstanding Series A and Series B Preferred Shares will remain issued and outstanding as a "Series A Preferred Share" and "Series B Preferred Share," respectively, of the Surviving Company.

The Merger is expected to close in mid-2018, subject to the approval of the Company's shareholders, regulatory approvals and other customary closing conditions. The Merger Agreement permits the Company to pay out regular quarterly cash dividends not to exceed $0.38 per common share, with its quarterly dividend for the second fiscal quarter for 2018 to be paid prior to the closing of the Merger even if such closing occurs prior to the regular record or payment date of such dividend.

(b) Dividends

On February 7, 2018, the Company announced a quarterly cash dividend of $0.38 per common share, payable on March 29, 2018 to shareholders of record on March 15, 2018. The Company also announced a quarterly cash dividend of $0.3671875 and $0.3625000 per depository share on the outstanding Series A and Series B Preferred Shares, respectively. The Series A and Series B Preferred Share dividends are payable on March 15, 2018 to shareholders of record on March 1, 2018.

Validus Holdings, Ltd.

Notes to the Consolidated Financial Statements

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

28. Unaudited quarterly financial data

	Quarters Ended			
	December 31, 2017	September 30, 2017	June 30, 2017	March 31, 2017
	Unaudited	*Unaudited*	*Unaudited*	*Unaudited*
Revenues				
Gross premiums written	$ 443,323	$ 523,856	$ 792,902	$ 1,190,857
Reinsurance premiums ceded	(96,445)	(116,860)	(56,222)	(200,106)
Net premiums written	346,878	406,996	736,680	990,751
Change in unearned premiums	304,599	316,212	(105,653)	(415,375)
Net premiums earned	651,477	723,208	631,027	575,376
Net investment income	48,960	44,458	44,241	40,214
Net realized gains (losses) on investments	5,607	906	2,274	(1,164)
Change in net unrealized (losses) gains on investments	(21,257)	(5,197)	16,321	13,348
Income from investment affiliates	6,345	1,011	9,466	5,188
Other insurance related income and other income	6,939	3,571	1,339	1,330
Foreign exchange (losses) gains	(283)	(1,404)	(7,329)	1,569
Total revenues	697,788	766,553	697,339	635,861
Expenses				
Losses and loss expenses	479,842	1,254,602	296,149	269,585
Policy acquisition costs	127,067	115,590	117,268	111,628
General and administrative expenses	97,522	70,342	96,349	87,924
Share compensation expenses	10,031	9,443	11,146	9,491
Finance expenses	15,871	14,523	14,209	13,943
Transaction expenses	—	—	4,427	—
Total expenses	730,333	1,464,500	539,548	492,571
(Loss) income before taxes and (income) loss attributable to AlphaCat investors	(32,545)	(697,947)	157,791	143,290
Tax benefit	412	2,632	987	3,549
(Income) loss attributable to AlphaCat investors	(37,868)	74,130	(11,830)	(7,503)
Net (loss) income	(70,001)	(621,185)	146,948	139,336
Net loss (income) attributable to noncontrolling interests	67,136	376,366	(43,650)	(42,572)
Net (loss) income (attributable) available to Validus	(2,865)	(244,819)	103,298	96,764
Dividends on preferred shares	(5,828)	(5,627)	(2,203)	(2,203)
Net (loss) income (attributable) available to Validus common shareholders	$ (8,693)	$ (250,446)	$ 101,095	$ 94,561
Earnings per share				
Basic (loss) earnings per common share available (attributable) to Validus common shareholders	$ (0.11)	$ (3.17)	$ 1.28	$ 1.19
(Loss) earnings per diluted common share available (attributable) to Validus common shareholders	$ (0.11)	$ (3.17)	$ 1.25	$ 1.17
Cash dividends declared per common share	$ 0.38	$ 0.38	$ 0.38	$ 0.38

Validus Holdings, Ltd.
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(Expressed in thousands of U.S. dollars, except share and per share information)

	Quarters Ended			
	December 31, 2016	September 30, 2016	June 30, 2016	March 31, 2016
	Unaudited	*Unaudited*	*Unaudited*	*Unaudited*
Revenues				
Gross premiums written	$ 339,454	$ 372,418	$ 764,042	$ 1,172,791
Reinsurance premiums ceded	(40,635)	(45,006)	(36,229)	(167,835)
Net premiums written	298,819	327,412	727,813	1,004,956
Change in unearned premiums	241,580	236,363	(154,090)	(433,688)
Net premiums earned	540,399	563,775	573,723	571,268
Net investment income	38,153	43,514	39,257	29,461
Net realized gains (losses) on investments	9,220	4,397	2,724	(584)
Change in net unrealized (losses) gains on investments	(67,460)	5,459	31,428	47,444
Income (loss) from investment affiliates	2,166	453	(589)	(4,113)
Other insurance related income and other income (loss)	568	(610)	824	1,413
Foreign exchange (losses) gains	(901)	(766)	6,286	6,245
Total revenues	522,145	616,222	653,653	651,134
Expenses				
Losses and loss expenses	275,126	258,394	307,130	224,447
Policy acquisition costs	120,889	113,434	107,966	107,193
General and administrative expenses	77,955	82,443	89,688	86,208
Share compensation expenses	10,442	10,501	10,727	11,237
Finance expenses	14,630	14,521	14,166	15,203
Total expenses	499,042	479,293	529,677	444,288
Income before taxes, (loss) from operating affiliate and (income) attributable to AlphaCat investors	23,103	136,929	123,976	206,846
Tax benefit (expense)	21,147	(1,830)	(1,706)	2,118
(Loss) from operating affiliate	—	—	—	(23)
(Income) attributable to AlphaCat investors	(7,080)	(5,564)	(6,114)	(4,600)
Net income	37,170	129,535	116,156	204,341
Net (income) attributable to noncontrolling interests	(27,200)	(37,439)	(21,193)	(37,531)
Net income available to Validus	9,970	92,096	94,963	166,810
Dividends on preferred shares	(2,203)	(2,252)	—	—
Net income available to Validus common shareholders	$ 7,767	$ 89,844	$ 94,963	$ 166,810
Earnings per share				
Basic earnings per common share available to Validus common shareholders	$ 0.10	$ 1.12	$ 1.16	$ 2.01
Earnings per diluted common share available to Validus common shareholders	$ 0.10	$ 1.11	$ 1.14	$ 1.98
Cash dividends declared per common share	$ 0.35	$ 0.35	$ 0.35	$ 0.35

SCHEDULE I
VALIDUS HOLDINGS, LTD.
SUMMARY OF INVESTMENTS OTHER THAN INVESTMENTS IN RELATED PARTIES
As at December 31, 2017
(Expressed in thousands of U.S. dollars)

	Amortized cost	Fair value	Amount shown on the Balance Sheet
U.S. government and government agency	$ 733,510	$ 727,397	$ 727,397
Non-U.S. government and government agency	310,845	312,239	312,239
U.S. states, municipalities and political subdivisions	201,347	201,303	201,303
Agency residential mortgage-backed securities	984,387	978,049	978,049
Non-agency residential mortgage-backed securities	40,264	40,373	40,373
U.S. corporate	1,531,498	1,533,395	1,533,395
Non-U.S. corporate	420,522	422,249	422,249
Bank loans	450,320	442,951	442,951
Catastrophe bonds	231,332	229,694	229,694
Asset-backed securities	657,234	658,303	658,303
Commercial mortgage-backed securities	315,002	312,395	312,395
Total fixed maturities	5,876,261	5,858,348	5,858,348
Total short-term investments	3,381,714	3,381,757	3,381,757
Total other investments	330,416	355,218	355,218
Total	$ 9,588,391	$ 9,595,323	$ 9,595,323

SCHEDULE II
VALIDUS HOLDINGS, LTD.
CONDENSED FINANCIAL INFORMATION OF REGISTRANT
BALANCE SHEETS
As at December 31, 2017 and 2016
(Expressed in thousands of U.S. dollars, except share and per share information)

	December 31, 2017	December 31, 2016
Assets		
Fixed maturities trading, at fair value	$ 48,901	$ 92,197
Short-term investments trading, at fair value	978	—
Cash and cash equivalents	52,080	11,780
Investments in subsidiaries on an equity basis	4,477,046	4,383,800
Balances due from subsidiaries	—	—
Accrued investment income	119	239
Other assets	12,132	1,143
Total assets	$ 4,591,256	$ 4,489,159
Liabilities		
Accounts payable and accrued expenses	$ 41,354	$ 26,884
Balances due to subsidiaries	59,266	28,622
Senior notes payable	245,564	245,362
Debentures payable	350,000	350,000
Total liabilities	$ 696,184	$ 650,868
Shareholders' Equity		
Authorized 571,428,571 common and preferred shares, par value $0.175 per share:		
Preferred shares (Issued and Outstanding: 2017—16,000; 2016—6,000)	$ 400,000	$ 150,000
Common shares (Issued: 2017—161,994,491; 2016—161,279,976; Outstanding: 2017—79,319,550; 2016—79,132,252)	28,349	28,224
Treasury shares (2017—82,674,941; 2016—82,147,724)	(14,468)	(14,376)
Additional paid-in capital	814,641	821,023
Accumulated other comprehensive loss	(22,192)	(23,216)
Retained earnings	2,688,742	2,876,636
Total shareholders' equity	$ 3,895,072	$ 3,838,291
Total liabilities and shareholders' equity	$ 4,591,256	$ 4,489,159

VALIDUS HOLDINGS, LTD.
CONDENSED FINANCIAL INFORMATION OF REGISTRANT (Continued)
STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
For the years ended December 31, 2017, 2016 and 2015
(Expressed in thousands of U.S. dollars)

	Years Ended December 31,		
	2017	2016	2015
Revenues			
Net investment income	$ 1,411	$ 1,195	$ 317
Net realized gains on investments	989	8,020	—
Change in net unrealized losses on investments	(77)	(276)	(395)
Foreign exchange (losses) gains	(1,198)	1,932	715
Total revenues	1,125	10,871	637
Expenses			
General and administrative expenses	55,900	72,235	74,015
Share compensation expenses	6,494	6,832	7,261
Finance expenses	46,177	47,108	47,722
Total expenses	108,571	126,175	128,998
Loss before equity in net earnings of subsidiaries	(107,446)	(115,304)	(128,361)
Equity in net earnings of subsidiaries	59,824	479,143	503,254
Net (loss) income (attributable) available to Validus	(47,622)	363,839	374,893
Dividends on preferred shares	(15,861)	(4,455)	—
Net (loss) income (attributable) available to Validus common shareholders	$ (63,483)	$ 359,384	$ 374,893
Comprehensive income:			
Net (loss) income (attributable) available to Validus	$ (47,622)	$ 363,839	$ 374,893
Other comprehensive income (loss), net of tax:			
Change in foreign currency translation adjustments	4,057	(10,440)	(3,716)
Change in minimum pension liability	2,869	(484)	544
Change in fair value of cash flow hedge	(6,352)	277	(841)
Other comprehensive income (loss), net of tax	574	(10,647)	(4,013)
Comprehensive (loss) income (attributable) available to Validus	$ (47,048)	$ 353,192	$ 370,880

VALIDUS HOLDINGS, LTD.
CONDENSED FINANCIAL INFORMATION OF REGISTRANT (Continued)
STATEMENTS OF CASH FLOWS
For the years ended December 31, 2017, 2016 and 2015
(Expressed in thousands of U.S. dollars)

	Years Ended December 31,		
	2017	2016	2015
Cash flows provided by (used in) operating activities			
Net (loss) income (attributable) available to Validus	$ (47,622)	$ 363,839	$ 374,893
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Equity in net earnings of subsidiaries	(59,824)	(479,143)	(503,254)
Dividends received from subsidiaries	143,000	30,000	620,700
Net realized gains on investments	(989)	(8,020)	—
Amortization of discount on senior notes	108	108	108
Share compensation expenses	6,494	6,832	7,261
Change in net unrealized losses on investments	77	276	395
Amortization of premium on fixed maturity investments	115	115	105
Change in:			
Other assets	(1,003)	(238)	173
Accrued investment income	120	(190)	(49)
Balances due from subsidiaries	—	10,389	30,689
Balances due to subsidiaries	30,644	28,622	—
Accounts payable and accrued expenses	(2,754)	(4,348)	5,080
Net cash provided by (used in) operating activities	68,366	(51,758)	536,101
Cash flows provided by (used in) investing activities			
Proceeds on sale and maturity (purchases) of fixed maturity investments, net	44,092	(56,164)	(28,903)
Purchases of short-term investments	(978)	—	—
Investments in subsidiaries	(250,000)	—	(555,700)
Return of capital from subsidiaries	115,000	290,000	400,000
Net cash (used in) provided by investing activities	(91,886)	233,836	(184,603)
Cash flows provided by (used in) financing activities			
Issuance of preferred shares, net	241,686	144,852	—
(Redemption) issuance of common shares, net	(11,578)	(7,701)	17,407
Purchases of common shares under repurchase program	(26,568)	(212,675)	(260,430)
Dividends paid on preferred shares	(15,861)	(4,455)	—
Dividends paid on common shares	(123,859)	(115,625)	(112,967)
Net cash provided by (used in) financing activities	63,820	(195,604)	(355,990)
Net increase (decrease) in cash	40,300	(13,526)	(4,492)
Cash and cash equivalents—beginning of year	11,780	25,306	29,798
Cash and cash equivalents—end of year	$ 52,080	$ 11,780	$ 25,306

SCHEDULE III
VALIDUS HOLDINGS, LTD.
SUPPLEMENTARY INSURANCE INFORMATION
As at and for the years ended December 31, 2017, 2016 and 2015
(Expressed in thousands of U.S. dollars)

As at and for the year ended December 31, 2017

	Deferred Acquisition Costs	Reserve for Losses and Loss Expenses	Unearned Premiums	Net Premiums Earned	Net Investment Income	Losses and Loss Expenses	Amortization of Deferred Acquisition Costs	Other Operating Expenses	Net Premiums Written
Reinsurance	$ 83,778	$ 1,816,654	$ 393,289	$ 1,023,004	$ —	$ 692,719	$ 199,430	$ 90,939	$ 985,918
Insurance	125,167	2,300,437	735,606	1,256,085	—	934,199	241,186	219,960	1,192,078
Asset Management	5,578	714,299	39,087	301,999	24,918	673,260	30,937	34,687	303,309
Corporate & Investments and Eliminations	(707)	—	(20,796)	—	152,955	—	—	46,662	—
Total	$ 213,816	$ 4,831,390	$1,147,186	$ 2,581,088	$ 177,873	$ 2,300,178	$ 471,553	$ 392,248	$ 2,481,305

As at and for the year ended December 31, 2016

	Deferred Acquisition Costs	Reserve for Losses and Loss Expenses	Unearned Premiums	Net Premiums Earned	Net Investment Income	Losses and Loss Expenses	Amortization of Deferred Acquisition Costs	Other Operating Expenses	Net Premiums Written
Reinsurance	$ 81,545	$ 1,193,497	$ 380,071	$ 996,149	$ —	$ 415,505	$ 189,797	$ 96,668	$ 1,063,581
Insurance	125,239	1,753,164	669,865	1,002,944	—	604,741	232,780	180,516	1,031,468
Asset Management	4,060	48,534	38,961	250,072	9,264	44,851	26,905	34,582	263,951
Corporate & Investments and Eliminations	(1,617)	—	(12,848)	—	141,121	—	—	67,435	—
Total	$ 209,227	$ 2,995,195	$1,076,049	$ 2,249,165	$ 150,385	$ 1,065,097	$ 449,482	$ 379,201	$ 2,359,000

As at and for the year ended December 31, 2015

	Deferred Acquisition Costs	Reserve for Losses and Loss Expenses	Unearned Premiums	Net Premiums Earned	Net Investment Income	Losses and Loss Expenses	Amortization of Deferred Acquisition Costs	Other Operating Expenses	Net Premiums Written
Reinsurance	$ 61,597	$ 1,237,245	$ 310,588	$ 1,047,983	$ —	$ 467,788	$ 173,574	$ 105,668	$ 1,036,156
Insurance	118,218	1,748,309	637,003	1,038,971	—	509,388	220,157	191,587	1,021,081
Asset Management	2,526	11,013	24,643	159,935	6,658	657	16,327	39,635	171,588
Corporate & Investments and Eliminations	(1,339)	—	(6,024)	—	121,166	—	—	65,160	—
Total	$ 181,002	$ 2,996,567	$ 966,210	$ 2,246,889	$ 127,824	$ 977,833	$ 410,058	$ 402,050	$ 2,228,825

SCHEDULE IV
VALIDUS HOLDINGS, LTD.
REINSURANCE
For the years ended December 31, 2017, 2016 and 2015
(Expressed in thousands of U.S. dollars)

	Direct gross	Ceded to other companies	Assumed from other companies	Net amount	Percentage of amount assumed to net
Year Ended December 31, 2017	$ 1,138,684	$ 469,633	$ 1,812,254	$ 2,481,305	73%
Year Ended December 31, 2016	853,885	289,705	1,794,820	2,359,000	76%
Year Ended December 31, 2015	838,755	328,681	1,718,751	2,228,825	77%

SCHEDULE VI
VALIDUS HOLDINGS, LTD.
SUPPLEMENTAL INFORMATION CONCERNING PROPERTY/CASUALTY INSURANCE OPERATIONS
As at and for the years ended December 31, 2017, 2016 and 2015
(Expressed in thousands of U.S. dollars)

Affiliation with registrant	Deferred acquisition costs	Reserves for losses and loss expenses	Reserves for unearned premiums	Net earned premiums	Net investment income	Losses and loss expenses incurred related to		Net paid losses and loss expenses	Amortization of deferred acquisition costs	Net premiums written
						Current year	Prior year			
Consolidated Subsidiaries										
2017	$ 213,816	$ 4,831,390	$ 1,147,186	$ 2,581,088	$ 177,873	$ 2,522,711	$ (222,533)	$ 1,340,429	$ 471,553	$ 2,481,305
2016	209,227	2,995,195	1,076,049	2,249,165	150,385	1,281,289	(216,192)	1,114,402	449,482	2,359,000
2015	181,002	2,996,567	966,210	2,246,889	127,824	1,283,970	(306,137)	1,167,839	410,058	2,228,825

Exhibit 12

VALIDUS HOLDINGS, LTD.
RATIO OF EARNINGS TO FIXED CHARGES AND PREFERRED SHARE DIVIDENDS

The following table sets forth our historical ratio of earnings to fixed charges for each of the periods indicated:

	Years Ended December 31,				
(Dollars in thousands)	**2017**	**2016**	**2015**	**2014**	**2013**
Net (loss) income (attributable) available to Validus	$ (47,622)	$ 363,839	$ 374,893	$ 479,963	$ 532,666
Tax (benefit) expense	(7,580)	(19,729)	6,376	155	383
Pre-tax net (loss) income (attributable) available to Validus	(55,202)	344,110	381,269	480,118	533,049
Distributed income from investment affiliates	21,312	11,089	—	—	—
Distributed (losses) from operating affiliate	—	(761)	(9,505)	—	—
(Income) loss from investment affiliates	(22,010)	2,083	(4,281)	(8,411)	(4,790)
Loss (income) from operating affiliate	—	23	3,949	4,340	(542)
(Loss) earnings before fixed charges	(55,900)	356,544	371,432	476,047	527,717
Estimated interest component of rent expense [a]	3,944	3,254	3,381	3,513	3,405
2006 Junior Subordinated Deferrable Debentures	8,868	8,893	8,868	8,868	8,868
2007 Junior Subordinated Deferrable Debentures	7,342	7,362	7,341	7,341	7,341
Flagstone 2006 Junior Subordinated Deferrable Debentures	9,012	9,028	8,989	9,001	8,259
Flagstone 2007 Junior Subordinated Deferrable Debentures	7,013	7,100	7,123	7,129	6,222
2010 Senior Notes due 2040	22,389	22,388	22,388	22,388	22,388
Other finance expenses [b]	3,922	3,749	20,033	13,597	14,929
Fixed charges	62,490	61,774	78,123	71,837	71,412
Earnings available for fixed charges	$ 6,590	$ 418,318	$ 449,555	$ 547,884	$ 599,129
Ratio of earnings to fixed charges [c]	—	**6.77**	**5.75**	**7.63**	**8.39**
Fixed charges	$ 62,490	$ 61,774	$ 78,123	$ 71,837	$ 71,412
Preferred share dividends [d]	15,861	4,455	—	—	—
Fixed charges and preferred share dividends	$ 78,351	$ 66,229	$ 78,123	$ 71,837	$ 71,412
Ratio of earnings to fixed charges and preferred share dividends [e]	—	**6.32**	**5.75**	**7.63**	**8.39**

(a) 33.3% represents a reasonable approximation of the interest factor.

(b) Other finance expenses consist of fees relating to credit facilities, bank charges, the Talbot FAL facility and other charges as well as fees incurred by AlphaCat Managers Ltd. in relation to fund raising for the AlphaCat sidecars, the AlphaCat ILS funds and AlphaCat direct.

(c) Earnings for the year ended December 31, 2017 were inadequate to cover fixed charges, $55,900 represents the amount of the coverage deficiency.

(d) Dividends have been tax effected at a 0% rate as it is presumed they will be funded from a Bermuda entity.

(e) Earnings for the year ended December 31, 2017 were inadequate to cover fixed charges and preferred share dividends, $71,761 represents the amount of the coverage deficiency.

Exhibit 21

Validus Holdings, Ltd.
List of Subsidiaries

Subsidiary	Jurisdiction	Ownership Interest Held By Immediate Parent 100% unless otherwise indicated
Validus Holdings, Ltd.	Bermuda	
Validus Reinsurance, Ltd.	Bermuda	
Underwriting Risk Services S.A.	Chile	99.0%
AlphaCat Re 2011 Ltd.	Bermuda	22.3%
AlphaCat Re 2012 Ltd.	Bermuda	37.9%
AlphaCat 2013, Ltd.	Bermuda	19.7%
AlphaCat 2014, Ltd.	Bermuda	19.6%
AlphaCat 2015, Ltd.	Bermuda	20.0%
BetaCat Ltd.	Bermuda	
Validus Holdings (UK) Plc	United Kingdom	
Validus Reinsurance (Switzerland) Ltd	Switzerland	
L.P. Holding Limited	Cyprus	
Limassol Power Plant Limited	Cyprus	
Flagstone Africa (PTY) Limited	South Africa	
Validus Specialty, Inc.	Delaware	
Validus Specialty Underwriting Services, Inc.	Delaware	
Validus America, Inc.	Delaware	
Validus Services, Inc.	Delaware	
Validus Reaseguros, Inc.	Florida	
Validus Re Americas, (New Jersey) Inc.	New Jersey	
AlphaCat Capital Inc.	Delaware	
Western World Insurance Group, Inc.	Delaware	
Western World Insurance Company	New Hampshire	
Stratford Insurance Company	New Hampshire	
Tudor Insurance Company	New Hampshire	
Westco Insurance Managers, Inc.	New Jersey	
Westco Claims Management Services, Inc.	New Jersey	
Crop Risk Services, Inc.	Illinois	
Flagstone Reinsurance (Luxembourg), SARL	Luxembourg	
Validus Risk Services (Ireland) Limited	Ireland	
Validus Research, Inc.	Ontario	
IPCRe Limited	Bermuda	
Validus UPS, Ltd.	Bermuda	
Flagstone (Bermuda) Holdings Limited	Bermuda	
IAL Leasing Ltd.	Bermuda	
Mont Fort Re Ltd.	Bermuda	
Flagstone (Mauritius) Limited	Mauritius	
Flagstone Underwriting Support Services (India) Pvt.	India	99.0%

Subsidiary	Jurisdiction	Ownership Interest Held By Immediate Parent 100% unless otherwise indicated
Validus Services (Bermuda), Ltd.	Bermuda	
Validus Ventures Ltd.	Bermuda	
AlphaCat Managers Ltd.	Bermuda	
AlphaCat Advantage Fund Ltd.	Bermuda	
AlphaCat Reinsurance Ltd.	Bermuda	
AlphaCat Diversified Fund Ltd.	Bermuda	
AlphaCat Master Fund Ltd.	Bermuda	
AlphaCat Opportunities Ltd.	Bermuda	
BetaCat Fund Ltd.	Bermuda	
BetaCat Feeder Fund I Ltd.	Bermuda	
AlphaCat Prima Fund Ltd.	Bermuda	
AlphaCat Soteria Fund Ltd.	Bermuda	
Talbot Holdings Ltd.	Bermuda	
Talbot Capital Ltd.	Bermuda	
Talbot 2002 Underwriting Capital Ltd.	United Kingdom	
Talbot Underwriting Holdings Ltd.	United Kingdom	
Talbot Underwriting Services, Ltd.	United Kingdom	
Talbot Underwriting Ltd.	United Kingdom	
Talbot Underwriting (LATAM) S.A.	Chile	99.0%
Talbot Risk Services Pte, Ltd.	Singapore	
Talbot Underwriting (MENA) Ltd.	Dubai	
Talbot Risk Services (Labuan) Pte. Ltd.	Labuan	
Talbot Underwriting Risk Services, Ltd.	United Kingdom	
Talbot Underwriting Capital Ltd.	United Kingdom	