VALIDUS HOLDINGS LTD
Form 10-Q
August 02, 2017
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UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-Q

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

For the quarterly period ended June 30, 2017

Commission file number 001-33606

VALIDUS HOLDINGS, LTD.
(Exact name of registrant as specified in its charter)

BERMUDA	98-0501001
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

29 Richmond Road, Pembroke, Bermuda HM 08
(Address of principal executive offices and zip code)
(441) 278-9000
(Registrant's telephone number, including area code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes x No o

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

Large accelerated filer	x	Accelerated filer	o
Non-accelerated filer	o	(Do not check if a smaller reporting company)	
		Smaller reporting company	o
		Emerging growth company	o

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o

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

As of July 31, 2017 there were 79,465,860 outstanding Common Shares, $0.175 par value per share, of the registrant.

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

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Validus Holdings, Ltd.
Consolidated Balance Sheets
As at June 30, 2017 (unaudited) and December 31, 2016
(Expressed in thousands of U.S. dollars, except share and per share information)

	June 30, 2017 (unaudited)	December 31, 2016
Assets		
Fixed maturity investments trading, at fair value (amortized cost: 2017—$5,424,562; 2016—$5,584,599)	$5,418,643	$5,543,030
Short-term investments trading, at fair value (amortized cost: 2017—$2,871,126; 2016—$2,796,358)	2,871,353	2,796,170
Other investments, at fair value (cost: 2017—$416,996; 2016—$380,130)	448,618	405,712
Investments in investment affiliates, equity method (cost: 2017—$72,532; 2016—$84,840)	103,377	100,431
Cash and cash equivalents	800,405	419,976
Restricted cash	195,039	70,956
Total investments and cash	9,837,435	9,336,275
Premiums receivable	1,940,637	725,390
Deferred acquisition costs	302,857	209,227
Prepaid reinsurance premiums	335,837	77,996
Securities lending collateral	2,514	9,779
Loss reserves recoverable	600,207	430,421
Paid losses recoverable	35,675	35,247
Income taxes recoverable	4,763	4,870
Deferred tax asset	52,655	43,529
Receivable for investments sold	20,519	3,901
Intangible assets	175,518	115,592
Goodwill	227,701	196,758
Accrued investment income	26,968	26,488
Other assets	387,860	134,282
Total assets	$13,951,146	$11,349,755
Liabilities		
Reserve for losses and loss expenses	$3,305,191	$2,995,195
Unearned premiums	1,970,896	1,076,049
Reinsurance balances payable	461,261	54,781
Securities lending payable	2,980	10,245
Deferred tax liability	4,012	3,331
Payable for investments purchased	92,077	29,447
Accounts payable and accrued expenses	385,958	587,648
Notes payable to AlphaCat investors	1,066,159	278,202
Senior notes payable	245,463	245,362
Debentures payable	538,400	537,226
Total liabilities	8,072,397	5,817,486
Commitments and contingent liabilities		
Redeemable noncontrolling interests	1,251,660	1,528,001
Shareholders' equity		
Preferred shares (Issued and Outstanding: 2017—16,000; 2016—6,000)	400,000	150,000
Common shares (Issued: 2017—161,934,355; 2016—161,279,976; Outstanding: 2017—79,518,581; 2016—79,132,252)	28,339	28,224

Treasury shares (2017—82,415,774; 2016—82,147,724)	(14,423)	(14,376)
Additional paid-in capital	807,321	821,023
Accumulated other comprehensive loss	(19,924)	(23,216)
Retained earnings	3,010,118	2,876,636
Total shareholders' equity available to Validus	4,211,431	3,838,291
Noncontrolling interests	415,658	165,977
Total shareholders' equity	4,627,089	4,004,268
Total liabilities, noncontrolling interests and shareholders' equity	$13,951,146	$11,349,755

The accompanying notes are an integral part of these unaudited consolidated financial statements.

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Validus Holdings, Ltd.
Consolidated Statements of Income and Comprehensive Income
For the Three and Six Months Ended June 30, 2017 and 2016 (unaudited)
(Expressed in thousands of U.S. dollars, except share and per share information)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
	(unaudited)		(unaudited)	
Revenues				
Gross premiums written	$792,902	$764,042	$1,983,759	$1,936,833
Reinsurance premiums ceded	(56,222)	(36,229)	(256,328)	(204,064)
Net premiums written	736,680	727,813	1,727,431	1,732,769
Change in unearned premiums	(105,653)	(154,090)	(521,028)	(587,778)
Net premiums earned	631,027	573,723	1,206,403	1,144,991
Net investment income	44,241	39,257	84,455	68,718
Net realized gains on investments	2,274	2,724	1,110	2,140
Change in net unrealized gains on investments	16,321	31,428	29,669	78,872
Income (loss) from investment affiliates	9,466	(589)	14,654	(4,702)
Other insurance related income and other income	1,339	824	2,669	2,237
Foreign exchange (losses) gains	(7,329)	6,286	(5,760)	12,531
Total revenues	697,339	653,653	1,333,200	1,304,787
Expenses				
Losses and loss expenses	296,149	307,130	565,734	531,577
Policy acquisition costs	117,268	107,966	228,896	215,159
General and administrative expenses	96,349	89,688	184,273	175,896
Share compensation expenses	11,146	10,727	20,637	21,964
Finance expenses	14,209	14,166	28,152	29,369
Transaction expenses	4,427	—	4,427	—
Total expenses	539,548	529,677	1,032,119	973,965
Income before taxes, loss from operating affiliate and (income) attributable to AlphaCat investors	157,791	123,976	301,081	330,822
Tax benefit (expense)	987	(1,706)	4,536	412
Loss from operating affiliate	—	—	—	(23)
(Income) attributable to AlphaCat investors	(11,830)	(6,114)	(19,333)	(10,714)
Net income	$146,948	$116,156	$286,284	$320,497
Net (income) attributable to noncontrolling interests	(43,650)	(21,193)	(86,222)	(58,724)
Net income available to Validus	103,298	94,963	200,062	261,773
Dividends on preferred shares	(2,203)	—	(4,406)	—
Net income available to Validus common shareholders	$101,095	$94,963	$195,656	$261,773
Comprehensive income				
Net income	$146,948	$116,156	$286,284	$320,497
Other comprehensive income (loss)				
Change in foreign currency translation adjustments	1,489	(3,287)	2,086	(5,315)
Change in minimum pension liability, net of tax	1,184	479	1,252	396
Change in fair value of cash flow hedge	(144)	64	(46)	(694)
Other comprehensive income (loss), net of tax	2,529	(2,744)	3,292	(5,613)
Comprehensive (income) attributable to noncontrolling interests	(43,650)	(21,193)	(86,222)	(58,724)
Comprehensive income available to Validus	$105,827	$92,219	$203,354	$256,160

Earnings per common share				
Basic earnings per share available to Validus common shareholders	$1.28	$1.16	$2.47	$3.18
Earnings per diluted share available to Validus common shareholders	$1.25	$1.14	$2.42	$3.12
Cash dividends declared per common share	$0.38	$0.35	$0.76	$0.70
Weighted average number of common shares and common share equivalents outstanding:				
Basic	79,270,561	81,950,833	79,202,116	82,386,047
Diluted	80,872,451	83,373,003	80,861,998	83,785,659

The accompanying notes are an integral part of these unaudited consolidated financial statements.

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Validus Holdings, Ltd.
Consolidated Statements of Shareholders' Equity
For the Six Months Ended June 30, 2017 and 2016 (unaudited)
(Expressed in thousands of U.S. dollars)

	Six Months Ended June 30,	
	2017	2016
	(unaudited)	
Preferred shares		
Balance, beginning of period	$150,000	$—
Preferred shares issued	250,000	150,000
Balance, end of period	$400,000	$150,000
Common shares		
Balance, beginning of period	$28,224	$28,100
Common shares issued, net	115	119
Balance, end of period	$28,339	$28,219
Treasury shares		
Balance, beginning of period	$(14,376)	$(13,592)
Repurchase of common shares	(47)	(492)
Balance, end of period	$(14,423)	$(14,084)
Additional paid-in capital		
Balance, beginning of period	$821,023	$1,002,980
Offering expenses on preferred shares	(8,314)	(5,148)
Common shares redeemed, net	(12,076)	(7,504)
Repurchase of common shares	(13,949)	(128,591)
Share compensation expenses	20,637	21,964
Balance, end of period	$807,321	$883,701
Accumulated other comprehensive loss		
Balance, beginning of period	$(23,216)	$(12,569)
Other comprehensive income (loss)	3,292	(5,613)
Balance, end of period	$(19,924)	$(18,182)
Retained earnings		
Balance, beginning of period	$2,876,636	$2,634,056
Net income	286,284	320,497
Net (income) attributable to noncontrolling interests	(86,222)	(58,724)
Dividends on preferred shares	(4,406)	—
Dividends on common shares	(62,174)	(59,227)
Balance, end of period	$3,010,118	$2,836,602
Total shareholders' equity available to Validus	$4,211,431	$3,866,256
Noncontrolling interests	$415,658	$212,154
Total shareholders' equity	$4,627,089	$4,078,410

The accompanying notes are an integral part of these unaudited consolidated financial statements.

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Validus Holdings, Ltd.
Consolidated Statements of Cash Flows
For the Six Months Ended June 30, 2017 and 2016 (unaudited)
(Expressed in thousands of U.S. dollars)

	Six Months Ended June 30,	
	2017	2016
	(unaudited)	
Cash flows provided by (used in) operating activities		
Net income	$286,284	$320,497
Adjustments to reconcile net income to cash provided by (used in) operating activities:		
Share compensation expenses	20,637	21,964
Loss on deconsolidation of AlphaCat ILS fund	402	—
Amortization of discount on senior notes	54	54
(Income) loss from investment affiliates	(14,654)	4,702
Net realized and change in net unrealized gains on investments	(30,779)	(81,012)
Amortization of intangible assets	3,995	2,832
Loss from operating affiliate	—	23
Foreign exchange gains included in net income	(9,686)	(6,289)
Amortization of premium on fixed maturity investments	7,012	8,710
Change in:		
Premiums receivable	(648,195)	(719,070)
Deferred acquisition costs	(97,746)	(102,211)
Prepaid reinsurance premiums	(30,684)	(67,575)
Loss reserves recoverable	(113,508)	(95,429)
Paid losses recoverable	17,500	(4,571)
Reserve for losses and loss expenses	199,985	147,305
Unearned premiums	488,198	655,353
Reinsurance balances payable	111,488	18,610
Other operational balance sheet items, net	(137,618)	(34,450)
Net cash provided by operating activities	52,685	69,443
Cash flows provided by (used in) investing activities		
Proceeds on sales of fixed maturity investments	1,632,371	1,376,077
Proceeds on maturities of fixed maturity investments	247,394	184,413
Purchases of fixed maturity investments	(1,682,609)	(1,537,606)
Purchases of short-term investments, net	(88,623)	(428,040)
Purchases of other investments, net	(33,870)	(19,796)
Decrease (increase) in securities lending collateral	7,265	(5,361)
Redemption from operating affiliates	—	369
Distributions from (investments in) investment affiliates, net	11,708	(16,307)
Increase in restricted cash	(124,083)	(22,752)
Purchase of subsidiary, net of cash acquired	(183,923)	—
Net cash used in investing activities	(214,370)	(469,003)
Cash flows provided by (used in) financing activities		
Net proceeds on issuance of notes payable to AlphaCat investors	269,645	294,748
Net proceeds on issuance of preferred shares	241,686	144,852
Redemption of common shares, net	(11,961)	(7,385)

Purchases of common shares under share repurchase program	(13,996)	(129,083)
Dividends paid on preferred shares	(4,406)	—
Dividends paid on common shares	(63,286)	(59,961)
(Decrease) increase in securities lending payable	(7,265)	5,361
Third party investment in redeemable noncontrolling interests	210,200	381,250
Third party redemption of redeemable noncontrolling interests	(79,334)	(10,800)
Third party investment in noncontrolling interests	258,300	171,674
Third party distributions of noncontrolling interests	(96,125)	(127,103)
Third party subscriptions deployed in AlphaCat Funds and Sidecars	(171,952)	(411,336)
Net cash provided by financing activities	531,506	252,217
Effect of foreign currency rate changes on cash and cash equivalents	10,608	(6,968)
Net increase (decrease) in cash and cash equivalents	380,429	(154,311)
Cash and cash equivalents - beginning of period	419,976	723,109
Cash and cash equivalents - end of period	$800,405	$568,798
Supplemental disclosure of cash flow information:		
Taxes paid during the period	$568	$3,837
Interest paid during the period	$27,186	$27,552

The accompanying notes are an integral part of these unaudited consolidated financial statements.

1. Basis of preparation and consolidation

These unaudited Consolidated Financial Statements (the "Consolidated Financial Statements") have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim financial information and with the instructions to Form 10-Q and Article 10 in Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. In addition, the year-end balance sheet data was derived from audited financial statements but does not include all disclosures required by U.S. GAAP. This Quarterly Report on Form 10-Q should be read in conjunction with the financial statements and related notes included in Validus Holdings, Ltd.'s (the "Company") Annual Report on Form 10-K for the year ended December 31, 2016, as filed with the U.S. Securities and Exchange Commission (the "SEC").

The Company consolidates in these Consolidated Financial Statements the results of operations and financial position of all voting interest entities ("VOE") in which the Company has a controlling financial interest and all variable interest entities ("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.

In the opinion of management, these unaudited Consolidated Financial Statements reflect all adjustments (including normal recurring adjustments) considered necessary for a fair statement of the Company's financial position and results of operations as at the end of and for the periods presented. All significant intercompany accounts and transactions have been eliminated. The results of operations for any interim period are not necessarily indicative of the results for a full year.

The preparation of these 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 management believes that the amounts included in the Consolidated Financial Statements reflect its best estimates and assumptions, actual results could differ materially from those estimates. The Company's principal estimates include:

- reserve for losses and loss expenses;
- premium estimates for business written on a line slip or proportional basis;
- the valuation of goodwill and intangible assets;
- reinsurance recoverable balances including the provision for uncollectible amounts; and
- investment valuation of financial assets.

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

2. Recent accounting pronouncements

Recently issued accounting standards not yet adopted

In May 2017, the FASB issued ASU 2017-09, "Compensation - Stock Compensation (Topic 718)." This ASU is directed at reducing diversity in practice when applying the accounting guidance to a change in the terms or conditions of a share-based payment award. 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. The Company has evaluated the impact of this guidance and it will not have a material impact on the Company's Consolidated Financial Statements. The Company plans to adopt this guidance on January 1, 2018.

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3. Business combination

On May 1, 2017, Western World Insurance Group, Inc. ("Western World"), a wholly owned subsidiary of the Company acquired all of the outstanding capital stock of Crop Risk Services ("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 Insurance Company ("Stratford"), a wholly–owned subsidiary of Western World, was granted the required license 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 complement the Company's existing agricultural business and 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 Western World segment in the Consolidated Financial Statements from the date of acquisition.

On closing, the Company recorded intangible assets totaling $63,921 for Distribution Channels, Brand Name and Technology. Distribution Channels and Brand 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's 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.

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 goodwill as recognized in the purchase price allocation.

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Validus Holdings, Ltd.
Notes to the Consolidated Financial Statements (unaudited)
(Expressed in thousands of U.S. dollars, except share and per share information)

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	564,453	
Prepaid reinsurance premiums	227,157	
Other assets	157,146	
Assets acquired		950,409
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		$101,307
Goodwill and other intangible assets acquired		
Intangible asset - Distribution channels	$52,898	
Intangible asset - Brand name	9,568	
Intangible asset - Technology	1,455	
Total intangible assets	63,921	
Goodwill	30,943	
Deferred tax arising on Goodwill	6,443	
Total goodwill and intangible assets		$101,307

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

Validus Holdings, Ltd.
Notes to the Consolidated Financial Statements (unaudited)
(Expressed in thousands of U.S. dollars, except share and per share information)

The following tables reconcile the carrying amount of goodwill and intangible assets from December 31, 2016 to June 30, 2017:

	Goodwill Six Months Ended June 30, 2017		
	Talbot	Western World	Total
Balance at December 31, 2016	20,393	176,365	196,758
Additions	—	30,943	30,943
Balance at June 30, 2017	20,393	207,308	227,701

	Intangible assets Six Months Ended June 30, 2017		
	Talbot	Western World	Total
Balance at December 31, 2016	93,924	21,668	115,592
Additions	—	63,921	63,921
Amortization	(2,081)	(1,914)	(3,995)
Balance at June 30, 2017	91,843	83,675	175,518

	Intangible assets Six Months Ended June 30, 2017		
	With a Finite Life	With an Indefinite Life	Total
Balance at December 31, 2016	11,424	104,168	115,592
Additions	63,921	—	63,921
Amortization	(3,995)	—	(3,995)
Balance at June 30, 2017	71,350	104,168	175,518

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 three and six months ended June 30, 2017.

	From Acquisition Date to June 30, 2017
Net premiums written	6,988
Net premiums earned	50,044
Total underwriting deductions	44,780
Underwriting income, before general and administrative expenses	5,264

Validus Holdings, Ltd.
Notes to the Consolidated Financial Statements (unaudited)
(Expressed in thousands of U.S. dollars, except share and per share information)

4. 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 6, "Variable interest entities," for further details.

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 for the period.

The amortized cost (or cost) and fair value of the Company's investments as at June 30, 2017 and December 31, 2016 were as follows:

	June 30, 2017		December 31, 2016	
	Amortized Cost or Cost	Fair Value	Amortized Cost or Cost	Fair Value
Managed investments				
U.S. government and government agency	$649,214	$646,436	$809,392	$804,126
Non-U.S. government and government agency	293,002	292,504	245,651	240,791
U.S. states, municipalities and political subdivisions	227,047	227,949	271,742	271,830
Agency residential mortgage-backed securities	786,784	783,006	684,490	679,595
Non-agency residential mortgage-backed securities	26,745	26,683	15,858	15,477
U.S. corporate	1,378,884	1,386,484	1,540,036	1,534,508
Non-U.S. corporate	380,317	379,480	418,520	410,227
Bank loans	560,446	552,901	579,121	570,399
Asset-backed securities	500,679	502,056	528,563	526,814
Commercial mortgage-backed securities	317,732	316,190	333,740	330,932
Total fixed maturities	5,120,850	5,113,689	5,427,113	5,384,699
Short-term investments	255,289	255,516	228,574	228,386
Other investments				
Fund of hedge funds	—	—	1,457	955
Hedge funds	11,292	18,303	11,292	17,381
Private equity investments	79,871	100,391	66,383	82,627
Fixed income investment funds	266,041	268,110	247,967	249,275
Overseas deposits	57,874	57,874	50,106	50,106
Mutual funds	1,918	3,940	2,925	5,368
Total other investments	416,996	448,618	380,130	405,712
Investments in investment affiliates [a]	72,532	103,377	84,840	100,431
Total managed investments	$5,865,667	$5,921,200	$6,120,657	$6,119,228
Non-managed investments				
Catastrophe bonds	$303,712	$304,954	$157,486	$158,331
Short-term investments	2,615,837	2,615,837	2,567,784	2,567,784
Total non-managed investments	2,919,549	2,920,791	2,725,270	2,726,115
Total investments	$8,785,216	$8,841,991	$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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Validus Holdings, Ltd.
Notes to the Consolidated Financial Statements (unaudited)
(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 the investment ratings of the Company's fixed maturity investments as at June 30, 2017 and December 31, 2016.

	June 30, 2017		December 31, 2016	
	Fair Value	% of Total	Fair Value	% of Total
Managed fixed maturities				
AAA	$2,318,254	42.8 %	$2,405,597	43.4 %
AA	463,060	8.5 %	538,289	9.7 %
A	1,009,366	18.6 %	1,081,949	19.5 %
BBB	703,563	13.0 %	740,861	13.4 %
Total investment grade managed fixed maturities	4,494,243	82.9 %	4,766,696	86.0 %
BB	229,023	4.2 %	213,568	3.9 %
B	176,743	3.3 %	177,737	3.2 %
CCC	11,114	0.2 %	13,371	0.2 %
NR	202,566	3.8 %	213,327	3.8 %
Total non-investment grade fixed maturities	619,446	11.5 %	618,003	11.1 %
Total managed fixed maturities	$5,113,689	94.4 %	$5,384,699	97.1 %
Non-managed fixed maturities				
BB	28,177	0.4 %	29,731	0.6 %
B	2,781	0.1 %	4,524	0.1 %
NR	273,996	5.1 %	124,076	2.2 %
Total non-managed fixed maturities	304,954	5.6 %	158,331	2.9 %
Total fixed maturities	$5,418,643	100.0 %	$5,543,030	100.0 %

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The amortized cost and fair value amounts for the Company's fixed maturity investments held at June 30, 2017 and December 31, 2016 are shown below by contractual maturity. Actual maturity may differ from contractual maturity because certain borrowers may have the right to call or prepay certain obligations with or without call or prepayment penalties.

	June 30, 2017		December 31, 2016	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Managed fixed maturities				
Due in one year or less	$497,473	$492,256	$350,733	$346,161
Due after one year through five years	2,464,093	2,461,870	2,954,856	2,933,146
Due after five years through ten years	456,793	459,311	430,365	426,647
Due after ten years	70,551	72,317	128,508	125,927
	3,488,910	3,485,754	3,864,462	3,831,881
Asset-backed and mortgage-backed securities	1,631,940	1,627,935	1,562,651	1,552,818
Total managed fixed maturities	$5,120,850	$5,113,689	$5,427,113	$5,384,699
Non-managed catastrophe bonds				
Due in one year or less	$33,662	$32,441	$43,664	$45,418
Due after one year through five years	263,300	265,735	112,572	111,656
Due after five years through ten years	6,750	6,778	1,250	1,257
Due after ten years	—	—	—	—
Total non-managed fixed maturities	303,712	304,954	157,486	158,331
Total fixed maturities	$5,424,562	$5,418,643	$5,584,599	$5,543,030

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(b) Other investments

The following tables set forth certain information regarding the Company's other investment portfolio as at June 30, 2017 and December 31, 2016:

	June 30, 2017				
	Fair Value	Investments with redemption restrictions	Investments without redemption restrictions	Redemption frequency [a]	Redemption notice period [a]
Hedge funds	18,303	18,303	—		
Private equity investments	100,391	100,391	—		
Fixed income investment funds	268,110	237,986	30,124	Daily	Daily to 2 days
Overseas deposits	57,874	57,874	—		
Mutual funds	3,940	—	3,940	Daily	Daily
Total other investments	$448,618	$ 414,554	$ 34,064		

	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 alternative 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 securities included in other investments are subject to redemption restrictions and are unable to be redeemed from the funds. 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 would liquidate over five to ten years from inception of the funds. In addition, one of the investment funds with a fair value of $192,437 (December 31, 2016: $184,749), has a lock-up period of approximately two years as at June 30, 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. 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 an annual and quarterly funding and release process for Lloyd's market participants.

The Company's maximum exposure to any of these alternative investments is limited to the amount invested and any remaining capital commitments. Refer to Note 15, "Commitments and contingencies," for further details. As at June 30, 2017, the Company does not have any plans to sell any of the other investments listed above.

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

(c) Investments in investment affiliates

Included in the Company’s managed investment portfolio as at June 30, 2017 were investments in Aquiline Financial Services Fund II L.P. (“Aquiline II”), Aquiline Financial Services Fund III L.P. (“Aquiline III”) and Aquiline Technology Growth Fund L.P. (“Aquiline Tech”).

Aquiline II and III

For further information regarding Aquiline II and III please refer to Note 7(c), “Investments in investment affiliates,” included within the Company’s Annual Report on Form 10-K for the year ended December 31, 2016. As at June 30, 2017, the Company’s total unfunded investment commitment to Aquiline II and III was $3,229 and $62,031, respectively (December 31, 2016: $2,040 and $62,031).

Aquiline Tech

On March 20, 2017, the Company entered into a Subscription Agreement (the “Subscription Agreement”) with Aquiline Technology Growth GP Ltd, (the “General Partner”) pursuant to which the Company committed and agreed to purchase limited partnership or other comparable limited liability equity interests in Aquiline Tech, a Cayman Islands exempted limited 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. As at June 30, 2017, the unfunded investment commitment to Aquiline Tech was $18,786.

The following table presents a reconciliation of the Company’s beginning and ending investments in investment affiliates for the three and six months ended June 30, 2017 and 2016:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Investments in investment affiliates, beginning of period	$94,697	$84,135	$100,431	$87,673
Net capital (distributions) contributions	(786)	15,732	(11,708)	16,307
Income (loss) from investment affiliates	9,466	(589)	14,654	(4,702)
Investments in investment affiliates, end of period	$103,377	$99,278	$103,377	$99,278

The following table presents the Company’s investments in investment affiliates as at June 30, 2017 and December 31, 2016:

	June 30, 2017			
	Investment at cost	Voting ownership %	Equity ownership %	Carrying value
Aquiline II	$33,349	—%	8.1%	$52,010
Aquiline III	37,969	—%	9.0%	50,153
Aquiline Tech	1,214	—%	16.4%	1,214
Total investments in investment affiliates	$72,532			$103,377

	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:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Managed investments				
Fixed maturities and short-term investments	$31,312	$30,621	$62,983	$58,638
Other investments	7,571	8,026	14,441	8,898
Cash and cash equivalents and restricted cash	616	380	1,226	1,245
Securities lending income	7	12	20	17
Total gross investment income	39,506	39,039	78,670	68,798
Investment expenses	(1,443)	(2,190)	(4,415)	(4,026)
Total managed net investment income	$38,063	$36,849	$74,255	$64,772
Non managed investments				
Fixed maturities and short-term investments	$4,500	$1,977	$7,560	$3,272
Restricted cash, cash and cash equivalents	1,678	431	2,640	674
Total non-managed net investment income	6,178	2,408	10,200	3,946
Total net investment income	$44,241	$39,257	$84,455	$68,718

Net investment income from other investments includes distributed and undistributed net income from hedge funds, overseas deposits and certain fixed income investment funds.

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

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

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Managed fixed maturities, short-term and other investments				
Gross realized gains	$5,175	$3,306	$7,865	$6,523
Gross realized (losses)	(2,906)	(786)	(8,488)	(5,089)
Net realized gains (losses) on investments	2,269	2,520	(623)	1,434
Change in net unrealized gains on investments	15,942	30,052	30,291	77,130
Total net realized and change in net unrealized gains on managed investments	$18,211	$32,572	$29,668	$78,564
Non-managed fixed maturities, short-term and other investments				
Gross realized gains	$5	$204	$1,733	$715
Gross realized (losses)	—	—	—	(9)
Net realized gains on investments	5	204	1,733	706
Change in net unrealized gains (losses) on investments	379	1,376	(622)	1,742
Total net realized and change in net unrealized gains on non-managed investments	384	1,580	1,111	2,448
Total net realized and change in net unrealized gains on total investments	$18,595	$34,152	$30,779	$81,012

(f) Pledged cash and investments

As at June 30, 2017, the Company had $5,221,174 (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, $5,156,173 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 and to facilitate the accreditation of Validus Reinsurance, Ltd., Validus Reinsurance (Switzerland) Ltd. ("Validus Re Swiss") and Talbot as an alien Insurer/Reinsurer by certain regulators.

In addition, the Company has pledged cash and investments as collateral under the Company's credit facilities in the total amount of $404,516 (December 31, 2016: $442,184). For further details on the credit facilities, please refer to Note 13, "Debt and financing arrangements."

5. 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 inputs that are unobservable and significant to the overall fair value measurement. The unobservable inputs 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 our 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.

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

At June 30, 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	$—	$646,436	$—	$ —	$646,436
Non-U.S. government and government agency	—	292,504	—	—	292,504
U.S. states, municipalities and political subdivisions	—	227,949	—	—	227,949
Agency residential mortgage-backed securities	—	783,006	—	—	783,006
Non-agency residential mortgage-backed securities	—	26,683	—	—	26,683
U.S. corporate	—	1,386,484	—	—	1,386,484
Non-U.S. corporate	—	379,480	—	—	379,480
Bank loans	—	328,729	224,172	—	552,901
Asset-backed securities	—	466,135	35,921	—	502,056
Commercial mortgage-backed securities	—	316,190	—	—	316,190
Total fixed maturities	—	4,853,596	260,093	—	5,113,689
Short-term investments	248,439	7,077	—	—	255,516
Other investments					
Hedge funds	—	—	—	18,303	18,303
Private equity investments	—	—	—	100,391	100,391
Fixed income investment funds	—	30,137	16,400	221,573	268,110
Overseas deposits	—	—	—	57,874	57,874
Mutual funds	—	3,940	—	—	3,940
Total other investments	—	34,077	16,400	398,141	448,618
Investments in investment affiliates (b)	—	—	—	—	103,377
Total managed investments	$248,439	$4,894,750	$276,493	$ 398,141	$5,921,200
Non-managed investments					
Catastrophe bonds	$—	$236,929	$68,025	$ —	$304,954
Short-term investments	2,615,837	—	—	—	2,615,837
Total non-managed investments	2,615,837	236,929	68,025	—	2,920,791
Total investments	$2,864,276	$5,131,679	$344,518	$ 398,141	$8,841,991

(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.

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

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 June 30, 2017, managed Level 3 investments totaled $276,493 (December 31, 2016: $282,595), representing 4.7% (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. Securities which are priced by an index provider are generally included in the index.

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 ("TBA") 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

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. As the significant inputs used to price these securities are observable, the fair value of these investments are classified as Level 2. To the extent that these indications are based on significant unobservable inputs, the fair value of the relevant bonds will be classified as a 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 three months ended June 30, 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 investment was assumed by the Company in the acquisition of Flagstone Reinsurance Holdings, S.A. (“Flagstone”) (the “Flagstone hedge fund”). The Flagstone 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.

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

Mutual funds consist of an investment fund which invests in various quoted investments. The fair value of units in the mutual fund is based on the NAV of the fund as reported by the fund manager. The mutual fund has daily liquidity which allows us to redeem our holdings at the applicable NAV in the near term. As such, the Company has 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 three and six months ended June 30, 2017 and 2016:

	Three Months Ended June 30, 2017				
	Bank Loans	Catastrophe Bonds	Fixed Income Investment Funds	Asset Backed Securities	Total
Level 3 investments, beginning of period	$236,694	$ 72,676	$ 12,560	$ 23,882	$345,812
Purchases	16,757	5,000	3,432	11,053	36,242
Sales	—	—	—	(53)	(53)
Settlements	(28,893)	(10,216)	408	—	(38,701)
Net realized gains	—	216	—	—	216
Change in net unrealized (losses) gains	(386)	349	—	49	12
Amortization	—	—	—	990	990
Level 3 investments, end of period	$224,172	$ 68,025	$ 16,400	$ 35,921	$344,518

	Three Months Ended June 30, 2016			
	Bank Loans	Catastrophe Bonds	Asset Backed Securities	Total
Level 3 investments, beginning of period	$255,011	$ 37,105	$ —	$292,116
Purchases	8,885	—	12,383	21,268
Settlements	(17,784)	—	—	(17,784)
Change in net unrealized (losses) gains	(2,964)	413	—	(2,551)
Level 3 investments, end of period	$243,148	$ 37,518	$ 12,383	$293,049

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	Six Months Ended June 30, 2017				
	Bank Loans	Catastrophe Bonds	Fixed Income Investment Funds	Asset Backed Securities	Total
Level 3 investments—beginning of period	$246,496	$ 48,375	$ 12,168	$ 23,931	$ 330,970
Purchases	39,933	66,091	3,432	11,053	120,509
Sales	—	—	—	(53)	(53)
Settlements	(62,003)	(48,996)	800	—	(110,199)
Net realized gains	—	3,350	—	—	3,350
Change in net unrealized (losses)	(254)	(795)	—	—	(1,049)
Amortization	—	—	—	990	990
Level 3 investments—end of period	$224,172	$ 68,025	$ 16,400	$ 35,921	$ 344,518

	Six Months Ended June 30, 2016			
	Bank Loans	Catastrophe Bonds	Asset Backed Securities	Total
Level 3 investments—beginning of period	$232,337	$ 13,500	$ —	$ 245,837
Purchases	50,988	23,272	12,383	86,643
Sales	(2,389)	—	—	(2,389)
Settlements	(34,033)	(125)	—	(34,158)
Change in net unrealized (losses) gains	(3,755)	871	—	(2,884)
Level 3 investments—end of period	$243,148	$ 37,518	$ 12,383	$ 293,049

There have not been any transfers into or out of Level 3 during the three and six months ended June 30, 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 June 30, 2017, due to their respective short maturities. As these financial instruments are not actively traded, their respective fair values are classified within Level 2.
6. Variable interest entities
The Company consolidates all VOEs in which it has a controlling financial interest and 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 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 return capital once the risk period expires and all losses have been paid out. The AlphaCat sidecars are VIEs and are consolidated by the Company as the primary beneficiary. The Company’s maximum exposure to any of the 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 expected loss of the fund. 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 greater than 7%. 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 as the primary beneficiary 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 deconsolidation resulted in a loss of $402 which is included in the Consolidated Statements of Comprehensive Income as other insurance related income for the three and six months ended June 30, 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. Refer to Note 15, "Commitments and contingencies," for further details.

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 AlphaCat 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 as the primary beneficiary.

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 subsequently 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 to direct 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 (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 other 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 or principal amount 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 Income and Comprehensive Income as (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.

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The following tables present a reconciliation of the beginning and ending notes payable to AlphaCat investors for the three and six months ended June 30, 2017 and 2016:

	Three Months Ended June 30, 2017		
	Variable Funding Notes	Structured Notes	Total
Notes payable to AlphaCat investors, beginning of period	$343,256	$103,320	$446,576
Notes payable to AlphaCat investors recognized on deconsolidation of AlphaCat ILS fund	423,269	—	423,269
Issuance of notes payable to AlphaCat investors	267,867	68,880	336,747
Redemption of notes payable to AlphaCat investors	(140,150)	—	(140,150)
Foreign exchange gains	(283)	—	(283)
Notes payable to AlphaCat investors, end of period	$893,959	$172,200	$1,066,159

	Three Months Ended June 30, 2016		
	Variable Funding Notes	Structured Notes	Total
Notes payable to AlphaCat investors, beginning of period	$261,793	$61,717	$323,510
Issuance of notes payable to AlphaCat investors	102,817	32,609	135,426
Redemption of notes payable to AlphaCat investors	(88,079)	—	(88,079)
Foreign exchange losses	125	—	125
Notes payable to AlphaCat investors, end of period	$276,656	$94,326	$370,982

	Six Months Ended June 30, 2017		
	Variable Funding Notes	Structured Notes	Total
Notes payable to AlphaCat investors, beginning of period	$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	541,877	172,200	714,077
Redemption of notes payable to AlphaCat investors	(349,106)	—	(349,106)
Foreign exchange gains	(283)	—	(283)
Notes payable to AlphaCat investors, end of period	$893,959	$172,200	$1,066,159

	Six Months Ended June 30, 2016		
	Variable Funding Notes	Structured Notes	Total
Notes payable to AlphaCat investors, beginning of period	$75,493	$—	$75,493
Issuance of notes payable to AlphaCat investors	298,105	94,326	392,431
Redemption of notes payable to AlphaCat investors	(97,684)	—	(97,684)
Foreign exchange losses	742	—	742
Notes payable to AlphaCat investors, end of period	$276,656	$94,326	$370,982

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

The income attributable to AlphaCat investors for the three and six months ended June 30, 2017 was $11,830 and $19,333 (2016: $6,114 and $10,714), with $63,352 included in accounts payable and accrued expenses as at June 30, 2017 (December 31, 2016: $17,068).

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BetaCat ILS funds

The BetaCat ILS funds invest exclusively in catastrophe bonds (principal-at-risk variable rate notes and other event-linked securities, being referred to collectively as “Cat Bonds”) focused on property and casualty risk and issued under Rule 144A of the Securities Act of 1933, as amended, following a passive buy-and-hold investment strategy. Two of the funds are VIEs, one of which is consolidated by the Company as the primary beneficiary. 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 June 30, 2017 and December 31, 2016:

	June 30, 2017		December 31, 2016	
	Total Assets	Total Liabilities	Total Assets	Total Liabilities
AlphaCat sidecars	$29,330	$ 3,455	$40,041	$ 3,206
AlphaCat ILS funds - Lower Risk [(a)]	951,428 951,428	13,371	1,498,276	42,457
AlphaCat ILS funds - Higher Risk [(a)]	1,037,568	207,300	972,633	381,332
AlphaCat Re and AlphaCat Master Fund	2,828,096	2,827,926	2,510,415	2,510,245
BetaCat ILS funds	146,098	278	82,471	30,663

(a) 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 greater than 7%. Expected loss represents the average annual loss over the set of simulation scenarios divided by the total limit.

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 4, “Investments,” as non-managed investments.
(b) 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.
7. 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. The third party equity is therefore recorded in the Company’s Consolidated Balance Sheets as redeemable noncontrolling interests. When and if a redemption notice is received, the fair value of the redemption is reclassified to a liability.
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.

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The following tables present a reconciliation of the beginning and ending balances of redeemable noncontrolling interests and noncontrolling interests for the three and six months ended June 30, 2017 and 2016:

	Redeemable noncontrolling interests		Noncontrolling interests		Total	
	Three Months Ended June 30,		Three Months Ended June 30,		Three Months Ended June 30,	
	2017	2016	2017	2016	2017	2016
Balance, beginning of period	$1,657,630	$1,409,037	$330,597	$157,223	$1,988,227	$1,566,260
Issuance of shares	106,501	112,500	103,320	59,349	209,821	171,849
Adjustment to noncontrolling interests as a result of deconsolidation	(459,021)	—	—	—	(459,021)	—
Income attributable to noncontrolling interests	28,555	17,230	15,095	3,963	43,650	21,193
Redemption of shares / distributions	(82,005)	(6,484)	(33,354)	(8,381)	(115,359)	(14,865)
Balance, end of period	$1,251,660	$1,532,283	$415,658	$212,154	$1,667,318	$1,744,437

	Redeemable noncontrolling interests		Noncontrolling interests		Total	
	Six Months Ended June 30,		Six Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016	2017	2016
Balance, beginning of period	$1,528,001	$1,111,714	$165,977	$154,662	$1,693,978	$1,266,376
Issuance of shares	210,200	381,250	258,300	171,674	468,500	552,924
Adjustment to noncontrolling interests as a result of deconsolidation	(459,021)	—	—	—	(459,021)	—
Income attributable to noncontrolling interests	54,485	45,803	31,737	12,921	86,222	58,724
Redemption of shares / distributions	(82,005)	(6,484)	(40,356)	(127,103)	(122,361)	(133,587)
Balance, end of period	$1,251,660	$1,532,283	$415,658	$212,154	$1,667,318	$1,744,437

As at June 30, 2017, redemptions of $74,200 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 on the Company’s Consolidated Balance Sheets.

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8. Derivative instruments

The Company enters into derivative instruments for risk management purposes, specifically to hedge unmatched foreign currency exposures, interest rate exposures and to shorten the duration of the Company's fixed maturities portfolio.

(a) Derivatives not designated as hedging instruments

The following table summarizes information on the classification and amount of the fair value of derivatives not designated as hedging instruments for accounting purposes within the Company's Consolidated Balance Sheets as at June 30, 2017 and December 31, 2016:

Derivatives not designated as hedging instruments	June 30, 2017 Notional Exposure	June 30, 2017 Asset Derivative at Fair Value [(a)]	June 30, 2017 Liability Derivative at Fair Value [(a)]	December 31, 2016 Notional Exposure	December 31, 2016 Asset Derivative at Fair Value [(a)]	December 31, 2016 Liability Derivative at Fair Value [(a)]
Foreign currency forward contracts	$223,018	$ 1,972	$ 6,325	$181,375	$ 2,351	$ 3,421
Interest rate swap contracts	$150,000	$ 330	$ 648	$—	$ —	$ —

(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 following table summarizes information on the classification and net impact on earnings, recognized in the Company's Consolidated Statements of Income and Comprehensive Income relating to the foreign currency forward and interest rate swap contracts that were not designated as hedging instruments for accounting purposes during the three and six months ended June 30, 2017 and 2016:

Derivatives not designated as hedging instruments	Classification of (losses) gains recognized in earnings	Three Months Ended June 30, 2017	Three Months Ended June 30, 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
Foreign currency forward contracts	Foreign exchange (losses) gains	$(6,525)	$896	$(6,072)	$(1,117)
Foreign currency forward contracts	Other (loss) income	$(874)	$84	$(979)	$120
Interest rate swap contracts	Change in unrealized losses on investments	$(319)	$—	$(319)	$—

(b) Derivatives designated as hedging instruments

The following table summarizes information on the classification and amount of the fair value of derivatives designated as hedging instruments for accounting purposes on the Consolidated Balance Sheets as at June 30, 2017 and December 31, 2016:

Derivatives designated as hedging instruments	June 30, 2017 Notional Exposure	June 30, 2017 Asset Derivative at Fair Value [(a)]	June 30, 2017 Liability Derivative at Fair Value [(a)]	December 31, 2016 Notional Exposure	December 31, 2016 Asset Derivative at Fair Value [(a)]	December 31, 2016 Liability Derivative at Fair Value [(a)]
Interest rate swap contracts	$552,263	$ 20	$ 1,409	$552,263	$ 20	$ 1,479

(a) Asset and liability derivatives are classified within other assets and accounts payable and accrued expenses, respectively, within the Company's consolidated balance sheets.

Derivative instruments designated as a cash flow hedge

The Company designates its interest rate derivative instruments as cash flow hedges for accounting purposes and formally and contemporaneously documents all relationships between the hedging instruments and hedged items and links the derivative instruments to specific assets and liabilities. The Company assesses the effectiveness of the hedges, both at inception and on an on-going basis and determines whether the hedges are highly effective in offsetting changes in fair value of the linked hedged items. The Company currently applies the long haul method when assessing the hedge's effectiveness.

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The following table provides the total impact on other comprehensive income (loss) and earnings relating to the derivative instruments formally designated as cash flow hedges along with the impact of the related hedged items for the three and six months ended June 30, 2017 and 2016:

	Three Months Ended June 30,		Six Months Ended June 30,	
Interest rate swap contracts	2017	2016	2017	2016
Amount of effective portion recognized in other comprehensive income	$2,217	$2,694	$4,376	$6,350
Amount of effective portion subsequently reclassified to earnings	$(2,073)	$(2,758)	$(4,330)	$(5,656)
Amount of ineffective portion excluded from effectiveness testing	$(144)	$64	$(46)	$(694)

The above balances relate to interest payments and have therefore been classified as finance expenses in the Consolidated Statements of Income and Comprehensive Income.

(c) Classification within the fair value hierarchy

As described in Note 5, "Fair value measurements," under U.S. GAAP, a company must determine the appropriate level in the fair value hierarchy for each fair value measurement. The assumptions used within the valuation of the Company's derivative instruments are observable in the marketplace, can be derived from observable data or are supported by observable levels at which other similar transactions are executed in the marketplace. Accordingly, these derivatives were classified within Level 2 of the fair value hierarchy.

(d) Balance sheet offsetting

There was no balance sheet offsetting activity as at June 30, 2017 or December 31, 2016.

The Company currently provides cash collateral as security for interest rate swap contracts. The Company does not provide cash collateral or financial instruments as security for foreign currency forward contracts. Our derivative instruments are generally traded under International Swaps and Derivatives Association master netting 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.

9. Reserve for losses and loss expenses

Reserves for losses and loss expenses are based in part upon the estimation of case reserves from broker, insured and ceding company reported data. The Company also uses statistical and actuarial methods to estimate ultimate expected losses and loss expenses, from which incurred but not reported losses ("IBNR") can be calculated. 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. As these factors become apparent, reserves will be adjusted, sometimes requiring an increase or decrease in the overall reserves of the Company, and at other times requiring a reallocation of incurred but not reported reserves to specific case reserves. These estimates are reviewed and adjusted regularly, and such adjustments, if any, are reflected in earnings in the period in which they become known. While management believes that it has made a reasonable estimate of ultimate losses, there can be no assurances that ultimate losses and loss expenses will not exceed this estimate.

The following table summarizes the total reserve for losses and loss expenses as at June 30, 2017 and December 31, 2016:

	June 30, 2017	December 31, 2016
Case reserves	$1,236,799	$ 1,237,772
IBNR	2,068,392	1,757,423
Total reserve for losses and loss expenses	$3,305,191	$ 2,995,195

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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 three and six months ended June 30, 2017 and 2016:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Reserve for losses and loss expenses, beginning of period	$3,052,745	$2,980,300	$2,995,195	$2,996,567
Loss reserves recoverable	(451,856)	(370,689)	(430,421)	(350,586)
Net reserves for losses and loss expenses, beginning of period	2,600,889	2,609,611	2,564,774	2,645,981
Net reserves acquired [(a)]	23,753	—	23,753	—
Increase (decrease) in net reserves for losses and loss expenses in respect of losses occurring in:				
Current year	339,439	369,911	670,255	648,097
Prior years	(43,290)	(62,781)	(104,521)	(116,520)
Total net incurred losses and loss expenses	296,149	307,130	565,734	531,577
Less net losses and loss expenses paid in respect of losses occurring in:				
Current year	(42,758)	(45,882)	(50,456)	(61,655)
Prior years	(193,265)	(176,775)	(431,354)	(430,079)
Total net paid losses	(236,023)	(222,657)	(481,810)	(491,734)
Foreign exchange losses (gains)	20,216	(14,354)	32,533	(6,094)
Net reserve for losses and loss expenses, end of period	2,704,984	2,679,730	2,704,984	2,679,730
Loss reserves recoverable	600,207	442,987	600,207	442,987
Reserve for losses and loss expenses, end of period	$3,305,191	$3,122,717	$3,305,191	$3,122,717

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

Incurred losses and loss expenses comprise:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Gross losses and loss expenses	$415,013	$397,863	$761,808	$667,716
Reinsurance recoverable	(118,864)	(90,733)	(196,074)	(136,139)
Net incurred losses and loss expenses	$296,149	$307,130	$565,734	$531,577

The net favorable development on prior years by segment and line of business for the three and six months ended June 30, 2017 and 2016 was as follows:

	Three Months Ended June 30, 2017				
	Property	Marine	Specialty	Liability	Total
Validus Re	$(671)	$(16,313)	$(6,115)	$ —	$(23,099)
Talbot	(4,894)	(17,056)	6,074	—	(15,876)
Western World	(479)	—	—	16	(463)
AlphaCat	(3,097)	—	(755)	—	(3,852)
Net (favorable) adverse development	$(9,141)	$(33,369)	$(796)	$ 16	$(43,290)

The net favorable loss reserve development on prior accident years of $43.3 million during the three months ended June 30, 2017 was primarily due to favorable development on attritional losses.

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

	Three Months Ended June 30, 2016				
	Property	Marine	Specialty	Liability	Total
Validus Re	$(9,468)	$(10,018)	$(11,391)	$—	$(30,877)
Talbot	(10,094)	(8,928)	(9,306)	—	(28,328)
Western World	(1,582)	—	—	(1,576)	(3,158)
AlphaCat	(296)	—	(122)	—	(418)
Net favorable development	$(21,440)	$(18,946)	$(20,819)	$(1,576)	$(62,781)

The net favorable loss reserve development on prior accident years of $62.8 million during the three months ended June 30, 2016 was primarily due to favorable development on attritional losses.

	Six Months Ended June 30, 2017				
	Property	Marine	Specialty	Liability	Total
Validus Re	$(4,242)	$(31,742)	$(15,895)	$—	$(51,879)
Talbot	(11,228)	(33,052)	(410)	—	(44,690)
Western World	(3,302)	—	—	2,620	(682)
AlphaCat	(7,492)	—	222	—	(7,270)
Net (favorable) adverse development	$(26,264)	$(64,794)	$(16,083)	$ 2,620	$(104,521)

The net favorable loss reserve development on prior accident years of $104.5 million during the six months ended June 30, 2017 was primarily due to favorable development on attritional losses.

	Six Months Ended June 30, 2016				
	Property	Marine	Specialty	Liability	Total
Validus Re	$(32,300)	$(6,463)	$(17,798)	$—	$(56,561)
Talbot	(28,540)	(5,964)	(16,544)	—	(51,048)
Western World	(2,023)	—	—	(5,561)	(7,584)
AlphaCat	(477)	—	(850)	—	(1,327)
Net favorable development	$(63,340)	$(12,427)	$(35,192)	$(5,561)	$(116,520)

The net favorable development of $116.5 million for the six months ended June 30, 2016 was primarily due to favorable development on attritional losses.

10. Reinsurance

The Company’s reinsurance balances recoverable at June 30, 2017 and December 31, 2016 were as follows:

	June 30, 2017	December 31, 2016
Loss reserves recoverable on unpaid:		
Case reserves	$176,416	$ 165,328
IBNR	423,791	265,093
Total loss reserves recoverable	600,207	430,421