REINSURANCE GROUP OF AMERICA INC
Form 10-Q
August 02, 2017
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-Q

(Mark One)

x	QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
	For the quarterly period ended June 30, 2017
	OR
..	TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
	Commission File Number 1-11848

REINSURANCE GROUP OF AMERICA, INCORPORATED
(Exact name of Registrant as specified in its charter)

MISSOURI	43-1627032
(State or other jurisdiction of incorporation or organization)	(IRS employer identification number)

16600 Swingley Ridge Road
Chesterfield, Missouri 63017
(Address of principal executive offices)
(636) 736-7000
(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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes x No o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company” and “emerging growth company” in Rule 12b-2 of the Exchange Act. (Check one):
Large accelerated filer x Accelerated filer o Non-accelerated filer o
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, 64,493,846 shares of the registrant’s common stock were outstanding.

REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
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PART I - FINANCIAL INFORMATION
ITEM 1. Financial Statements

REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited)

	June 30, 2017	December 31, 2016
	(Dollars in thousands, except share data)	
Assets		
Fixed maturity securities:		
Available-for-sale at fair value (amortized cost of $33,738,334 and $30,211,787)	$ 36,345,426	$ 32,093,625
Mortgage loans on real estate (net of allowances of $8,156 and $7,685)	4,104,487	3,775,522
Policy loans	1,406,774	1,427,602
Funds withheld at interest	5,968,856	5,875,919
Short-term investments	123,308	76,710
Other invested assets	1,498,370	1,591,940
Total investments	49,447,221	44,841,318
Cash and cash equivalents	1,123,350	1,200,718
Accrued investment income	388,008	347,173
Premiums receivable and other reinsurance balances	2,205,631	1,930,755
Reinsurance ceded receivables	798,365	683,972
Deferred policy acquisition costs	3,334,094	3,338,605
Other assets	841,403	755,338
Total assets	$ 58,138,072	$ 53,097,879
Liabilities and Stockholders' Equity		
Future policy benefits	$ 20,665,256	$ 19,581,573
Interest-sensitive contract liabilities	16,440,873	14,029,354
Other policy claims and benefits	4,809,780	4,263,026
Other reinsurance balances	399,517	388,989
Deferred income taxes	3,162,666	2,770,640
Other liabilities	1,077,223	1,041,880
Long-term debt	2,788,494	3,088,635
Collateral finance and securitization notes	823,108	840,700
Total liabilities	50,166,917	46,004,797
Commitments and contingent liabilities (See Note 8)		
Stockholders' Equity:		
Preferred stock - par value $.01 per share, 10,000,000 shares authorized, no shares issued or outstanding	—	—
Common stock - par value $.01 per share, 140,000,000 shares authorized, 79,137,758 shares issued at June 30, 2017 and December 31, 2016	791	791
Additional paid-in capital	1,860,001	1,848,611
Retained earnings	5,523,622	5,199,130
Treasury stock, at cost - 14,645,901 and 14,835,256 shares	(1,085,157)	(1,094,779)
Accumulated other comprehensive income	1,671,898	1,139,329
Total stockholders' equity	7,971,155	7,093,082

Total liabilities and stockholders’ equity	$ 58,138,072	$ 53,097,879

See accompanying notes to condensed consolidated financial statements (unaudited).

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REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(Unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Revenues:	(Dollars in thousands, except per share data)			
Net premiums	$2,480,451	$2,346,945	$4,846,147	$4,503,950
Investment income, net of related expenses	518,538	507,666	1,032,902	924,932
Investment related gains (losses), net:				
Other-than-temporary impairments on fixed maturity securities	(3,401)	(846)	(20,590)	(34,663)
Other investment related gains (losses), net	59,696	119,110	137,408	32,041
Total investment related gains (losses), net	56,295	118,264	116,818	(2,622)
Other revenues	73,992	66,193	142,149	125,376
Total revenues	3,129,276	3,039,068	6,138,016	5,551,636
Benefits and Expenses:				
Claims and other policy benefits	2,164,363	1,997,502	4,270,508	3,884,266
Interest credited	115,285	95,849	222,969	183,754
Policy acquisition costs and other insurance expenses	319,832	405,681	699,221	639,444
Other operating expenses	154,356	159,895	312,862	317,319
Interest expense	29,352	20,331	71,754	53,138
Collateral finance and securitization expense	6,773	6,587	13,543	12,912
Total benefits and expenses	2,789,961	2,685,845	5,590,857	5,090,833
Income before income taxes	339,315	353,223	547,159	460,803
Provision for income taxes	107,125	117,120	169,457	148,228
Net income	$232,190	$236,103	$377,702	$312,575
Earnings per share:				
Basic earnings per share	$3.60	$3.68	$5.86	$4.86
Diluted earnings per share	$3.54	$3.64	$5.76	$4.81
Dividends declared per share	$0.41	$0.37	$0.82	$0.74

See accompanying notes to condensed consolidated financial statements (unaudited).

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REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Comprehensive income	(Dollars in thousands)			
Net income	$232,190	$236,103	$377,702	$312,575
Other comprehensive income, net of tax:				
Foreign currency translation adjustments	43,565	9,942	21,352	87,675
Net unrealized investment gains	306,329	643,893	509,444	1,191,118
Defined benefit pension and postretirement plan adjustments	849	1,156	1,773	(1,703)
Total other comprehensive income, net of tax	350,743	654,991	532,569	1,277,090
Total comprehensive income	$582,933	$891,094	$910,271	$1,589,665

See accompanying notes to condensed consolidated financial statements (unaudited).

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REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Six months ended June 30,	
	2017	2016
	(Dollars in thousands)	
Cash Flows from Operating Activities:		
Net income	$377,702	$312,575
Adjustments to reconcile net income to net cash provided by operating activities:		
Change in operating assets and liabilities:		
Accrued investment income	(34,676)	(34,705)
Premiums receivable and other reinsurance balances	(230,650)	(98,610)
Deferred policy acquisition costs	35,870	(5,435)
Reinsurance ceded receivable balances	(127,995)	(60,465)
Future policy benefits, other policy claims and benefits, and other reinsurance balances	745,799	380,297
Deferred income taxes	142,044	101,163
Other assets and other liabilities, net	(63,811)	(43,708)
Amortization of net investment premiums, discounts and other	(47,563)	(42,843)
Depreciation and amortization expense	13,869	12,888
Investment related (gains) losses, net	(116,818)	2,622
Other, net	(37,797)	70,667
Net cash provided by operating activities	655,974	594,446
Cash Flows from Investing Activities:		
Sales of fixed maturity securities available-for-sale	4,288,713	2,271,414
Maturities of fixed maturity securities available-for-sale	313,530	273,552
Sales of equity securities	166,916	132,932
Principal payments on mortgage loans on real estate	135,450	294,843
Principal payments on policy loans	26,658	25,065
Purchases of fixed maturity securities available-for-sale	(5,311,818)	(4,416,290)
Purchases of equity securities	(32,299)	(408,684)
Cash invested in mortgage loans on real estate	(463,063)	(543,454)
Cash invested in policy loans	(5,830)	(1,679)
Cash invested in funds withheld at interest	(6,910)	(27,868)
Purchases of property and equipment	31,686	—
Change in short-term investments	22,671	350,062
Change in other invested assets	(55,379)	(8,100)
Net cash used in investing activities	(889,675)	(2,058,207)
Cash Flows from Financing Activities:		
Dividends to stockholders	(52,815)	(47,746)
Repayment of collateral finance and securitization notes	(23,761)	(35,369)
Proceeds from long-term debt issuance	—	799,984
Debt issuance costs	—	(9,026)
Principal payments of long-term debt	(301,278)	(1,227)
Purchases of treasury stock	(10,578)	(120,806)
Exercise of stock options, net	2,527	5,219
Change in cash collateral for derivative positions and other arrangements	(7,046)	57,055
Deposits on universal life and other investment type policies and contracts	917,675	513,679

Withdrawals on universal life and other investment type policies and contracts	(402,528)	(208,743)
Net cash provided by financing activities	122,196	953,020
Effect of exchange rate changes on cash	34,137	19,795
Change in cash and cash equivalents	(77,368)	(490,946)
Cash and cash equivalents, beginning of period	1,200,718	1,525,275
Cash and cash equivalents, end of period	$1,123,350	$1,034,329
Supplemental disclosures of cash flow information:		
Interest paid	$90,425	$68,445
Income taxes paid, net of refunds	$26,447	$43,838
Non-cash transactions:		
Transfer of invested assets	$2,243,360	$1,730

See accompanying notes to condensed consolidated financial statements (unaudited).

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REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Business and Basis of Presentation

Reinsurance Group of America, Incorporated ("RGA") is an insurance holding company that was formed on December 31, 1992. The accompanying unaudited condensed consolidated financial statements of RGA and its subsidiaries (collectively, the "Company") have been prepared in conformity with accounting principles generally accepted in the United States of America for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, these condensed consolidated financial statements do not include all of the information and footnotes required by accounting principles generally accepted in the United States of America for complete financial statements. In the opinion of management, all adjustments, including normal recurring adjustments necessary for a fair presentation have been included. Results for the six months ended June 30, 2017 are not necessarily indicative of the results that may be expected for the year ending December 31, 2017. These unaudited condensed consolidated financial statements include the accounts of RGA and its subsidiaries, and all intercompany accounts and transactions have been eliminated. These condensed consolidated statements should be read in conjunction with the Company's 2016 Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on February 28, 2017 (the "2016 Annual Report").

2. Earnings Per Share

The following table sets forth the computation of basic and diluted earnings per share on net income (in thousands, except per share information):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Earnings:				
Net income (numerator for basic and diluted calculations)	$232,190	$236,103	$377,702	$312,575
Shares:				
Weighted average outstanding shares (denominator for basic calculation)	64,449	64,126	64,401	64,348
Equivalent shares from outstanding stock options	1,159	670	1,204	660
Denominator for diluted calculation	65,608	64,796	65,605	65,008
Earnings per share:				
Basic	$3.60	$3.68	$5.86	$4.86
Diluted	$3.54	$3.64	$5.76	$4.81

The calculation of common equivalent shares does not include the impact of options having a strike or conversion price that exceeds the average stock price for the earnings period, as the result would be antidilutive. The calculation of common equivalent shares also excludes the impact of outstanding performance contingent shares, as the conditions necessary for their issuance have not been satisfied as of the end of the reporting period. For the three months ended June 30, 2017, 0.2 million stock options and approximately 0.3 million performance contingent shares were excluded from the calculation. For the three months ended June 30, 2016, no stock options and approximately 0.7 million performance contingent shares were excluded from the calculation. Year-to-date amounts for equivalent shares from outstanding stock options and performance contingent shares are the weighted average of the individual quarterly amounts.

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3. Equity

Common Stock

The changes in number of common stock shares, issued, held in treasury and outstanding are as follows for the periods indicated:

	Issued	Held In Treasury	Outstanding
Balance, December 31, 2016	79,137,758	14,835,256	64,302,502
Stock-based compensation [(1)]	—	(189,355)	189,355
Balance, June 30, 2017	79,137,758	14,645,901	64,491,857

	Issued	Held In Treasury	Outstanding
Balance, December 31, 2015	79,137,758	13,933,232	65,204,526
Common stock acquired	—	1,352,211	(1,352,211)
Stock-based compensation [(1)]	—	(217,434)	217,434
Balance, June 30, 2016	79,137,758	15,068,009	64,069,749

(1) Represents net shares issued from treasury pursuant to the Company's equity-based compensation programs.

Common Stock Held in Treasury

Common stock held in treasury is accounted for at average cost. Gains resulting from the reissuance of common stock held in treasury are credited to additional paid-in capital. Losses resulting from the reissuance of common stock held in treasury are charged first to additional paid-in capital to the extent the Company has previously recorded gains on treasury share transactions, then to retained earnings.

On January 26, 2017, RGA's board of directors authorized a share repurchase program for up to $400.0 million of RGA's outstanding common stock. The authorization was effective immediately and does not have an expiration date. In connection with this new authorization, the board of directors terminated the stock repurchase authority granted in 2016. During the first six months of 2017, no common stock was repurchased by RGA under this program.

Accumulated Other Comprehensive Income (Loss)

The balance of and changes in each component of accumulated other comprehensive income (loss) ("AOCI") for the six months ended June 30, 2017 and 2016 are as follows (dollars in thousands):

	Accumulated Currency Translation Adjustments	Unrealized Appreciation (Depreciation) of Investments[(1)]	Pension and Postretirement Benefits	Total
Balance, December 31, 2016	$ (172,541)	$ 1,355,033	$ (43,163)	$ 1,139,329
Other comprehensive income (loss) before reclassifications	(13,936)	774,688	(196)	760,556
Amounts reclassified to (from) AOCI	—	(39,360)	2,935	(36,425)
Deferred income tax benefit (expense)	35,288	(225,884)	(966)	(191,562)
Balance, June 30, 2017	$ (151,189)	$ 1,864,477	$ (41,390)	$ 1,671,898

	Accumulated Currency Translation Adjustments	Unrealized Appreciation (Depreciation) of Investments[(1)]	Pension and Postretirement Benefits	Total
Balance, December 31, 2015	$ (181,151)	$ 935,697	$ (46,262)	$ 708,284
Other comprehensive income (loss) before reclassifications	99,374	1,759,753	(6,083)	1,853,044
Amounts reclassified to (from) AOCI	—	(24,366)	3,467	(20,899)
Deferred income tax benefit (expense)	(11,699)	(544,269)	913	(555,055)
Balance, June 30, 2016	$ (93,476)	$ 2,126,815	$ (47,965)	$ 1,985,374

(1) Includes cash flow hedges of $1,131 and $(2,496) as of June 30, 2017 and December 31, 2016, respectively, and $(41,192) and $(29,397) as of June 30, 2016 and December 31, 2015, respectively. See Note 5 - “Derivative Instruments” for additional information on cash flow hedges.

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The following table presents the amounts of AOCI reclassifications for the three and six months ended June 30, 2017 and 2016 (dollars in thousands):

	Amount Reclassified from AOCI				
	Three months ended June 30,		Six months ended June 30,		
Details about AOCI Components	2017	2016	2017	2016	Affected Line Item in Statements of Income
Net unrealized investment gains (losses):					
Net unrealized gains and losses on available-for-sale securities	$40,374	$30,190	$28,517	$11,899	Investment related gains (losses), net
Cash flow hedges - Currency/Interest rate	132	93	329	253	(1)
Cash flow hedges - Forward bond purchase commitments	51	(1,045)	101	(257)	(1)
Deferred policy acquisition costs attributed to unrealized gains and losses	4,565	5,365	10,413	12,471	(2)
Total	45,122	34,603	39,360	24,366	
Provision for income taxes	(15,218)	(9,646)	(12,024)	(4,996)	
Net unrealized gains (losses), net of tax	$29,904	$24,957	$27,336	$19,370	
Amortization of defined benefit plan items:					
Prior service cost (credit)	$60	$(75)	$142	$(153)	(3)
Actuarial gains/(losses)	(1,539)	(1,841)	(3,077)	(3,314)	(3)
Total	(1,479)	(1,916)	(2,935)	(3,467)	
Provision for income taxes	517	670	1,027	1,213	
Amortization of defined benefit plans, net of tax	$(962)	$(1,246)	$(1,908)	$(2,254)	
Total reclassifications for the period	$28,942	$23,711	$25,428	$17,116	

(1) See Note 5 - “Derivative Instruments” for additional information on cash flow hedges.

(2) This AOCI component is included in the computation of the deferred policy acquisition cost. See Note 8 – “Deferred Policy Acquisition Costs” of the 2016 Annual Report for additional details.

(3) This AOCI component is included in the computation of the net periodic pension cost. See Note 10 – “Employee Benefit Plans” for additional details.

Equity Based Compensation

Equity compensation expense was $11.4 million and $18.9 million in the first six months of 2017 and 2016, respectively. In the first quarter of 2017, the Company granted 0.2 million stock appreciation rights at $129.72 weighted average exercise price per share and 0.2 million performance contingent units to employees. Additionally, non-employee directors were granted a total of 8,177 shares of common stock. As of June 30, 2017, 1.7 million share options at a weighted average strike price per share of $60.31 were vested and exercisable, with a remaining weighted average exercise period of 4.8 years. As of June 30, 2017, the total compensation cost of non-vested awards not yet recognized in the condensed consolidated financial statements was $38.6 million. It is estimated that these costs will vest over a weighted average period of 1.4 years.

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4. Investments

Fixed Maturity and Equity Securities Available-for-Sale

The following tables provide information relating to investments in fixed maturity and equity securities by sector as of June 30, 2017 and December 31, 2016 (dollars in thousands):

June 30, 2017:	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value	% of Total	Other-than-temporary impairments in AOCI
Available-for-sale:						
Corporate securities	$21,252,180	$1,189,750	$100,269	$22,341,661	61.5 %	$ —
Canadian and Canadian provincial governments	2,713,972	1,296,242	2,460	4,007,754	11.0	—
Residential mortgage-backed securities	1,505,474	42,619	8,794	1,539,299	4.2	—
Asset-backed securities	1,630,499	17,266	5,924	1,641,841	4.5	275
Commercial mortgage-backed securities	1,558,035	28,928	4,935	1,582,028	4.4	—
U.S. government and agencies	1,738,419	15,193	32,048	1,721,564	4.7	—
State and political subdivisions	599,622	47,564	8,216	638,970	1.8	—
Other foreign government, supranational and foreign government-sponsored enterprises	2,740,133	141,973	9,797	2,872,309	7.9	—
Total fixed maturity securities	$33,738,334	$2,779,535	$172,443	$36,345,426	100.0%	$ 275
Non-redeemable preferred stock	$34,545	$435	$3,021	$31,959	30.6 %	
Other equity securities	75,413	522	3,617	72,318	69.4	
Total equity securities	$109,958	$957	$6,638	$104,277	100.0%	

December 31, 2016:	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value	% of Total	Other-than-temporary impairments in AOCI
Available-for-sale:						
Corporate securities	$18,924,711	$911,618	$217,245	$19,619,084	61.1 %	$ —
Canadian and Canadian provincial governments	2,561,605	1,085,982	3,541	3,644,046	11.4	—
Residential mortgage-backed securities	1,258,039	33,917	13,380	1,278,576	4.0	(375)
Asset-backed securities	1,443,822	9,350	23,828	1,429,344	4.5	275
Commercial mortgage-backed securities	1,342,440	28,973	7,759	1,363,654	4.2	—
U.S. government and agencies	1,518,702	12,644	63,044	1,468,302	4.6	—
State and political subdivisions	566,761	37,499	12,464	591,796	1.8	—
Other foreign government, supranational and foreign government-sponsored enterprises	2,595,707	123,054	19,938	2,698,823	8.4	—
Total fixed maturity securities	$30,211,787	$2,243,037	$361,199	$32,093,625	100.0%	$ (100)
Non-redeemable preferred stock	$55,812	$1,648	$6,337	$51,123	18.6 %	
Other equity securities	229,767	1,792	7,321	224,238	81.4	
Total equity securities	$285,579	$3,440	$13,658	$275,361	100.0%	

The Company enters into various collateral arrangements with counterparties that require both the pledging and acceptance of fixed maturity securities as collateral. Pledged fixed maturity securities are included in fixed maturity securities, available-for-sale in the condensed consolidated balance sheets. Fixed maturity securities received as collateral are held in separate custodial accounts and are not recorded on the Company’s condensed consolidated balance sheets. Subject to certain constraints, the Company is permitted by contract to sell or repledge collateral it receives; however, as of June 30, 2017 and December 31, 2016, none of the collateral received had been sold or repledged. The Company also holds assets in trust to satisfy collateral requirements under certain third-party reinsurance treaties. The following table includes fixed maturity securities pledged and received as collateral and assets in trust held to satisfy collateral requirements under derivative transactions and certain third-party reinsurance treaties as of June 30, 2017 and December 31, 2016 (dollars in thousands):

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	June 30, 2017		December 31, 2016	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Fixed maturity securities pledged as collateral	$69,849	$ 74,441	$207,066	$ 210,676
Fixed maturity securities received as collateral	n/a	457,801	n/a	300,925
Assets in trust held to satisfy collateral requirements	14,706,22[illegible]	15,723,178	12,135,258	12,874,370

The Company monitors its concentrations of financial instruments on an ongoing basis and mitigates credit risk by maintaining a diversified investment portfolio which limits exposure to any one issuer. The Company’s exposure to concentrations of credit risk from single issuers greater than 10% of the Company’s stockholders’ equity included securities of the U.S. government and its agencies as well as the securities disclosed below as of June 30, 2017 and December 31, 2016 (dollars in thousands).

	June 30, 2017		December 31, 2016	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Fixed maturity securities guaranteed or issued by:				
Canadian province of Quebec	$1,060,922	$1,785,573	$1,004,261	$1,612,957
Canadian province of Ontario	886,518	1,228,391	832,764	1,126,433

The amortized cost and estimated fair value of fixed maturity securities classified as available-for-sale at June 30, 2017 are shown by contractual maturity in the table below (dollars in thousands). Actual maturities can differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties. Asset and mortgage-backed securities are shown separately in the table below, as they are not due at a single maturity date.

	Amortized Cost	Estimated Fair Value
Available-for-sale:		
Due in one year or less	$861,051	$868,405
Due after one year through five years	7,421,897	7,696,337
Due after five years through ten years	9,514,341	10,016,984
Due after ten years	11,247,037	13,000,532
Asset and mortgage-backed securities	4,694,008	4,763,168
Total	$33,738,334	$36,345,426

Corporate Fixed Maturity Securities

The tables below show the major industry types of the Company’s corporate fixed maturity holdings as of June 30, 2017 and December 31, 2016 (dollars in thousands):

June 30, 2017:	Amortized Cost	Estimated Fair Value	% of Total	
Finance	$ 7,741,482	$8,077,195	36.1	%
Industrial	11,215,292	11,792,664	52.9	
Utility	2,295,406	2,471,802	11.0	
Total	$ 21,252,180	$22,341,661	100.0	%

December 31, 2016:	Amortized Cost	Estimated Fair Value	% of Total	
Finance	$ 6,725,199	$6,888,968	35.2	%
Industrial	10,228,813	10,639,613	54.2	
Utility	1,970,699	2,090,503	10.6	

Total	$ 18,924,711	$19,619,084	100.0	%

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Other-Than-Temporary Impairments - Fixed Maturity and Equity Securities

As discussed in Note 2 – "Summary of Significant Accounting Policies" of the 2016 Annual Report, a portion of certain other-than-temporary impairment ("OTTI") losses on fixed maturity securities is recognized in AOCI. For these securities, the net amount recognized in the condensed consolidated statements of income ("credit loss impairments") represents the difference between the amortized cost of the security and the net present value of its projected future cash flows discounted at the effective interest rate implicit in the debt security prior to impairment. Any remaining difference between the fair value and amortized cost is recognized in AOCI. The following table sets forth the amount of pre-tax credit loss impairments on fixed maturity securities held by the Company as of the dates indicated, for which a portion of the OTTI loss was recognized in AOCI, and the corresponding changes in such amounts (dollars in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Balance, beginning of period	$3,677	$7,284	$6,013	$7,284
Credit loss OTTI previously recognized on securities which matured, paid down, prepaid or were sold during the period	—	(310)	(2,336)	(310)
Balance, end of period	$3,677	$6,974	$3,677	$6,974

Unrealized Losses for Fixed Maturity and Equity Securities Available-for-Sale

The following table presents the total gross unrealized losses for the 1,134 and 1,535 fixed maturity and equity securities as of June 30, 2017 and December 31, 2016, respectively, where the estimated fair value had declined and remained below amortized cost by the indicated amount (dollars in thousands):

	June 30, 2017		December 31, 2016	
	Gross Unrealized Losses	% of Total	Gross Unrealized Losses	% of Total
Less than 20%	$150,762	84.2 %	$337,831	90.1 %
20% or more for less than six months	7,593	4.2	19,438	5.2
20% or more for six months or greater	20,726	11.6	17,588	4.7
Total	$179,081	100.0 %	$374,857	100.0 %

The Company's determination of whether a decline in value is other-than-temporary includes analysis of the underlying credit and the extent and duration of a decline in value. The Company's credit analysis of an investment includes determining whether the issuer is current on its contractual payments, evaluating whether it is probable that the Company will be able to collect all amounts due according to the contractual terms of the security and analyzing the overall ability of the Company to recover the amortized cost of the investment. In the Company's impairment review process, the duration and severity of an unrealized loss position for equity securities are given greater weight and consideration given the lack of contractual cash flows or deferability features.

The following tables present the estimated fair values and gross unrealized losses, including other-than-temporary impairment losses reported in AOCI, for 1,134 and 1,535 fixed maturity and equity securities that have estimated fair values below amortized cost as of June 30, 2017 and December 31, 2016, respectively (dollars in thousands). These investments are presented by class and grade of security, as well as the length of time the related fair value has remained below amortized cost.

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June 30, 2017:	Less than 12 months Estimated Fair Value	Less than 12 months Gross Unrealized Losses	12 months or greater Estimated Fair Value	12 months or greater Gross Unrealized Losses	Total Estimated Fair Value	Total Gross Unrealized Losses
Investment grade securities:						
Corporate securities	$2,895,605	$46,389	$399,546	$23,252	$3,295,151	$69,641
Canadian and Canadian provincial governments	116,719	2,457	—	—	116,719	2,457
Residential mortgage-backed securities	471,933	6,872	100,785	1,918	572,718	8,790
Asset-backed securities	285,211	1,451	204,154	3,916	489,365	5,367
Commercial mortgage-backed securities	352,867	4,897	2,195	38	355,062	4,935
U.S. government and agencies	1,378,976	31,962	13,763	86	1,392,739	32,048
State and political subdivisions	125,465	5,098	13,558	3,118	139,023	8,216
Other foreign government, supranational and foreign government-sponsored enterprises	440,670	7,189	29,234	1,616	469,904	8,805
Total investment grade securities	6,067,446	106,315	763,235	33,944	6,830,681	140,259
Below investment grade securities:						
Corporate securities	255,991	4,547	93,562	26,081	349,553	30,628
Canadian and Canadian provincial governments	1,247	3	—	—	1,247	3
Residential mortgage-backed securities	—	—	107	4	107	4
Asset-backed securities	—	—	7,295	557	7,295	557
Other foreign government, supranational and foreign government-sponsored enterprises	38,069	287	17,606	705	55,675	992
Total below investment grade securities	295,307	4,837	118,570	27,347	413,877	32,184
Total fixed maturity securities	$6,362,753	$111,152	$881,805	$61,291	$7,244,558	$172,443
Non-redeemable preferred stock	$—	$—	$24,807	$3,021	$24,807	$3,021
Other equity securities	64,990	3,617	—	—	64,990	3,617
Total equity securities	$64,990	$3,617	$24,807	$3,021	$89,797	$6,638

December 31, 2016:	Less than 12 months Estimated Fair Value	Less than 12 months Gross Unrealized Losses	12 months or greater Estimated Fair Value	12 months or greater Gross Unrealized Losses	Total Estimated Fair Value	Total Gross Unrealized Losses
Investment grade securities:						
Corporate securities	$4,661,706	$124,444	$549,273	$43,282	$5,210,979	$167,726
Canadian and Canadian provincial governments	101,578	3,541	—	—	101,578	3,541
Residential mortgage-backed securities	490,473	9,733	112,216	3,635	602,689	13,368
Asset-backed securities	563,259	12,010	257,166	9,653	820,425	21,663
Commercial mortgage-backed securities	368,465	6,858	10,853	166	379,318	7,024
U.S. government and agencies	1,056,101	63,044	—	—	1,056,101	63,044
State and political subdivisions	187,194	9,396	13,635	3,068	200,829	12,464
Other foreign government, supranational and foreign government-sponsored enterprises	524,236	13,372	51,097	2,981	575,333	16,353
Total investment grade securities	7,953,012	242,398	994,240	62,785	8,947,252	305,183
Below investment grade securities:						
Corporate securities	330,757	7,914	163,152	41,605	493,909	49,519

Residential mortgage-backed securities	—	—	412	12	412	12
Asset-backed securities	5,904	700	12,581	1,465	18,485	2,165
Commercial mortgage-backed securities	5,815	735	—	—	5,815	735
Other foreign government, supranational and foreign government-sponsored enterprises	32,355	1,258	39,763	2,327	72,118	3,585
Total below investment grade securities	374,831	10,607	215,908	45,409	590,739	56,016
Total fixed maturity securities	$8,327,843	$253,005	$1,210,148	$108,194	$9,537,991	$361,199
Non-redeemable preferred stock	$10,831	$831	$21,879	$5,506	$32,710	$6,337
Other equity securities	202,068	7,020	6,751	301	208,819	7,321
Total equity securities	$212,899	$7,851	$28,630	$5,807	$241,529	$13,658

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The Company has no intention to sell, nor does it expect to be required to sell, the securities outlined in the table above, as of the dates indicated. However, unforeseen facts and circumstances may cause the Company to sell fixed maturity and equity securities in the ordinary course of managing its portfolio to meet certain diversification, credit quality and liquidity guidelines.

Unrealized losses on below investment grade securities as of June 30, 2017 are primarily related to high-yield corporate securities. Changes in unrealized losses are primarily being driven by changes in credit spreads and interest rates.

Investment Income, Net of Related Expenses

Major categories of investment income, net of related expenses, consist of the following (dollars in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Fixed maturity securities available-for-sale	$355,735	$323,592	$680,235	$636,007
Mortgage loans on real estate	44,442	41,900	88,789	81,692
Policy loans	15,194	16,372	30,466	32,506
Funds withheld at interest	97,367	112,893	224,945	168,873
Short-term investments and cash and cash equivalents	1,779	2,322	3,289	4,513
Other invested assets	23,066	28,150	42,893	36,758
Investment income	537,583	525,229	1,070,617	960,349
Investment expense	(19,045)	(17,563)	(37,715)	(35,417)
Investment income, net of related expenses	$518,538	$507,666	$1,032,902	$924,932

Investment Related Gains (Losses), Net

Investment related gains (losses), net consist of the following (dollars in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Fixed maturity and equity securities available for sale:				
Other-than-temporary impairment losses on fixed maturity securities recognized in earnings	$(3,401)	$(846)	$(20,590)	$(34,663)
Gain on investment activity	54,220	53,615	72,113	80,807
Loss on investment activity	(10,471)	(22,556)	(23,034)	(34,343)
Other impairment losses and change in mortgage loan provision	(6,675)	211	(6,774)	(1,849)
Derivatives and other, net	22,622	87,840	95,103	(12,574)
Total investment related gains (losses), net	$56,295	$118,264	$116,818	$(2,622)

The fixed maturity impairments for the three and six months ended June 30, 2017 and 2016 were largely related to high-yield energy and emerging market corporate securities. The other impairment losses and change in mortgage loan provision for the three and six months ended June 30, 2017 and 2016 were primarily due to impairments on limited partnerships. The fluctuations in investment related gains (losses) for derivatives and other for the three and six months ended June 30, 2017, compared to the same periods in 2016, are primarily due to changes in the fair value of embedded derivatives and interest rate swaps.

During the three months ended June 30, 2017 and 2016, the Company sold fixed maturity and equity securities with fair values of $710.5 million and $343.3 million at losses of $10.5 million and $22.6 million, respectively. During the six months ended June 30, 2017 and 2016, the Company sold fixed maturity and equity securities with fair values of $1,286.7 million and $585.8 million at losses of $23.0 million and $34.3 million, respectively. The Company generally does not buy and sell securities on a short-term basis.

Securities Borrowing, Lending and Other

The Company participates in securities borrowing programs whereby securities, which are not reflected on the Company's condensed consolidated balance sheets, are borrowed from third parties. The borrowed securities are used to provide collateral under affiliated reinsurance transactions. The Company is required to maintain a minimum of 100% of the fair value, or par value, under certain programs, of the borrowed securities as collateral. The collateral consists of rights to reinsurance treaty cash flows. If cash flows from the reinsurance treaties are insufficient to maintain the minimum collateral requirement, the Company may substitute cash or securities to meet the requirement. No cash or securities have been pledged by the Company for this purpose.

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The Company also participates in a securities lending program whereby securities, reflected as investments on the Company's condensed consolidated balance sheets, are loaned to a third party. The Company receives securities as collateral, in an amount equal to a minimum of 105% of the fair value of the securities lent. The securities received are not reflected on the Company's condensed consolidated balance sheets.

The Company also participates in repurchase/reverse repurchase programs in which securities, reflected as investments on the Company's condensed consolidated balance sheets, are pledged to third parties. In return, the Company receives securities from the third parties with an estimated fair value equal to a minimum of 100% of the securities pledged. The securities received are not reflected on the Company's condensed consolidated balance sheets.

The Company also participates in a repurchase program in which securities, reflected as investments on the Company's condensed consolidated balance sheets, are pledged to a third party. In return, the Company receives cash from the third party, which is reflected as a payable to the third party and included in other liabilities on the condensed consolidated balance sheets. The Company is required to maintain a minimum collateral balance with a fair value of 102% of the cash received.

The following table includes the amount of borrowed securities, securities lent and securities collateral received as part of the securities lending program and repurchased/reverse repurchased securities pledged and received as of June 30, 2017 and December 31, 2016 (dollars in thousands).

	June 30, 2017		December 31, 2016	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Borrowed securities	$269,280	$284,083	$263,820	$279,186
Securities lending:				
Securities loaned	117,217	121,064	74,389	73,625
Securities received	n/a	109,000	n/a	80,000
Repurchase program/reverse repurchase program:				
Securities pledged	486,700	509,579	476,531	499,891
Securities received	n/a	517,871	n/a	515,200

The Company also held cash collateral for securities lending and the repurchase program/reverse repurchase programs of $47.9 million and $28.8 million at June 30, 2017 and December 31, 2016, respectively.

The following table presents information on the Company's securities lending and repurchase transactions as of June 30, 2017 and December 31, 2016 (dollars in thousands). Collateral associated with certain borrowed securities is not included within the table, as the collateral pledged to each counterparty is the right to reinsurance treaty cash flows.

	June 30, 2017				
	Remaining Contractual Maturity of the Agreements				
	Overnight and Continuous	Up to 30 Days	30-90 Days	Greater than 90 Days	Total
Securities lending transactions:					
Corporate securities	$—	$ —	$—	$121,064	$121,064
Total	—	—	—	121,064	121,064
Repurchase transactions:					
Corporate securities	—	—	1,311	177,555	178,866
Residential mortgage-backed securities	—	—	—	89,333	89,333
U.S. government and agencies	—	—	—	219,522	219,522
Foreign government	—	—	—	20,953	20,953
Other	905	—	—	—	905

Total	905	—	1,311	507,363	509,579
Total transactions	$905	$ —	$1,311	$628,427	$630,643

Gross amount of recognized liabilities for securities lending and repurchase transactions in preceding table	$674,817
Amounts related to agreements not included in offsetting disclosure	$44,174

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	December 31, 2016				
	Remaining Contractual Maturity of the Agreements				
	Overnight and Continuous	Up to 30 Days	30-90 Days	Greater than 90 Days	Total
Securities lending transactions:					
Corporate securities	$—	$ —	$4,017	$69,608	$73,625
Total	$—	$ —	$4,017	$69,608	$73,625
Repurchase transactions:					
Corporate securities	$—	$ —	$3,220	$166,979	$170,199
Residential mortgage-backed securities	—	—	—	92,546	92,546
U.S. government and agencies	—	—	—	216,000	216,000
Foreign government	—	—	—	19,900	19,900
Other	1,246	—	—	—	1,246
Total	1,246	—	3,220	495,425	499,891
Total borrowings	$1,246	$ —	$7,237	$565,033	$573,516

Gross amount of recognized liabilities for securities lending and repurchase transactions in preceding table	$624,032
Amounts related to agreements not included in offsetting disclosure	$50,516

The Company has elected to offset amounts recognized as receivables and payables resulting from the repurchase/reverse repurchase programs. After the effect of offsetting, the net amount presented on the consolidated balance sheets was a liability of $5.1 million and $5.5 million of June 30, 2017 and December 31, 2016, respectively. As of June 30, 2017 and December 31, 2016, the Company recognized payables resulting from cash received as collateral associated with a repurchase agreement as discussed above. Amounts owed to and due from the counterparties may be settled in cash or offset, in accordance with the agreements.

Mortgage Loans on Real Estate

Mortgage loans represented approximately 8.3% and 8.4% of the Company's total investments as of June 30, 2017 and December 31, 2016. The Company makes mortgage loans on income producing properties that are geographically diversified throughout the U.S. with the largest concentration being in the state of California, which represented 22.0% and 22.1% of mortgage loans on real estate as of June 30, 2017 and December 31, 2016, respectively. The recorded investment in mortgage loans on real estate presented below is gross of unamortized deferred loan origination fees and expenses, and valuation allowances.

The distribution of mortgage loans by property type is as follows as of June 30, 2017 and December 31, 2016 (dollars in thousands):

	June 30, 2017		December 31, 2016	
Property type:	Carrying Value	% of Total	Carrying Value	% of Total
Office building	$1,402,369	34.1 %	$1,270,113	33.6 %
Retail	1,248,238	30.3	1,179,936	31.2
Industrial	809,309	19.7	713,461	18.8
Apartment	483,811	11.8	447,088	11.8
Other commercial	170,305	4.1	172,609	4.6
Recorded investment	4,114,032	100.0%	$3,783,207	100.0%
Unamortized balance of loan origination fees and expenses	(1,389)		—	
Valuation allowances	(8,156)		(7,685)	

Total mortgage loans on real estate	$4,104,487	$3,775,522

The maturities of the mortgage loans as of June 30, 2017 and December 31, 2016 are as follows (dollars in thousands):

	June 30, 2017		December 31, 2016	
	Recorded Investment	% of Total	Recorded Investment	% of Total
Due within five years	$1,037,000	25.2 %	$822,073	21.7 %
Due after five years through ten years	2,236,805	54.4	2,099,559	55.5
Due after ten years	840,227	20.4	861,575	22.8
Total	$4,114,032	100.0%	$3,783,207	100.0%

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The following tables set forth certain key credit quality indicators of the Company's recorded investment in mortgage loans as of June 30, 2017 and December 31, 2016 (dollars in thousands):

	Recorded Investment				
	Debt Service Ratios				
	>1.20x	1.00x - 1.20x	<1.00x	Total	% of Total
June 30, 2017:					
Loan-to-Value Ratio					
0% - 59.99%	$2,009,905	$60,110	$4,060	$2,074,075	50.4 %
60% - 69.99%	1,453,061	57,332	7,684	1,518,077	36.9
70% - 79.99%	377,744	20,575	37,091	435,410	10.6
Greater than 80%	61,704	—	24,766	86,470	2.1
Total	$3,902,414	$138,017	$73,601	$4,114,032	100.0%

	Recorded Investment				
	Debt Service Ratios				
	>1.20x	1.00x - 1.20x	<1.00x	Total	% of Total
December 31, 2016:					
Loan-to-Value Ratio					
0% - 59.99%	$1,859,640	$64,749	$1,366	$1,925,755	50.8 %
60% - 69.99%	1,257,788	34,678	—	1,292,466	34.2
70% - 79.99%	370,092	20,869	24,369	415,330	11.0
Greater than 80%	114,297	—	35,359	149,656	4.0
Total	$3,601,817	$120,296	$61,094	$3,783,207	100.0%

The age analysis of the Company's past due recorded investments in mortgage loans as of June 30, 2017 and December 31, 2016.

	June 30, 2017	December 31, 2016
31-60 days past due	$—	$—
61-90 days past due	3,729	—
Greater than 90 days	—	—
Total past due	$3,729	$—
Current	4,110,303	3,783,207
Total	$4,114,032	$3,783,207

The following table presents the recorded investment in mortgage loans, by method of measuring impairment, and the related valuation allowances as of June 30, 2017 and December 31, 2016 (dollars in thousands):

	June 30, 2017	December 31, 2016
Mortgage loans:		
Individually measured for impairment	$2,077	$2,216
Collectively measured for impairment	4,111,955	3,780,991
Recorded investment	$4,114,032	$3,783,207
Valuation allowances:		
Individually measured for impairment	$—	$—
Collectively measured for impairment	8,156	7,685
Total valuation allowances	$8,156	$7,685

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Information regarding the Company's loan valuation allowances for mortgage loans for the three and six months ended June 30, 2017 and 2016 is as follows (dollars in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Balance, beginning of period	$7,786	$6,824	$7,685	$6,813
Provision (release)	366	(325)	467	(314)
Translation adjustment	4	—	4	—
Balance, end of period	$8,156	$6,499	$8,156	$6,499

Information regarding the portion of the Company's mortgage loans that were impaired as of June 30, 2017 and December 31, 2016 is as follows (dollars in thousands):

	Unpaid Principal Balance	Recorded Investment	Related Allowance	Carrying Value
June 30, 2017:				
Impaired mortgage loans with no valuation allowance recorded	$2,620	$ 2,077	$—	$ 2,077
Impaired mortgage loans with valuation allowance recorded	—	—	—	—
Total impaired mortgage loans	$2,620	$ 2,077	$—	$ 2,077
December 31, 2016:				
Impaired mortgage loans with no valuation allowance recorded	$2,758	$ 2,216	$—	$ 2,216
Impaired mortgage loans with valuation allowance recorded	—	—	—	—
Total impaired mortgage loans	$2,758	$ 2,216	$—	$ 2,216

The Company's average investment in impaired mortgage loans and the related interest income are reflected in the table below for the periods indicated (dollars in thousands):

	Three months ended June 30,			
	2017		2016	
	Average Recorded Investment(1)	Interest Income	Average Recorded Investment(1)	Interest Income
Impaired mortgage loans with no valuation allowance recorded	$2,088	$ 33	$3,901	$ 107
Impaired mortgage loans with valuation allowance recorded	—	—	4,724	—
Total impaired mortgage loans	$2,088	$ 33	$8,625	$ 107

	Six months ended June 30,			
	2017		2016	
	Average Recorded Investment(1)	Interest Income	Average Recorded Investment(1)	Interest Income
Impaired mortgage loans with no valuation allowance recorded	$2,131	$ 67	$3,945	$ 216
Impaired mortgage loans with valuation allowance recorded	—	—	7,279	—
Total impaired mortgage loans	$2,131	$ 67	$11,224	$ 216

(1) Average recorded investment represents the average loan balances as of the beginning of period and all subsequent quarterly end of period balances.

The Company did not acquire any impaired mortgage loans during the six months ended June 30, 2017 and 2016. The Company had no mortgage loans that were on a nonaccrual status at June 30, 2017 and December 31, 2016.

Policy Loans

Policy loans comprised approximately 2.8% and 3.2% of the Company's total investments as of June 30, 2017 and December 31, 2016, respectively, the majority of which are associated with one client. These policy loans present no credit risk because the amount of the loan cannot exceed the obligation due to the ceding company upon the death of the insured or surrender of the underlying policy. The provisions of the treaties in force and the underlying policies determine the policy loan interest rates. The Company earns a spread between the interest rate earned on policy loans and the interest rate credited to corresponding liabilities.

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Funds Withheld at Interest

Funds withheld at interest comprised approximately 12.1% and 13.1% of the Company's total investments as of June 30, 2017 and December 31, 2016, respectively. Of the $6.0 billion funds withheld at interest balance, net of embedded derivatives, as of June 30, 2017, $4.0 billion of the balance is associated with one client. For reinsurance agreements written on a modified coinsurance basis and certain agreements written on a coinsurance funds withheld basis, assets equal to the net statutory reserves are withheld and legally owned and managed by the ceding company and are reflected as funds withheld at interest on the Company's condensed consolidated balance sheets. In the event of a ceding company's insolvency, the Company would need to assert a claim on the assets supporting its reserve liabilities. However, the risk of loss to the Company is mitigated by its ability to offset amounts it owes the ceding company for claims or allowances against amounts owed to the Company from the ceding company.

Other Invested Assets

Other invested assets include equity securities, limited partnership interests, joint ventures (other than operating joint ventures), derivative contracts and fair value option ("FVO") contractholder-directed unit-linked investments. Other invested assets also include Federal Home Loan Bank of Des Moines ("FHLB") common stock, equity release mortgages and structured loans, all of which are included in other in the table below. The fair value option was elected for contractholder-directed investments supporting unit-linked variable annuity type liabilities which do not qualify for presentation and reporting as separate accounts. Other invested assets represented approximately 3.0% and 3.6% of the Company's total investments as of June 30, 2017 and December 31, 2016, respectively. Carrying values of these assets as of June 30, 2017 and December 31, 2016 are as follows (dollars in thousands):

	June 30, 2017	December 31, 2016
Equity securities	$104,277	$275,361
Limited partnership interests and real estate joint ventures	746,573	687,522
Derivatives	158,048	229,108
FVO contractholder-directed unit-linked investments	204,630	190,120
Other	284,842	209,829
Total other invested assets	$1,498,370	$1,591,940

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5. Derivative Instruments

Derivatives, except for embedded derivatives and longevity and mortality swaps, are carried on the Company's condensed consolidated balance sheets in other invested assets or other liabilities, at fair value. Longevity and mortality swaps are included on the condensed consolidated balance sheets in other assets or other liabilities, at fair value. Embedded derivative assets and liabilities on modified coinsurance or funds withheld arrangements are included on the condensed consolidated balance sheets with the host contract in funds withheld at interest, at fair value. Embedded derivative liabilities on indexed annuity and variable annuity products are included on the condensed consolidated balance sheets with the host contract in interest-sensitive contract liabilities, at fair value. The following table presents the notional amounts and gross fair value of derivative instruments prior to taking into account the netting effects of master netting agreements as of June 30, 2017 and December 31, 2016 (dollars in thousands):

	June 30, 2017			December 31, 2016		
	Notional	Carrying Value/Fair Value		Notional	Carrying Value/Fair Value	
	Amount	Assets	Liabilities	Amount	Assets	Liabilities
Derivatives not designated as hedging instruments:						
Interest rate swaps	$973,825	$63,370	$4,375	$949,556	$78,405	$5,949
Financial futures	477,407	—	—	475,968	—	—
Foreign currency forwards	15,000	21	63	25,000	—	5,070
Consumer price index swaps	21,991	—	187	20,615	—	262
Credit default swaps	945,000	7,620	1,043	926,000	12,012	2,871
Equity options	541,532	28,301	—	525,894	33,459	—
Longevity swaps	914,080	33,349	—	841,360	26,958	—
Mortality swaps	50,000	—	1,552	50,000	—	2,462
Synthetic guaranteed investment contracts	9,141,018	—	—	8,834,700	—	—
Embedded derivatives in:						
Modified coinsurance or funds withheld arrangements	—	61,281	—	—	—	22,529
Indexed annuity products	—	—	812,718	—	—	805,672
Variable annuity products	—	—	161,913	—	—	184,636
Total non-hedging derivatives	13,079,853	193,942	981,851	12,649,093	150,834	1,029,451
Derivatives designated as hedging instruments:						
Interest rate swaps	435,000	1,267	22,120	435,000	27,901	31,223
Foreign currency swaps	896,873	86,318	7,176	928,505	104,359	734
Foreign currency forwards	150,211	—	4,158	—	—	—
Total hedging derivatives	1,482,084	87,585	33,454	1,363,505	132,260	31,957
Total derivatives	$14,561,937	$281,527	$1,015,305	$14,012,598	$283,094	$1,061,408

Netting Arrangements

Certain of the Company's derivatives are subject to enforceable master netting arrangements and reported as a net asset or liability in the condensed consolidated balance sheets. The Company nets all derivatives that are subject to such arrangements.

The Company has elected to include all derivatives, except embedded derivatives, in the tables below, irrespective of whether they are subject to an enforceable master netting arrangement or a similar agreement. See Note 4 – "Investments" for information regarding the Company's securities borrowing, lending, repurchase and repurchase/reverse repurchase programs. See "Embedded Derivatives" below for information regarding the Company's bifurcated embedded derivatives.

The following table provides information relating to the Company’s derivative instruments as of June 30, 2017 and December 31, 2016 (dollars in thousands):

				Gross Amounts Not Offset in the Balance Sheet		
	Gross Amounts Recognized	Gross Amounts Offset in the Balance Sheet	Net Amounts Presented in the Balance Sheet	Financial Instruments	Cash Collateral Pledged/ Received (1)	Net Amount
June 30, 2017:						
Derivative assets	$ 220,246	$ (28,849)	$ 191,397	$(17,847)	$ (183,179)	$ (9,629)
Derivative liabilities	40,674	(28,849)	11,825	(59,540)	(7,461)	(55,176)
December 31, 2016:						
Derivative assets	$ 283,094	$ (27,028)	$ 256,066	$(16,913)	$ (254,498)	$ (15,345)
Derivative liabilities	48,571	(27,028)	21,543	(95,863)	(1,441)	(75,761)

(1) Includes initial margin posted to a central clearing partner.

Accounting for Derivative Instruments and Hedging Activities

The Company does not enter into derivative instruments for speculative purposes. As discussed below under "Non-qualifying Derivatives and Derivatives for Purposes Other Than Hedging," the Company uses various derivative instruments for risk management purposes that either do not qualify or have not been qualified for hedge accounting treatment. As of June 30, 2017 and December 31, 2016, the Company held interest rate swaps that were designated and qualified as cash flow hedges of interest rate risk, for variable rate liabilities and foreign currency assets, foreign currency swaps and foreign currency forwards that were designated and qualified as hedges of a portion of its net investment in its foreign operations, foreign currency swaps that were designated and qualified as fair value hedges of foreign currency risk, and derivative instruments that were not designated as hedging instruments. See Note 2 – "Summary of Significant Accounting Policies" of the Company's 2016 Annual Report for a detailed discussion of the accounting treatment for derivative instruments, including embedded derivatives. Derivative instruments are carried at fair value and generally require an insignificant amount of cash at inception of the contracts.

Fair Value Hedges

The Company designates and reports certain foreign currency swaps to hedge the foreign currency fair value exposure of foreign currency denominated assets as fair value hedges when they meet the requirements of the general accounting principles for Derivatives and Hedging. The gain or loss on the hedged item attributable to a change in foreign currency and the offsetting gain or loss on the related foreign currency swaps as of June 30, 2017 and 2016, were (dollars in thousands):

Type of Fair Value Hedge	Hedged Item	Gains (Losses) Recognized for Derivatives	Gains (Losses) Recognized for Hedged Items	Ineffectiveness Recognized in Investment Related Gains (Losses), net
For the three months ended June 30, 2017:				
Foreign currency swaps	Foreign-denominated fixed maturity securities	$ 905	$ (905)	$ —
For the three months ended June 30, 2016:				
Foreign currency swaps	Foreign-denominated fixed maturity securities	$ (3,755)	$ 3,755	$ —
For the six months ended June 30, 2017:				
Foreign currency swaps	Foreign-denominated fixed maturity securities	$ 7,441	$ (7,441)	$ —
For the six months ended June 30, 2016:				
Foreign currency swaps	Foreign-denominated fixed maturity securities	$ 2,112	$ (2,112)	$ —

A regression analysis was used, both at inception of the hedge and on an ongoing basis, to determine whether each derivative used in a hedged transaction is highly effective in offsetting changes in the hedged item. For the foreign currency swaps, the change in fair value related to changes in the benchmark interest rate and credit spreads are excluded from the hedge effectiveness. For the three and six months ended June 30, 2017, $0.5 million loss and $0.5 million gain, respectively, of the change in the estimated fair value of derivatives, was excluded from hedge effectiveness. For the three and six months ended June 30, 2016, $2.4 million and $7.0 million, respectively, of the change in the estimated fair value of derivatives, was excluded from hedge effectiveness.

Cash Flow Hedges

Certain derivative instruments are designated as cash flow hedges when they meet the requirements of the general accounting principles for Derivatives and Hedging. The Company designates and accounts for the following as cash flows: (i) certain interest rate swaps, in which the cash flows of liabilities are variable based on a benchmark rate; (ii) certain interest rate swaps, in which the cash flows of assets are denominated in different currencies, commonly referred to as cross-currency swaps; and (iii) forward bond purchase commitments.

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The following table presents the components of AOCI, before income tax, and the condensed consolidated income statement classification where the gain or loss is recognized related to cash flow hedges for the three and six months ended June 30, 2017 and 2016 (dollars in thousands):

	Three months ended June 30,	
	2017	2016
Balance beginning of period	$7,690	$(21,794)
Gains (losses) deferred in other comprehensive income (loss) on the effective portion of cash flow hedges	(6,417)	(20,350)
Amounts reclassified to investment related (gains) losses, net	41	1,010
Amounts reclassified to investment income	(183)	(58)
Balance end of period	$1,131	$(41,192)

	Six months ended June 30,	
	2017	2016
Balance beginning of period	$(2,496)	$(29,397)
Gains (losses) deferred in other comprehensive income (loss) on the effective portion of cash flow hedges	4,016	(11,799)
Amounts reclassified to investment related (gains) losses, net	41	169
Amounts reclassified to investment income	(430)	(165)
Balance end of period	$1,131	$(41,192)

As of June 30, 2017, the before-tax deferred net gains (losses) on derivative instruments recorded in AOCI that are expected to be reclassified to earnings during the next twelve months are approximately $(0.1) million. This expectation is based on the anticipated interest payments on hedged investments in fixed maturity securities that will occur over the next twelve months, at which time the Company will recognize the deferred net gains (losses) as an adjustment to investment income over the term of the investment cash flows.

The following table presents the effective portion of derivatives in cash flow hedging relationships on the condensed consolidated statements of income and the condensed consolidated statements of comprehensive income for the three and six months ended June 30, 2017 and 2016 (dollars in thousands):

	Effective Portion		
Derivative Type	Gain (Loss) Deferred in OCI	Gain (Loss) Reclassified into Income from OCI	
		Investment Related Gains (Losses)	Investment Income
For the three months ended June 30, 2017:			
Interest rate	$(7,643)	$—	$ —
Currency/Interest rate	1,226	—	132
Forward bond purchase commitments	—	(41)	51
Total	$(6,417)	$(41)	$ 183
For the three months ended June 30, 2016:			
Interest rate	$(17,464)	$—	$ —
Currency/Interest rate	(2,886)	—	93
Forward bond purchase commitments	—	(1,010)	(35)

Total	$(20,350)	$(1,010)	$ 58
For the six months ended June 30, 2017:			
Interest rate	$(5,427)	$—	$ —
Currency/Interest rate	9,443	—	329
Forward bond purchase commitments	—	(41)	101
Total	$4,016	$(41)	$ 430
For the six months ended June 30, 2016:			
Interest rate	$(12,335)	$—	$ —
Currency/Interest rate	536	—	253
Forward bond purchase commitments	—	(169)	(88)
Total	$(11,799)	$(169)	$ 165

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All components of each derivative's gain or loss were included in the assessment of hedge effectiveness. For the three and six months ended June 30, 2017 and 2016, the ineffective portion of derivatives reported as cash flow hedges was not material to the Company's results of operations. Also, there were no material amounts reclassified into earnings relating to instances in which the Company discontinued cash flow hedge accounting because the forecasted transaction did not occur by the anticipated date or within the additional time period permitted by the authoritative guidance for the accounting for derivatives and hedging.

Hedges of Net Investments in Foreign Operations

The Company uses foreign currency swaps and foreign currency forwards to hedge a portion of its net investment in certain foreign operations against adverse movements in exchange rates. The following table illustrates the Company's net investments in foreign operations ("NIFO") hedges for the three and six months ended June 30, 2017 and 2016 (dollars in thousands):

	Derivative Gains (Losses) Deferred in AOCI			
	For the three months ended June 30,		For the six months ended June 30,	
Type of NIFO Hedge (1) (2)	2017	2016	2017	2016
Foreign currency swaps	$ (17,919)	$ 302	$ (25,525)	$ (31,493)
Foreign currency forwards	4,158	—	4,158	—
Total	$ (13,761)	$ 302	$ (21,367)	$ (31,493)

(1) There were no sales or substantial liquidations of net investments in foreign operations that would have required the reclassification of gains or losses from accumulated other comprehensive income (loss) into investment income during the periods presented.

(2) There was no ineffectiveness recognized for the Company's hedges of net investments in foreign operations.

The cumulative foreign currency translation gain recorded in AOCI related to these hedges was $140.3 million and $161.6 million at June 30, 2017 and December 31, 2016, respectively. If a foreign operation was sold or substantially liquidated, the amounts in AOCI would be reclassified to the condensed consolidated statements of income. A pro rata portion would be reclassified upon partial sale of a foreign operation.

Non-qualifying Derivatives and Derivatives for Purposes Other Than Hedging

The Company uses various other derivative instruments for risk management purposes that either do not qualify or have not been qualified for hedge accounting treatment. The gain or loss related to the change in fair value for these derivative instruments is recognized in investment related gains (losses), net in the condensed consolidated statements of income, except where otherwise noted.

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A summary of the effect of non-hedging derivatives, including embedded derivatives, on the Company's condensed consolidated statements of income for the three and six months ended June 30, 2017 and 2016 is as follows (dollars in thousands):

		Gain (Loss) for the three months ended June 30,	
Type of Non-hedging Derivative	Income Statement Location of Gain (Loss)	2017	2016
Interest rate swaps	Investment related gains (losses), net	$ 14,289	$ 41,500
Financial futures	Investment related gains (losses), net	(6,442)	(7,557)
Foreign currency forwards	Investment related gains (losses), net	(351)	3,577
CPI swaps	Investment related gains (losses), net	(4)	(520)
Credit default swaps	Investment related gains (losses), net	3,879	3,518
Equity options	Investment related gains (losses), net	(9,273)	(3,225)
Longevity swaps	Other revenues	1,981	2,394
Mortality swaps	Other revenues	(395)	1,046
Subtotal		3,684	40,733
Embedded derivatives in:			
Modified coinsurance or funds withheld arrangements	Investment related gains (losses), net	15,108	76,966
Indexed annuity products	Interest credited	(5,955)	(2,019)
Variable annuity products	Investment related gains (losses), net	360	(28,137)
Total non-hedging derivatives		$ 13,197	$ 87,543

		Gain (Loss) for the six months ended June 30,	
Type of Non-hedging Derivative	Income Statement Location of Gain (Loss)	2017	2016
Interest rate swaps	Investment related gains (losses), net	$ 11,677	$ 104,027
Financial futures	Investment related gains (losses), net	(19,217)	(18,608)
Foreign currency forwards	Investment related gains (losses), net	553	6,077
CPI swaps	Investment related gains (losses), net	(9)	(700)
Credit default swaps	Investment related gains (losses), net	11,237	6,864
Equity options	Investment related gains (losses), net	(26,462)	(5,928)
Longevity swaps	Other revenues	3,847	2,481
Mortality swaps	Other revenues	(790)	622

Subtotal		(19,164)	94,835
Embedded derivatives in:			
Modified coinsurance or funds withheld arrangements	Investment related gains (losses), net	83,810	(15,283)
Indexed annuity products	Interest credited	(22,357)	(626)
Variable annuity products	Investment related gains (losses), net	22,723	(91,077)
Total non-hedging derivatives		$ 65,012	$ (12,151)

Types of Derivatives Used by the Company

Interest Rate Swaps

Interest rate swaps are used by the Company primarily to reduce market risks from changes in interest rates, to alter interest rate exposure arising from mismatches between assets and liabilities (duration mismatches) and to manage the risk of cash flows of liabilities that are variable based on a benchmark rate. With an interest rate swap, the Company agrees with another party to exchange, at specified intervals, the difference between two rates, which can be either fixed-rate or floating-rate interest amounts, tied to an agreed-upon notional principal amount. These transactions are executed pursuant to master agreements that provide for a single net payment or individual gross payments at each due date. The Company utilizes interest rate swaps in cash flow and non-qualifying hedging relationships.

Financial Futures
Exchange-traded futures are used primarily to economically hedge liabilities embedded in certain variable annuity products. With exchange-traded futures transactions, the Company agrees to purchase or sell a specified number of contracts, the value of which is determined by the relevant indices, and to post variation margin on a daily basis in an amount equal to the difference between the daily estimated fair values of those contracts. The Company enters into exchange-traded futures with regulated futures commission merchants that are members of the exchange.
Equity Options
Equity index options are used by the Company primarily to hedge minimum guarantees embedded in certain variable annuity products. To hedge against adverse changes in equity indices volatility, the Company buys put options. The contracts are net settled in cash based on differentials in the indices at the time of exercise and the strike price. Equity warrants are also used by the Company to economically hedge the variability in anticipated cash flows for the acquisition of investment securities.
Consumer Price Index Swaps
Consumer price index ("CPI") swaps are used by the Company primarily to economically hedge liabilities embedded in certain insurance products where value is directly affected by changes in a designated benchmark consumer price index. With a CPI swap transaction, the Company agrees with another party to exchange the actual amount of inflation realized over a specified period of time for a fixed amount of inflation determined at inception. These transactions are executed pursuant to master agreements that provide for a single net payment or individual gross payments to be made by the counterparty at each due date. Most of these swaps will require a single payment to be made by one counterparty at the maturity date of the swap.
Foreign Currency Swaps
Foreign currency swaps are used by the Company to reduce the risk from fluctuations in foreign currency exchange rates associated with its assets and liabilities denominated in foreign currencies. With a foreign currency swap transaction, the Company agrees with another party to exchange, at specified intervals, the difference between one currency and another at a forward exchange rate calculated by reference to an agreed upon principal amount. The principal amount of each currency is exchanged at the termination of the currency swap by each party. The Company uses foreign currency swaps in hedges of net investments in foreign operations and non-qualifying hedge relationships.
Foreign Currency Forwards
Foreign currency forwards are used by the Company to reduce the risk from fluctuations in foreign currency exchange rates associated with its assets and liabilities denominated in foreign currencies. With a foreign currency forward transaction, the Company agrees with another party to deliver a specified amount of an identified currency at a specified future date. The price is agreed upon at the time of the contract and payment for such a contract is made in a different currency at the specified future date. The Company uses foreign currency forwards in hedges of net investments in foreign operations and non-qualifying hedge relationships.
Forward Bond Purchase Commitments
Forward bond purchase commitments have been used by the Company to hedge against the variability in the anticipated cash flows required to purchase securities. With forward bond purchase commitments, the forward price is agreed upon at the time of the contract and payment for such contract is made at the future specified settlement date of the securities.
Credit Default Swaps
The Company sells protection under single name credit default swaps and credit default swap index tranches to diversify its credit risk exposure in certain portfolios and, in combination with purchasing securities, to replicate characteristics of similar investments based on the credit quality and term of the credit default swap. Credit default triggers for indexed reference entities and single name reference entities are defined in the contracts. The Company's maximum exposure to credit loss equals the notional value for credit default swaps. In the event of default of a referencing entity, the Company is typically required to pay the protection holder the full notional value less a recovery amount determined at auction.

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The following table presents the estimated fair value, maximum amount of future payments and weighted average years to maturity of credit default swaps sold by the Company at June 30, 2017 and December 31, 2016 (dollars in thousands):

Rating Agency Designation of Referenced Credit Obligations(1)	June 30, 2017 Estimated Fair Value of Credit Default Swaps	Maximum Amount of Future Payments under Credit Default Swaps(2)	Weighted Average Years to Maturity(3)	December 31, 2016 Estimated Fair Value of Credit Default Swaps	Maximum Amount of Future Payments under Credit Default Swaps(2)	Weighted Average Years to Maturity(3)
AAA/AA+/AA/AA-/A+/A/A-						
Single name credit default swaps	$2,857	$ 155,500	3.5	$1,726	$ 150,500	3.8
Subtotal	2,857	155,500	3.5	1,726	150,500	3.8
BBB+/BBB/BBB-						
Single name credit default swaps	3,351	365,200	3.3	1,426	347,200	3.7
Credit default swaps referencing indices	82	416,000	4.5	6,295	416,000	5.0
Subtotal	3,433	781,200	3.9	7,721	763,200	4.4
BB+/BB/BB-						
Single name credit default swaps	1	5,000	2.0	(477)	9,000	3.5
Subtotal	1	5,000	2.0	(477)	9,000	3.5
Total	$6,291	$ 941,700	3.8	$8,970	$ 922,700	4.3

(1) The rating agency designations are based on ratings from Standard and Poor's ("S&P").
(2) Assumes the value of the referenced credit obligations is zero.
(3) The weighted average years to maturity of the credit default swaps is calculated based on weighted average notional amounts.

The Company also purchases credit default swaps to reduce its risk against a drop in bond prices due to credit concerns of certain bond issuers. If a credit event, as defined by the contract, occurs, the Company is able to put the bond back to the counterparty at par.

Longevity Swaps

The Company enters into longevity swaps in the form of out-of-the-money options, which provide protection against changes in mortality improvement to retirement plans and insurers of such plans. With a longevity swap transaction, the Company agrees with another party to exchange a proportion of a notional value. The proportion is determined by the difference between a predefined benefit, and the realized benefit plus the future expected benefit, calculated by reference to a population index for a fixed premium.

Mortality Swaps

Mortality swaps are used by the Company to hedge risk from changes in mortality experience associated with its reinsurance of life insurance risk. The Company agrees with another party to exchange, at specified intervals, a proportion of a notional value determined by the difference between a predefined expected and realized claim amount on a designated index of reinsured lives, for a fixed percentage (premium) each term.

Synthetic Guaranteed Investment Contracts

The Company sells fee-based synthetic guaranteed investment contracts to retirement plans which include investment-only, stable value contracts. The assets are owned by the trustees of such plans, who invest the assets under the terms of investment guidelines to which the Company agrees. The contracts contain a guarantee of a minimum rate of return on participant balances supported by the underlying assets, and a guarantee of liquidity to meet certain participant-initiated plan cash flow requirements. These contracts are reported as derivatives, recorded at fair value and classified as interest rate derivatives.

Embedded Derivatives

The Company has certain embedded derivatives which are required to be separated from their host contracts and reported as derivatives. Host contracts include reinsurance treaties structured on a modified coinsurance ("modco") or funds withheld basis. Additionally, the Company reinsures equity-indexed annuity and variable annuity contracts with benefits that are considered embedded derivatives, including guaranteed minimum withdrawal benefits, guaranteed minimum accumulation benefits, and guaranteed minimum income benefits. The changes in fair values of embedded derivatives on equity-indexed annuities described below relate to changes in the fair value associated with capital market and other related assumptions. The Company's utilization of a credit valuation adjustment ("CVA") did not have a material effect on the change in fair value of its embedded derivatives for the three and six months ended June 30, 2017 and 2016.

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The related gains (losses) and the effect on net income after amortization of deferred acquisition costs ("DAC") and income taxes for the three and six months ended June 30, 2017 and 2016 are reflected in the following table (dollars in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Embedded derivatives in modco or funds withheld arrangements included in investment related gains	$15,108	$76,966	$83,810	$(15,283)
After the associated amortization of DAC and taxes, the related amounts included in net income	2,941	18,807	28,785	(7,970)
Embedded derivatives in variable annuity contracts included in investment related gains	360	(28,137)	22,723	(91,077)
After the associated amortization of DAC and taxes, the related amounts included in net income	3,023	(40,167)	31,859	(66,010)
Amounts related to embedded derivatives in equity-indexed annuities included in benefits and expenses	(5,955)	(2,019)	(22,357)	(626)
After the associated amortization of DAC and taxes, the related amounts included in net income	(6,925)	(7,816)	(28,322)	3,418

Credit Risk

The Company manages its credit risk related to over-the-counter ("OTC") derivatives by entering into transactions with creditworthy counterparties, maintaining collateral arrangements and through the use of master netting agreements that provide for a single net payment to be made by one counterparty to another at each due date and upon termination.

The credit exposure of the Company's OTC derivative transactions is represented by the contracts with a positive fair value (market value) at the reporting date. To reduce credit exposures, the Company seeks to (i) enter into OTC derivative transactions pursuant to master netting agreements that provide for a netting of payments and receipts with a single counterparty, and (ii) enter into agreements that allow the use of credit support annexes, which are bilateral rating-sensitive agreements that require collateral postings at established threshold levels. Certain of the Company's OTC derivatives are cleared derivatives, which are bilateral transactions between the Company and a counterparty where the transactions are cleared through a clearinghouse, such that each derivative counterparty is only exposed to the default of the clearinghouse. These cleared transactions require initial and daily variation margin collateral postings and include certain interest rate swaps and credit default swaps entered into on or after June 10, 2013, related to guidelines implemented under the Dodd-Frank Wall Street Reform and Consumer Protection Act. Also, the Company enters into exchange-traded futures through regulated exchanges and these transactions are settled on a daily basis, thereby reducing credit risk exposure in the event of non-performance by counterparties to such financial instruments.

The Company enters into various collateral arrangements, which require both the posting and accepting of collateral in connection with its derivative instruments. Collateral agreements contain attachment thresholds that may vary depending on the posting party's ratings. Additionally, a decline in the Company's or the counterparty's credit ratings to specified levels could result in potential settlement of the derivative positions under the Company's agreements with its counterparties. The Company also has exchange-traded futures, which require the maintenance of a margin account. As exchange-traded futures are affected through regulated exchanges, and positions are marked to market on a daily basis, the Company has minimal exposure to credit-related losses in the event of nonperformance by counterparties. The Company's credit exposure related to derivative contracts is generally limited to the fair value at the reporting date plus or minus any collateral posted or held by the Company. The Company's credit exposure to mortality swaps is minimal, as they are fully collateralized by a counterparty. Information regarding the Company's credit exposure related to its over-the-counter derivative contracts, centrally cleared derivative contracts and margin account for exchange-traded futures, excluding mortality swaps, at June 30, 2017 and December 31, 2016 are reflected in the following table (dollars in thousands):

	June 30, 2017	December 31, 2016
Estimated fair value of derivatives in net asset position	$181,124	$236,985
Cash provided as collateral[1]	7,461	1,441
Securities pledged to counterparties as collateral[2]	59,540	95,863
Cash pledged from counterparties as collateral[3]	(183,179)	(254,498)
Securities pledged from counterparties as collateral[4]	(17,847)	(16,913)
Initial margin for cleared derivatives[2]	(58,526)	(73,571)
Net amount after application of master netting agreements and collateral	$(11,427)	$(10,693)
Margin account related to exchange-traded futures[5]	$8,530	$9,687

(1) Consists of receivable from counterparty, included in other assets.
(2) Included in available-for-sale securities, primarily consists of U.S. Treasury and government agency securities.
(3) Included in cash and cash equivalents, with obligation to return cash collateral recorded in other liabilities.
(4) Consists of U.S. Treasury and government securities.
(5) Included in other assets.

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6. Fair Value of Assets and Liabilities

Fair Value Measurement

General accounting principles for Fair Value Measurements and Disclosures define fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. These principles also establish a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value and describes three levels of inputs that may be used to measure fair value:

Level 1 - Unadjusted quoted prices in active markets for identical assets or liabilities. The Company’s Level 1 assets and liabilities are traded in active exchange markets.

Level 2 - Observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or market standard valuation techniques and assumptions that use significant inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 - Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the related assets or liabilities. Prices are determined using valuation methodologies such as discounted cash flow models and other similar techniques that require management’s judgment or estimation in developing inputs that are consistent with those other market participants would use when pricing similar assets and liabilities. Additionally, the Company’s embedded derivatives, all of which are associated with reinsurance treaties and longevity and mortality swaps, are classified in Level 3 since their values include significant unobservable inputs.

When inputs used to measure the fair value of an asset or liability fall within different levels of the hierarchy, the level within which the fair value measurement is categorized is based on the lowest level input that is significant to the fair value measurement in its entirety, except for fair value measurements using net asset value. For example, a Level 3 fair value measurement may include inputs that are observable (Levels 1 and 2) and unobservable (Level 3). Therefore, gains and losses for such assets and liabilities categorized within Level 3 may include changes in fair value that are attributable to both observable inputs (Levels 1 and 2) and unobservable inputs (Level 3).

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Assets and Liabilities by Hierarchy Level

Assets and liabilities measured at fair value on a recurring basis as of June 30, 2017 and December 31, 2016 are summarized below (dollars in thousands):

June 30, 2017:		Fair Value Measurements Using:		
	Total	Level 1	Level 2	Level 3
Assets:				
Fixed maturity securities – available-for-sale:				
Corporate securities	$22,341,661	$603,002	$20,447,605	$1,291,054
Canadian and Canadian provincial governments	4,007,754	—	3,474,484	533,270
Residential mortgage-backed securities	1,539,299	—	1,390,614	148,685
Asset-backed securities	1,641,841	—	1,440,252	201,589
Commercial mortgage-backed securities	1,582,028	—	1,580,085	1,943
U.S. government and agencies	1,721,564	1,597,777	100,220	23,567
State and political subdivisions	638,970	—	604,536	34,434
Other foreign government supranational and foreign government-sponsored enterprises	2,872,309	326,033	2,534,282	11,994
Total fixed maturity securities – available-for-sale	36,345,426	2,526,812	31,572,078	2,246,536
Funds withheld at interest – embedded derivatives	61,281	—	—	61,281
Cash equivalents	300,516	300,516	—	—
Short-term investments	91,024	21,586	65,890	3,548
Other invested assets:				
Non-redeemable preferred stock	31,959	31,959	—	—
Other equity securities	72,318	72,318	—	—
Derivatives:				
Interest rate swaps	55,154	—	55,154	—
CPI swaps	(187)	—	(187)	—
Credit default swaps	6,258	—	6,258	—
Equity options	15,804	—	15,804	—
Foreign currency swaps	81,019	—	81,019	—
FVO contractholder-directed unit-linked investments	204,630	203,150	1,480	—
Other	7,047	7,047	—	—
Total other invested assets	474,002	314,474	159,528	—
Other assets - longevity swaps	33,349	—	—	33,349
Total	$37,305,598	$3,163,388	$31,797,496	$2,344,714
Liabilities:				
Interest sensitive contract liabilities – embedded derivatives	$974,631	$—	$—	$974,631
Other liabilities:				
Derivatives:				
Interest rate swaps	17,012	—	17,012	—
Foreign currency forwards	4,200	—	4,200	—
Credit default swaps	(319)	—	(319)	—
Equity options	(12,497)	—	(12,497)	—
Foreign currency swaps	1,877	—	1,877	—
Mortality swaps	1,552	—	—	1,552
Total	$986,456	$—	$10,273	$976,183

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December 31, 2016:		Fair Value Measurements Using:		
	Total	Level 1	Level 2	Level 3
Assets:				
Fixed maturity securities – available-for-sale:				
Corporate securities	$19,619,084	$310,995	$18,035,836	$1,272,253
Canadian and Canadian provincial governments	3,644,046	—	3,168,081	475,965
Residential mortgage-backed securities	1,278,576	—	1,118,285	160,291
Asset-backed securities	1,429,344	—	1,210,064	219,280
Commercial mortgage-backed securities	1,363,654	—	1,342,509	21,145
U.S. government and agencies	1,468,302	1,345,755	98,059	24,488
State and political subdivisions	591,796	—	550,130	41,666
Other foreign government, supranational and foreign government-sponsored enterprises	2,698,823	276,729	2,409,225	12,869
Total fixed maturity securities – available-for-sale	32,093,625	1,933,479	27,932,189	2,227,957
Funds withheld at interest – embedded derivatives	(22,529)	—	—	(22,529)
Cash equivalents	338,601	338,601	—	—
Short-term investments	44,241	8,276	32,619	3,346
Other invested assets:				
Non-redeemable preferred stock	51,123	38,317	12,806	—
Other equity securities	224,238	224,238	—	—
Derivatives:				
Interest rate swaps	93,508	—	93,508	—
Credit default swaps	9,136	—	9,136	—
Equity options	26,070	—	26,070	—
Foreign currency swaps	100,394	—	100,394	—
FVO contractholder-directed unit-linked investments	190,120	188,891	1,229	—
Other	11,036	11,036	—	—
Total other invested assets	705,625	462,482	243,143	—
Other assets - longevity swaps	26,958	—	—	26,958
Total	$33,186,521	$2,742,838	$28,207,951	$2,235,732
Liabilities:				
Interest sensitive contract liabilities – embedded derivatives	$990,308	$—	$—	$990,308
Other liabilities:				
Derivatives:				
Interest rate swaps	24,374	—	24,374	—
Foreign currency forwards	5,070	—	5,070	—
CPI swaps	262	—	262	—
Credit default swaps	(5)	—	(5)	—
Equity options	(7,389)	—	(7,389)	—
Foreign currency swaps	(3,231)	—	(3,231)	—
Mortality swaps	2,462	—	—	2,462
Total	$1,011,851	$—	$19,081	$992,770

The Company may utilize information from third parties, such as pricing services and brokers, to assist in determining the fair value for certain assets and liabilities; however, management is ultimately responsible for all fair values presented in the Company’s condensed consolidated financial statements. This includes responsibility for monitoring the fair value process, ensuring objective and reliable valuation practices and pricing of assets and liabilities, and approving changes to valuation methodologies and pricing sources. The selection of the valuation technique(s) to apply considers the definition of an exit price and the nature of the asset or liability being valued and significant expertise and judgment is required.

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The Company performs initial and ongoing analysis and review of the various techniques utilized in determining fair value to ensure that they are appropriate and consistently applied, and that the various assumptions are reasonable. The Company analyzes and reviews the information and prices received from third parties to ensure that the prices represent a reasonable estimate of the fair value and to monitor controls around pricing, which includes quantitative and qualitative analysis and is overseen by the Company's investment and accounting personnel. Examples of procedures performed include, but are not limited to, review of pricing trends, comparison of a sample of executed prices of securities sold to the fair value estimates, comparison of fair value estimates to management's knowledge of the current market, and ongoing confirmation that third party pricing services use, wherever possible, market-based parameters for valuation. In addition, the Company utilizes both internal and external cash flow models to analyze the reasonableness of fair values utilizing credit spread and other market assumptions, where appropriate. As a result of the analysis, if the Company determines there is a more appropriate fair value based upon the available market data, the price received from the third party is adjusted accordingly. The Company also determines if the inputs used in estimated fair values received from pricing services are observable by assessing whether these inputs can be corroborated by observable market data.

For assets and liabilities reported at fair value, the Company utilizes, when available, fair values based on quoted prices in active markets that are regularly and readily obtainable. Generally, these are very liquid investments and the valuation does not require management judgment. When quoted prices in active markets are not available, fair value is based on market valuation techniques, market comparable pricing and the income approach. The use of different techniques, assumptions and inputs may have a material effect on the estimated fair values of the Company's securities holdings. For the periods presented, the application of market standard valuation techniques applied to similar assets and liabilities has been consistent.

The methods and assumptions the Company uses to estimate the fair value of assets and liabilities measured at fair value on a recurring basis are summarized below.

Fixed Maturity Securities – The fair values of the Company's publicly-traded fixed maturity securities are generally based on prices obtained from independent pricing services. Prices from pricing services are sourced from multiple vendors, and a vendor hierarchy is maintained by asset type based on historical pricing experience and vendor expertise. The Company generally receives prices from multiple pricing services for each security, but ultimately uses the price from the vendor that is highest in the hierarchy for the respective asset type. To validate reasonableness, prices are periodically reviewed as explained above. Consistent with the fair value hierarchy described above, securities with quotes from pricing services are generally reflected within Level 2, as they are primarily based on observable pricing for similar assets and/or other market observable inputs. If the pricing information received from third party pricing services is not reflective of market activity or other inputs observable in the market, the Company may challenge the price through a formal process with the pricing service.

If the Company ultimately concludes that pricing information received from the independent pricing service is not reflective of fair value, non-binding broker quotes are used, if available. If the Company concludes that the values from both pricing services and brokers are not reflective of fair value, an internally developed valuation may be prepared; however, this occurs infrequently. Internally developed valuations or non-binding broker quotes are also used to determine fair value in circumstances where vendor pricing is not available. These valuations may use significant unobservable inputs, which reflect the Company's assumptions about the inputs that market participants would use in pricing the asset. Observable market data may not be available in certain circumstances, such as market illiquidity and credit events related to the security. Pricing service overrides, internally developed valuations and non-binding broker quotes are generally based on significant unobservable inputs and are reflected as Level 3 in the valuation hierarchy.

The inputs used in the valuation of corporate and government securities include, but are not limited to standard market observable inputs which are derived from, or corroborated by, market observable data including market yield curve, duration, call provisions, observable prices and spreads for similar publicly traded or privately traded issues that incorporate the credit quality and industry sector of the issuer. For structured securities, valuation is based primarily on matrix pricing or other similar techniques using standard market inputs including spreads for actively traded

securities, spreads off benchmark yields, expected prepayment speeds and volumes, current and forecasted loss severity, rating, weighted average coupon, weighted average maturity, average delinquency rates, geographic region, debt-service coverage ratios and issuance-specific information including, but not limited to: collateral type, payment terms of the underlying assets, payment priority within the tranche, structure of the security, deal performance and vintage of loans.
When observable inputs are not available, the market standard valuation techniques for determining the estimated fair value of certain types of securities that trade infrequently, and therefore have little or no price transparency, rely on inputs that are significant to the estimated fair value that are not observable in the market or cannot be derived principally from or corroborated by observable market data. These unobservable inputs can be based in large part on management judgment or estimation, and cannot be supported by reference to market activity. Even though unobservable, these inputs are based on assumptions deemed appropriate given the circumstances and are believed to be consistent with what other market participants would use when pricing such securities.

The fair values of private placement securities are primarily determined using a discounted cash flow model. In certain cases these models primarily use observable inputs with a discount rate based upon the average of spread surveys collected from private market intermediaries who are active in both primary and secondary transactions, taking into account, among other factors, the credit quality and industry sector of the issuer and the reduced liquidity associated with private placements. Generally, these securities have been reflected within Level 3. For certain private fixed maturities, the discounted cash flow model may also incorporate significant unobservable inputs, which reflect the Company's own assumptions about the inputs market participants would use in pricing the security. To the extent management determines that such unobservable inputs are not significant to the price of a security, a Level 2 classification is made. Otherwise, a Level 3 classification is used.

Embedded Derivatives – The fair value of embedded derivative liabilities, including those calculated by third parties, are monitored through the use of attribution reports to quantify the effect of underlying sources of fair value change, including capital market inputs based on policyholder account values, interest rates and short-term and long-term implied volatilities, from period to period. Actuarial assumptions are based on experience studies performed internally in combination with available industry information and are reviewed on a periodic basis, at least annually.

For embedded derivative liabilities associated with the underlying products in reinsurance treaties, primarily equity-indexed and variable annuity treaties, the Company utilizes a discounted cash flow model, which includes an estimate of future equity option purchases and an adjustment for a CVA. The variable annuity embedded derivative calculations are performed by third parties based on methodology and input assumptions provided by the Company. To validate the reasonableness of the resulting fair value, the Company's internal actuaries perform reviews and analytical procedures on the results. The capital market inputs to the model, such as equity indexes, short-term equity volatility and interest rates, are generally observable. The valuation also requires certain significant inputs, which are generally not observable and accordingly, the valuation is considered Level 3 in the fair value hierarchy, see "Level 3 Measurements and Transfers" below for a description.

The fair value of embedded derivatives associated with funds withheld reinsurance treaties is determined based upon a total return swap technique with reference to the fair value of the investments held by the ceding company that support the Company's funds withheld at interest asset with an adjustment for a CVA. The fair value of the underlying assets is generally based on market observable inputs using industry standard valuation techniques. The valuation also requires certain significant inputs, which are generally not observable and accordingly, the valuation is considered Level 3 in the fair value hierarchy, see "Level 3 Measurements and Transfers" below for a description.

Credit Valuation Adjustment – The Company uses a structural default risk model to estimate a CVA. The input assumptions are a combination of externally derived and published values (default threshold and uncertainty), market inputs (interest rate, equity price per share, debt per share, equity price volatility) and insurance industry data (Loss Given Default), adjusted for market recoverability.

Cash Equivalents and Short-Term Investments – Cash equivalents and short-term investments include money market instruments, commercial paper and other highly liquid debt instruments. Money market instruments are generally valued using unadjusted quoted prices in active markets that are accessible for identical assets and are primarily classified as Level 1. The fair value of certain other cash equivalents and short-term investments, such as floating rate notes and bonds with original maturities less than twelve months, are based upon other market observable data and are typically classified as Level 2. However, certain short-term investments may incorporate significant unobservable inputs resulting in a Level 3 classification. Various time deposits carried as cash equivalents or short-term investments are not measured at estimated fair value and therefore are excluded from the tables presented.

Equity Securities – Equity securities consist principally of exchange-traded funds and preferred stock of publicly and privately traded companies. The fair values of publicly traded equity securities are primarily based on quoted market prices in active markets and are classified within Level 1 in the fair value hierarchy. The fair values of preferred equity securities, for which quoted market prices are not readily available, are based on prices obtained from independent pricing services and these securities are generally classified within Level 2 in the fair value hierarchy. Non-binding broker quotes for equity securities are generally based on significant unobservable inputs and are reflected as Level 3 in the fair value hierarchy.

FVO Contractholder-Directed Unit-Linked Investments – FVO contractholder-directed investments supporting unit-linked variable annuity type liabilities primarily consist of exchange-traded funds and, to a lesser extent, fixed maturity securities and cash and cash equivalents. The fair values of the exchange-traded securities are primarily based on quoted market prices in active markets and are classified within Level 1 of the hierarchy. The fair value of the fixed maturity contractholder-directed securities is determined on a basis consistent with the methodologies described above for fixed maturity securities and are classified within Level 2 of the hierarchy.

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Derivative Assets and Derivative Liabilities – All of the derivative instruments utilized by the Company, except for longevity and mortality swaps, are classified within Level 2 on the fair value hierarchy. These derivatives are principally valued using an income approach. Valuations of interest rate contracts are based on present value techniques, which utilize significant inputs that may include the swap yield curve, London Interbank Offered Rate ("LIBOR") basis curves, and repurchase rates. Valuations of foreign currency contracts, are based on present value techniques, which utilize significant inputs that may include the swap yield curve, LIBOR basis curves, currency spot rates, and cross currency basis curves. Valuations of credit contracts are based on present value techniques, which utilize significant inputs that may include the swap yield curve, credit curves, and recovery rates. Valuations of equity market contracts, are based on present value techniques, which utilize significant inputs that may include the swap yield curve, spot equity index levels, and dividend yield curves. Valuations of equity market contracts, option-based, are based on option pricing models, which utilize significant inputs that may include the swap yield curve, spot equity index levels, dividend yield curves, and equity volatility. The Company does not currently have derivatives, except for longevity and mortality swaps, included in Level 3 measurement.

Longevity and Mortality Swaps – The Company utilizes a discounted cash flow model to estimate the fair value of longevity and mortality swaps. The fair value of these swaps includes an accrual for premiums payable and receivable. Some inputs to the valuation model are generally observable, such as interest rates and actual population mortality experience. The valuation also requires significant inputs that are generally not observable and, accordingly, the valuation is considered Level 3 in the fair value hierarchy.

Level 3 Measurements and Transfers

As of June 30, 2017 and December 31, 2016, the Company classified approximately 6.2% and 6.9%, respectively, of its fixed maturity securities in the Level 3 category. These securities primarily consist of private placement corporate securities and bank loans as well as Canadian provincial strips with inactive trading markets. Additionally, the Company has included asset-backed securities with subprime exposure and mortgage-backed securities with below investment grade ratings in the Level 3 category due to market uncertainty associated with these securities and the Company's utilization of unobservable information from third parties for the valuation of these securities.

The significant unobservable inputs used in the fair value measurement of the Company's corporate, sovereign, government-backed, and other political subdivision investments are probability of default, liquidity premium and subordination premium. Significant increases (decreases) in any of those inputs in isolation would result in a significantly lower (higher) fair value measurement. Generally, a change in the assumption used for the probability of default is accompanied by a directionally similar change in the assumptions used for the liquidity premium and subordination premium. For securities with a fair value derived using the market comparable pricing valuation technique, liquidity premium is the only significant unobservable input.

The significant unobservable inputs used in the fair value measurement of the Company's asset and mortgage-backed securities are prepayment rates, probability of default, liquidity premium and loss severity in the event of default. Significant increases (decreases) in any of those inputs in isolation would result in a significantly lower (higher) fair value measurement. Generally, a change in the assumption used for the probability of default is accompanied by a directionally similar change in the assumption used for the liquidity premium and loss severity and a directionally opposite change in the assumption used for prepayment rates.

The actuarial assumptions used in the fair value of embedded derivatives which include assumptions related to lapses, withdrawals, and mortality, are based on experience studies performed by the Company in combination with available industry information and are reviewed on a periodic basis, at least annually. The significant unobservable inputs used in the fair value measurement of embedded derivatives are assumptions associated with policyholder experience and selected capital market assumptions for equity-indexed and variable annuities. The selected capital market assumptions, which include long-term implied volatilities, are projections based on short-term historical information. Changes in interest rates, equity indices, equity volatility, CVA, and actuarial assumptions regarding policyholder experience may result in significant fluctuations in the value of embedded derivatives.

Fair value measurements associated with funds withheld reinsurance treaties are generally not materially sensitive to changes in unobservable inputs associated with policyholder experience. The primary drivers of change in these fair values are related to movements of credit spreads, which are generally observable. Increases (decreases) in market credit spreads tend to decrease (increase) the fair value of embedded derivatives. Increases (decreases) in the CVA assumption tend to decrease (increase) the magnitude of the fair value of embedded derivatives.

Fair value measurements associated with variable annuity treaties are sensitive to both capital markets inputs and policyholder experience inputs. Increases (decreases) in lapse rates tend to decrease (increase) the value of the embedded derivatives associated with variable annuity treaties. Increases (decreases) in the long-term volatility assumption tend to increase (decrease) the fair value of embedded derivatives. Increases (decreases) in the CVA assumption tend to decrease (increase) the magnitude of the fair value of embedded derivatives.

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The actuarial assumptions used in the fair value of longevity and mortality swaps include assumptions related to the level and volatility of mortality. The assumptions are based on studies performed by the Company in combination with available industry information and are reviewed on a periodic basis, at least annually.
The following table presents quantitative information about significant unobservable inputs used in Level 3 fair value measurements that are developed internally by the Company as of June 30, 2017 and December 31, 2016 (dollars in thousands):

	Estimated Fair Value		Valuation Technique	Unobservable Inputs	Range (Weighted Average)	
	June 30, 2017	December 31, 2016			June 30, 2017	December 31, 2016
Assets:						
Corporate securities	$158,309	$167,815	Market comparable securities	Liquidity premium	0-2% (1%)	0-2% (1%)
U.S. government and agencies	23,567	24,488	Market comparable securities	Liquidity premium	0-1% (1%)	0-1% (1%)
State and political subdivisions	4,607	4,670	Market comparable securities	Liquidity premium	1%	1%
Funds withheld at interest-embedded derivatives	61,281	(22,529)	Total return swap	Mortality	0-100% (2%)	0-100% (2%)
				Lapse	0-35% (9%)	0-35% (8%)
				Withdrawal	0-5% (3%)	0-5% (3%)
				CVA	0-5% (1%)	0-5% (1%)
				Crediting rate	2-4% (2%)	2-4% (2%)
Longevity swaps	33,349	26,958	Discounted cash flow	Mortality	0-100% (2%)	0-100% (2%)
				Mortality improvement	(10%)-10% (3%)	(10%)-10% (3%)
Liabilities:						
Interest sensitive contract liabilities-embedded derivatives-indexed annuities	812,718	805,672	Discounted cash flow	Mortality	0-100% (2%)	0-100% (2%)
				Lapse	0-35% (9%)	0-35% (8%)
				Withdrawal	0-5% (3%)	0-5% (3%)
				Option budget projection	2-4% (2%)	2-4% (2%)
	161,913	184,636	Discounted cash	Mortality	0-100% (2%)	0-100% (2%)

Interest sensitive contract liabilities- embedded derivatives- variable annuities			flow			
				Lapse	0-25% (6%)	0-25% (6%)
				Withdrawal	0-7% (3%)	0-7% (3%)
				CVA	0-5% (1%)	0-5% (1%)
				Long-term volatility	0-27% (9%)	0-27% (14%)
Mortality swaps	1,552	2,462	Discounted cash flow	Mortality	0-100% (1%)	0-100% (1%)

The Company recognizes transfers of assets and liabilities into and out of levels within the fair value hierarchy at the beginning of the quarter in which the actual event or change in circumstances that caused the transfer occurs. Assets and liabilities transferred into Level 3 are due to a lack of observable market transactions and price information. Assets and liabilities are transferred out of Level 3 when circumstances change such that significant inputs can be corroborated with market observable data. This may be due to a significant increase in market activity for the asset or liability, a specific event, one or more significant input(s) becoming observable. Transfers out of Level 3 were primarily the result of the Company obtaining observable pricing information or a third party pricing quotation that appropriately reflects the fair value of those assets and liabilities. In addition, certain transfers out of Level 3 were also due to ratings upgrades on mortgage-backed securities that had previously had below investment-grade ratings.

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Transfers from Level 1 to Level 2 are due to the lack of observable market data when pricing these securities, while transfers from Level 2 to Level 1 are due to an increase in the availability of market observable data in an active market. There were no transfers between Level 1 and Level 2 during the three and six months ended June 30, 2016. The following tables present the transfers between Level 1 and Level 2 during the three and six months ended June 30, 2017 (dollars in thousands):

	2017	
	Transfers from Level 1 to Level 2	Transfers from Level 2 to Level 1
Three months ended June 30:		
Fixed maturity securities - available-for-sale:		
Corporate securities	$ —	$ 49,999
Six months ended June 30:		
Fixed maturity securities - available-for-sale:		
Corporate securities	$ —	$ 88,674

The tables below provide a summary of the changes in fair value of Level 3 assets and liabilities for the three and six months ended June 30, 2017, as well as the portion of gains or losses included in income for the three and six months ended June 30, 2017 attributable to unrealized gains or losses related to those assets and liabilities still held at June 30, 2017 (dollars in thousands):

For the three months ended June 30, 2017:	Fixed maturity securities - available-for-sale			
	Corporate securities	Canadian and Canadian provincial governments	Residential mortgage-backed securities	Asset-backed securities
Fair value, beginning of period	$ 1,263,925	$ 483,560	$ 143,430	$ 208,436
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	(396)	3,201	(29)	511
Investment related gains (losses), net	8,427	—	115	—
Included in other comprehensive income	(4,548)	46,509	1,962	1,136
Purchases(1)	104,087	—	29,318	34,366
Sales(1)	(23,174)	—	(4,467)	—
Settlements(1)	(74,531)	—	(4,655)	(27,569)
Transfers into Level 3	17,264	—	5,423	3,500
Transfers out of Level 3	—	—	(22,412)	(18,791)
Fair value, end of period	$ 1,291,054	$ 533,270	$ 148,685	$ 201,589
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period				
Included in earnings, net:				
Investment income, net of related expenses	$ (396)	$ 3,201	$ (37)	$ 239
Investment related gains (losses), net	(1,495)	—	—	—

For the three months ended June 30, 2017 (continued): Fixed maturity securities available-for-sale

	Commercial mortgage backed securities	U.S. government and agencies	State and political subdivisions	Other foreign government, supranational and foreign government-sponsored enterprises
Fair value, beginning of period	$1,923	$ 23,474	$ 33,858	$ 12,344
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	—	(115)	(6)	—
Included in other comprehensive income	21	211	823	(12)
Purchases(1)	—	132	—	—
Settlements(1)	(1)	(135)	(241)	(338)
Fair value, end of period	$1,943	$ 23,567	$ 34,434	$ 11,994
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period				
Included in earnings, net:				
Investment income, net of related expenses	$—	$ (115)	$ (6)	$ —

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For the three months ended June 30, 2017 (continued):	Short-term Investments	Funds withheld at interest-embedded derivatives	Other assets - longevity swaps	Interest sensitive contract liabilities embedded derivatives	Other liabilities - mortality swaps
Fair value, beginning of period	$ 3,276	$ 46,173	$ 29,170	$ (972,930)	$ (2,857)
Total gains/losses (realized/unrealized)					
Included in earnings, net:					
Investment related gains (losses), net	—	15,108	—	360	—
Interest credited	—	—	—	(5,955)	—
Included in other comprehensive income	(29)	—	2,198	—	—
Other revenues	—	—	1,981	—	(395)
Purchases(1)	324	—	—	(19,533)	—
Settlements(1)	(23)	—	—	23,427	1,700
Fair value, end of period	$ 3,548	$ 61,281	$ 33,349	$ (974,631)	$ (1,552)
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period					
Included in earnings, net:					
Investment related gains (losses), net	—	15,108	—	(1,794)	—
Other revenues	—	—	1,981	—	(395)
Interest credited	—	—	—	(29,382)	—

For the six months ended June 30, 2017:	Fixed maturity securities - available-for-sale			
	Corporate securities	Canadian and Canadian provincial governments	Residential mortgage-backed securities	Asset-backed securities
Fair value, beginning of period	$ 1,272,253	$ 475,965	$ 160,291	$ 219,280
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	(819)	6,271	(274)	1,529
Investment related gains (losses), net	7,196	—	480	—
Interest credited				
Included in other comprehensive income	400	51,034	2,612	6,903
Purchases(1)	150,001	—	45,817	45,215
Sales(1)	(23,174)	—	(15,071)	—
Settlements(1)	(146,001)	—	(11,439)	(45,723)
Transfers into Level 3	31,198	—	5,500	38,758
Transfers out of Level 3	—	—	(39,231)	(64,373)
Fair value, end of period	$ 1,291,054	$ 533,270	$ 148,685	$ 201,589
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period				
Included in earnings, net:				
Investment income, net of related expenses	$ (819)	$ 6,271	$ (128)	$ 400
Investment related gains (losses), net	(2,788)	—	(346)	—

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For the six months ended June 30, 2017 (continued):	Fixed maturity securities available-for-sale			
	Commercial mortgage-backed securities	U.S. government and agencies	State and political subdivisions	Other foreign government, supranational and foreign government-sponsored enterprises
Fair value, beginning of period	$21,145	$ 24,488	$ 41,666	$ 12,869
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	709	(232)	(94)	—
Investment related gains (losses), net	(595)	—	—	—
Included in other comprehensive income	(62)	263	(20)	(203)
Other revenues	—	—	—	—
Purchases(1)	—	236	—	—
Sales(1)	(3,720)	—	—	—
Settlements(1)	(5,402)	(1,188)	(274)	(672)
Transfers out of Level 3	(10,132)	—	(6,844)	—
Fair value, end of period	$1,943	$ 23,567	$ 34,434	$ 11,994
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period				
Included in earnings, net:				
Investment income, net of related expenses	$—	$ (232)	$ (94)	$ —

For the six months ended June 30, 2017 (continued):	Short-term Investments	Funds withheld at interest-embedded derivatives	Other assets - longevity swaps	Interest sensitive contract liabilities embedded derivatives	Other liabilities - mortality swaps
Fair value, beginning of period	$ 3,346	$(22,529)	$ 26,958	$(990,308)	$(2,462)
Total gains/losses (realized/unrealized)					
Included in earnings, net:					
Investment related gains (losses), net	—	83,810	—	22,723	—
Interest credited	—	—	—	(22,357)	—
Included in other comprehensive income	4	—	2,545	—	—
Other revenues	—	—	3,846	—	(790)
Purchases(1)	356	—	—	(25,927)	—
Settlements(1)	(158)	—	—	41,238	1,700
Fair value, end of period	$ 3,548	$61,281	$ 33,349	$(974,631)	$(1,552)
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period					
Included in earnings, net:					
Investment related gains (losses), net	—	83,810	—	18,505	—
Other revenues	—	—	3,846	—	(790)
Interest credited	—	—	—	(63,596)	—

(1) The amount reported within purchases, sales and settlements is the purchase price (for purchases) and the sales/settlement proceeds (for sales and settlements) based upon the actual date purchased or sold/settled. Items purchased and sold/settled in the same period are excluded from the rollforward. The Company had no issuances during the period.

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The tables below provide a summary of the changes in fair value of Level 3 assets and liabilities for the three and six months ended June 30, 2016, as well as the portion of gains or losses included in income for the three and six months ended June 30, 2016 attributable to unrealized gains or losses related to those assets and liabilities still held at June 30, 2016 (dollars in thousands):

For the three months ended June 30, 2016:	Fixed maturity securities - available-for-sale					
	Corporate securities	Canadian and Canadian provincial governments	Residential mortgage-backed securities	Asset-backed securities	Commercial mortgage-backed securities	U.S. government and agencies
Fair value, beginning of period	$1,243,660	$ 487,383	$333,253	$285,220	$ 63,574	$ 25,880
Total gains/losses (realized/unrealized)						
Included in earnings, net:						
Investment income, net of related expenses	(592)	3,049	116	252	490	(122)
Investment related gains (losses), net	12	—	(1,891)	823	(2,669)	—
Included in other comprehensive income	30,391	63,760	3,839	2,793	453	461
Other revenues	—	—	—	—	—	—
Purchases(1)	72,982	—	42,913	59,779	—	144
Sales(1)	(901)	—	(167,236)	(30,181)	(22,338)	—
Settlements(1)	(47,461)	—	(13,464)	(4,196)	(68)	(108)
Transfers into Level 3	5,023	—	—	18,398	—	—
Transfers out of Level 3	(5,732)	—	(31,551)	(34,072)	(1,507)	—
Fair value, end of period	$1,297,382	$ 554,192	$165,979	$298,816	$ 37,935	$ 26,255
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period						
Included in earnings, net:						
Investment income, net of related expenses	$(608)	$ 3,049	$530	$ 187	$ 485	$ (122)

For the three months ended June 30, 2016 (continued):	Fixed maturity securities available-for-sale					
	State and political subdivisions	Other foreign government, supranational and foreign government-sponsored enterprises	Funds withheld at interest-embedded derivatives	Other assets - longevity swaps	Interest sensitive contract liabilities embedded derivatives	Other liabilities - mortality swaps
Fair value, beginning of period	$34,624	$ 13,936	$(168,948)	$15,806	$(1,118,069)	$(3,043)
Total gains/losses (realized/unrealized)						
Included in earnings, net:						
Investment income, net of related expenses	12	—	—	—	—	—
Investment related gains (losses), net	—	—	76,967	—	(28,137)	—

Interest credited	—	—	—	—	(2,019)	—
Included in other comprehensive income	837	95	—	(419)	—	—
Other revenues	—	—	—	2,394	—	1,046
Purchases[1]	—	—	—	—	4,703	—
Settlements[1]	(227)	(325)	—	—	18,142	—
Fair value, end of period	$35,246	$ 13,706	$(91,981)	$17,781	$(1,125,380)	$(1,997)
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period						
Included in earnings, net:						
Investment income, net of related expenses	$12	$ —	$—	$—	$—	$—
Investment related gains (losses), net	—	—	76,967	—	(31,333)	—
Other revenues	—	—	—	2,394	—	1,046
Interest credited	—	—	—	—	(20,162)	—

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For the six months ended June 30, 2016:	Fixed maturity securities - available-for-sale					
	Corporate securities	Canadian and Canadian provincial governments	Residential mortgage-backed securities	Asset-backed securities	Commercial mortgage-backed securities	U.S. government and agencies
Fair value, beginning of period	$1,226,970	$416,076	$330,649	$303,836	$68,563	$26,265
Total gains/losses (realized/unrealized)						
Included in earnings, net:						
Investment income, net of related expenses	(1,419)	6,051	(371)	426	1,133	(245)
Investment related gains (losses), net	(21,856)	—	(1,922)	1,101	(3,289)	—
Interest credited	—	—	—	—	—	—
Included in other comprehensive income	56,073	132,065	(493)	(7,734)	(2,359)	1,057
Purchases(1)	140,578	—	72,228	97,050	1,545	257
Sales(1)	(10,483)	—	(167,684)	(38,681)	(25,976)	—
Settlements(1)	(96,955)	—	(24,904)	(7,921)	(137)	(1,079)
Transfers into Level 3	10,206	—	—	24,796	—	—
Transfers out of Level 3	(5,732)	—	(41,524)	(74,057)	(1,545)	—
Fair value, end of period	$1,297,382	$554,192	$165,979	$298,816	$37,935	$26,255
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period						
Included in earnings, net:						
Investment income, net of related expenses	$(1,428)	$6,051	$42	$350	$1,031	$(245)
Investment related gains (losses), net	(21,726)	—	—	—	—	—

For the six months ended June 30, 2016 (continued):	Fixed maturity securities available-for-sale					
	State and political subdivisions	Other foreign government, supranational and foreign government-sponsored enterprises	Funds withheld at interest-embedded derivatives	Other assets - longevity swaps	Interest sensitive contract liabilities embedded derivatives	Other liabilities - mortality swaps
Fair value, beginning of period	$38,342	$ 14,065	$(76,698)	$14,996	$(1,070,584)	$(2,619)
Total gains/losses (realized/unrealized)						
Included in earnings, net:						
Investment income, net of related expenses	195	—	—	—	—	—
Investment related gains (losses), net	—	—	(15,283)	—	(91,077)	—
Interest credited	—	—	—	—	(626)	—
Included in other comprehensive income	1,171	288	—	304	—	—
Other revenues	—	—	—	2,481	—	622

Purchases(1)	—	—	—	—	2,035	—
Settlements(1)	(258)	(647)	—	—	34,872	—
Transfers out of Level 3	(4,204)	—	—	—	—	—
Fair value, end of period	$35,246	$ 13,706	$(91,981)	$17,781	$(1,125,380)	$(1,997)
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period						
Included in earnings, net:						
Investment income, net of related expenses	$195	$ —	$—	$—	$—	$—
Investment related gains (losses), net	—	—	(15,283)	—	(96,811)	—
Other revenues	—	—	—	2,481	—	622
Interest credited	—	—	—	—	(35,497)	—

(1) The amount reported within purchases, sales and settlements is the purchase price (for purchases) and the sales/settlement proceeds (for sales and settlements) based upon the actual date purchased or sold/settled. Items purchased and sold/settled in the same period are excluded from the rollforward. The Company had no issuances during the period.

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Nonrecurring Fair Value Measurements

The following table presents information for assets measured at estimated fair value on a nonrecurring basis during the periods presented and still held at the reporting date (for example, when there is evidence of impairment). The estimated fair values for these assets were determined using significant unobservable inputs (Level 3).

	Carrying Value After Measurement		Net Investment Gains (Losses)			
	At June 30,		Three months ended June 30,		Six months ended June 30,	
(dollars in thousands)	2017	2016	2017	2016	2017	2016
Mortgage loans[1]	$ —	$ 6,993	$ —	$ (400)	$ —	$ (702)
Limited partnership interests[2]	3,694	10,460	(6,308)	(1,812)	(6,308)	(2,039)

(1) Estimated fair values for impaired mortgage loans are based on internal valuation models using unobservable inputs or, if the loans are in foreclosure or are otherwise determined to be collateral dependent, are based on external appraisals of the underlying collateral.

(2) The impaired limited partnership interests presented above were accounted for using the cost method. Impairments on these cost method investments were recognized at estimated fair value determined using the net asset values of the Company's ownership interest as provided in the financial statements of the investees. The market for these investments has limited activity and price transparency.

Fair Value of Financial Instruments

The Company is required by general accounting principles for Fair Value Measurements and Disclosures to disclose the fair value of certain financial instruments including those that are not carried at fair value. The following table presents the carrying amounts and estimated fair values of the Company's financial instruments, which were not measured at fair value on a recurring basis, at June 30, 2017 and December 31, 2016 (dollars in thousands). This table excludes any payables or receivables for collateral under repurchase agreements and other transactions. The estimated fair value of the excluded amount approximates carrying value as they equal the amount of cash collateral received/paid.

June 30, 2017:	Carrying Value	Estimated Fair Value	Fair Value Measurement Using:			
			Level 1	Level 2	Level 3	NAV
Assets:						
Mortgage loans on real estate	$ 4,104,487	$ 4,215,094	$ —	$ —	$ 4,215,094	$ —
Policy loans	1,406,774	1,406,774	—	1,406,774	—	—
Funds withheld at interest[1]	5,904,679	6,258,874	—	—	6,258,874	—
Cash and cash equivalents[2]	822,834	822,834	822,834	—	—	—
Short-term investments[2]	32,284	32,284	32,284	—	—	—
Other invested assets[2]	567,448	603,783	27,815	66,501	198,931	310,536
Accrued investment income	388,008	388,008	—	388,008	—	—
Liabilities:						
Interest-sensitive contract liabilities[1]	$ 12,718,836	$ 12,711,801	$ —	$ —	$ 12,711,801	$ —
Long-term debt	2,788,494	3,029,601	—	—	3,029,601	—
Collateral finance and securitization notes	823,108	730,809	—	—	730,809	—

December 31, 2016:	Carrying Value	Estimated Fair Value	Fair Value Measurement Using:			
			Level 1	Level 2	Level 3	NAV

			Level 1			
Assets:						
Mortgage loans on real estate	$ 3,775,522	$3,786,987	$ —	$ —	$3,786,987	$ —
Policy loans	1,427,602	1,427,602	—	1,427,602	—	—
Funds withheld at interest[1]	5,893,381	6,193,166	—	—	6,193,166	—
Cash and cash equivalents[2]	862,117	862,117	862,117	—	—	—
Short-term investments[2]	32,469	32,469	32,469	—	—	—
Other invested assets[2]	477,132	510,640	26,494	55,469	131,904	296,773
Accrued investment income	347,173	347,173	—	347,173	—	—
Liabilities:						
Interest-sensitive contract liabilities[1]	$ 10,225,099	$10,234,544	$ —	$ —	$10,234,544	$ —
Long-term debt	3,088,635	3,186,173	—	—	3,186,173	—
Collateral finance and securitization notes	840,700	745,805	—	—	745,805	—

(1) Carrying values presented herein differ from those presented in the condensed consolidated balance sheets because certain items within the respective financial statement caption are embedded derivatives and are measured at fair value on a recurring basis.

(2) Carrying values presented herein differ from those presented in the condensed consolidated balance sheets because certain items within the respective financial statement caption are measured at fair value on a recurring basis.

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Mortgage Loans on Real Estate – The fair value of mortgage loans on real estate is estimated by discounting cash flows, both principal and interest, using current interest rates for mortgage loans with similar credit ratings and similar remaining maturities. As such, inputs include current treasury yields and spreads, which are based on the credit rating and average life of the loan, corresponding to the market spreads. The valuation of mortgage loans on real estate is considered Level 3 in the fair value hierarchy.

Policy Loans – Policy loans typically carry an interest rate that is adjusted annually based on an observable market index and therefore carrying value approximates fair value. The valuation of policy loans is considered Level 2 in the fair value hierarchy.

Funds Withheld at Interest – The carrying value of funds withheld at interest approximates fair value except where the funds withheld are specifically identified in the agreement. When funds withheld are specifically identified in the agreement, the fair value is based on the fair value of the underlying assets which are held by the ceding company. Ceding companies use a variety of sources and pricing methodologies, which are not transparent to the Company and may include significant unobservable inputs, to value the securities that are held in distinct portfolios, therefore the valuation of these funds withheld assets are considered Level 3 in the fair value hierarchy.

Cash and Cash Equivalents and Short-term Investments – The carrying values of cash and cash equivalents and short-term investments approximates fair values due to the short-term maturities of these instruments and are considered Level 1 in the fair value hierarchy.

Other Invested Assets – This primarily includes limited partnership interests accounted for using the cost method, structured loans, FHLB common stock, cash collateral and equity release mortgages. The fair value of limited partnership interests and other investments accounted for using the cost method is determined using the net asset value (“NAV”) of the Company’s ownership interest as provided in the financial statements of the investees. The fair value of structured loans is estimated based on a discounted cash flow analysis using discount rates applicable to each structured loan, this is considered Level 3 in the fair value hierarchy. The fair value of the Company’s common stock investment in the FHLB is considered to be the carrying value and it is considered Level 2 in the fair value hierarchy. The fair value of the Company’s cash collateral is considered to be the carrying value and considered to be Level 1 in the fair value hierarchy. The fair value of the Company’s equity release mortgage loan portfolio, considered Level 3 in the fair value hierarchy, is estimated by discounting cash flows, both principal and interest, using a risk free rate plus an illiquidity premium. The cash flow analysis considers future expenses, changes in property prices, and actuarial analysis of borrower behavior, mortality and morbidity.

Accrued Investment Income – The carrying value for accrued investment income approximates fair value as there are no adjustments made to the carrying value. This is considered Level 2 in the fair value hierarchy.

Interest-Sensitive Contract Liabilities – The carrying and fair values of interest-sensitive contract liabilities reflected in the table above exclude contracts with significant mortality risk. The fair value of the Company’s interest-sensitive contract liabilities utilizes a market standard technique with both capital market inputs and policyholder behavior assumptions, as well as cash values adjusted for recapture fees. The capital market inputs to the model, such as interest rates, are generally observable. Policyholder behavior assumptions are generally not observable and may require use of significant management judgment. The valuation of interest-sensitive contract liabilities is considered Level 3 in the fair value hierarchy.

Long-term Debt/Collateral Finance and Securitization Notes – The fair value of the Company’s long-term, debt and collateral finance and securitization notes is generally estimated by discounting future cash flows using market rates currently available for debt with similar remaining maturities and reflecting the credit risk of the Company, including inputs when available, from actively traded debt of the Company or other companies with similar credit quality. The valuation of long-term debt, and collateral finance and securitization notes are generally obtained from brokers and is considered Level 3 in the fair value hierarchy.

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7. Segment Information

The accounting policies of the segments are the same as those described in the Summary of Significant Accounting Policies in Note 2 of the consolidated financial statements accompanying the 2016 Annual Report. The Company measures segment performance primarily based on profit or loss from operations before income taxes. There are no intersegment reinsurance transactions and the Company does not have any material long-lived assets.

The Company allocates capital to its segments based on an internally developed economic capital model, the purpose of which is to measure the risk in the business and to provide a basis upon which capital is deployed. The economic capital model considers the unique and specific nature of the risks inherent in the Company’s businesses. As a result of the economic capital allocation process, a portion of investment income is attributed to the segments based on the level of allocated capital. In addition, the segments are charged for excess capital utilized above the allocated economic capital basis. This charge is included in policy acquisition costs and other insurance expenses.

The Company has geographic-based and business-based operational segments. Geographic-based operations are further segmented into traditional and financial solutions businesses. Information related to revenues, income (loss) before income taxes and total assets of the Company for each reportable segment are summarized below (dollars in thousands).

	Three months ended June 30,		Six months ended June 30,	
Revenues:	2017	2016	2017	2016
U.S. and Latin America:				
Traditional	$1,522,698	$1,494,003	$3,011,201	$2,894,820
Financial Solutions	271,976	305,077	570,822	343,982
Total	1,794,674	1,799,080	3,582,023	3,238,802
Canada:				
Traditional	269,273	288,912	533,548	546,912
Financial Solutions	12,003	11,854	23,810	22,538
Total	281,276	300,766	557,358	569,450
Europe, Middle East and Africa:				
Traditional	345,920	301,642	664,006	591,276
Financial Solutions	73,405	80,977	153,394	148,733
Total	419,325	382,619	817,400	740,009
Asia Pacific:				
Traditional	561,529	477,571	1,066,759	871,770
Financial Solutions	17,984	17,045	38,436	37,116
Total	579,513	494,616	1,105,195	908,886
Corporate and Other	54,488	61,987	76,040	94,489
Total	$3,129,276	$3,039,068	$6,138,016	$5,551,636

	Three months ended June 30,		Six months ended June 30,	
Income (loss) before income taxes:	2017	2016	2017	2016
U.S. and Latin America:				
Traditional	$90,594	$111,430	$120,554	$162,528
Financial Solutions	106,985	108,854	210,571	93,958
Total	197,579	220,284	331,125	256,486
Canada:				
Traditional	32,836	43,309	52,164	63,404
Financial Solutions	4,425	2,128	8,017	2,720
Total	37,261	45,437	60,181	66,124
Europe, Middle East and Africa:				

Traditional	11,354	6,834	25,330	5,718
Financial Solutions	28,905	27,469	60,823	52,893
Total	40,259	34,303	86,153	58,611
Asia Pacific:				
Traditional	53,322	34,482	95,010	75,642
Financial Solutions	5,377	(73)	11,249	8,480
Total	58,699	34,409	106,259	84,122
Corporate and Other	5,517	18,790	(36,559)	(4,540)
Total	$339,315	$353,223	$547,159	$460,803

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Assets:	June 30, 2017	December 31, 2016
U.S. and Latin America:		
Traditional	$18,588,924	$18,140,825
Financial Solutions	16,370,238	13,712,106
Total	34,959,162	31,852,931
Canada:		
Traditional	3,965,235	3,846,682
Financial Solutions	104,804	85,405
Total	4,070,039	3,932,087
Europe, Middle East and Africa:		
Traditional	2,852,309	2,559,124
Financial Solutions	4,016,788	3,876,131
Total	6,869,097	6,435,255
Asia Pacific:		
Traditional	4,449,350	3,968,081
Financial Solutions	1,179,010	676,281
Total	5,628,360	4,644,362
Corporate and Other	6,611,414	6,233,244
Total	$58,138,072	$53,097,879

8. Commitments, Contingencies and Guarantees

Commitments

Funding of Investments

The Company’s commitments to fund investments as of June 30, 2017 and December 31, 2016 are presented in the following table (dollars in thousands):

	June 30, 2017	December 31, 2016
Limited partnership interests and real estate joint ventures	$328,739	$ 332,169
Commercial mortgage loans	84,685	126,248
Bank loans and private placements	51,627	58,318
Equity release mortgages	173,203	130,324

The Company anticipates that the majority of its current commitments will be invested over the next five years; however, these commitments could become due any time at the request of the counterparties. Investments in limited partnership interests and real estate joint ventures are carried at cost or reported using the equity method and included in other invested assets in the condensed consolidated balance sheets. Bank loans and private placements are carried at fair value and included in fixed maturity securities available-for-sale. Equity release mortgages are carried at unpaid principal balances, net of any amortized premium or discount and valuation allowance and included in other invested assets.

Contingencies

Litigation

The Company is subject to litigation in the normal course of its business. The Company currently has no material litigation. A legal reserve is established when the Company is notified of an arbitration demand or litigation or is notified that an arbitration demand or litigation is imminent, it is probable that the Company will incur a loss as a result and the amount of the probable loss is reasonably capable of being estimated.

Other Contingencies

The Company indemnifies its directors and officers as provided in its charters and by-laws. Since this indemnity generally is not subject to limitation with respect to duration or amount, the Company does not believe that it is

possible to determine the maximum potential amount due under this indemnity in the future.
Guarantees
Statutory Reserve Support
RGA, through wholly-owned subsidiaries, has committed to provide statutory reserve support to third parties, in exchange for a fee, by funding loans if certain defined events occur. Such statutory reserves are required under the U.S. Valuation of Life Policies Model Regulation (commonly referred to as Regulation XXX for term life insurance policies and Regulation A-XXX for universal life secondary guarantees). The third parties have recourse to RGA should the subsidiary fail to provide the required funding,

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however, as of June 30, 2017, the Company does not believe that it will be required to provide any funding under these commitments as the occurrence of the defined events is considered remote. The following table presents the maximum potential obligation for these commitments as of June 30, 2017 (dollars in millions):

Commitment Period:	Maximum Potential Obligation
2023	$ 500.0
2033	450.0
2034	2,000.0
2035	1,314.2
2036	2,932.0
2037	5,657.4

Other Guarantees

RGA has issued guarantees to third parties on behalf of its subsidiaries for the payment of amounts due under certain securities borrowing and repurchase arrangements, financing arrangements and office lease obligations, whereby, if a subsidiary fails to meet an obligation, RGA or one of its other subsidiaries will make a payment to fulfill the obligation. Additionally, in limited circumstances, treaty guarantees are granted to ceding companies in order to provide them additional security, particularly in cases where RGA's subsidiary is relatively new, unrated, or not of a significant size, relative to the ceding company. Liabilities supported by the treaty guarantees, before consideration for any legally offsetting amounts due from the guaranteed party are reflected on the Company's condensed consolidated balance sheets in future policy benefits. Potential guaranteed amounts of future payments will vary depending on production levels and underwriting results. Guarantees related to securities borrowing and repurchase arrangements provide additional security to third parties should a subsidiary fail to provide securities when due. RGA's guarantees issued as of June 30, 2017 and December 31, 2016 are reflected in the following table (dollars in thousands):

	June 30, 2017	December 31, 2016
Treaty guarantees	$964,978	$ 902,216
Treaty guarantees, net of assets in trust	833,654	780,786
Securities borrowing and repurchase arrangements	207,140	263,820
Financing arrangements	106,681	119,073
Lease obligations	2,162	2,428

9. Income Tax

Provision for income tax expense differed from the amounts computed by applying the U.S. federal income tax statutory rate of 35.0% to pre-tax income as a result of the following for the three and six months ended June 30, 2017 and 2016 (dollars in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Tax provision at U.S. statutory rate	$118,760	$123,628	$191,506	$161,281
Increase (decrease) in income taxes resulting from:				
Foreign tax rate differing from U.S. tax rate	(4,261)	(8,398)	(10,413)	(12,282)
Differences in tax bases in foreign jurisdictions	(13,375)	(5,553)	(16,759)	(14,489)
Deferred tax valuation allowance	13,031	4,288	14,213	9,287
Amounts related to tax audit contingencies	(1,783)	3,288	(1,172)	3,889
Corporate rate changes	44	—	(1,193)	—
Subpart F	1,140	738	1,326	1,433
Foreign tax credits	(1,938)	(427)	(2,064)	(721)

Equity compensation excess benefit	(2,609)	—	(4,464)	—
Return to provision adjustments	(633)	(442)	(403)	(316)
Other, net	(1,251)	(2)	(1,120)	146
Total provision for income taxes	$107,125	$117,120	$169,457	$148,228
Effective tax rate	31.6 %	33.2 %	31.0 %	32.2 %

The effective tax rates for the second quarter and the first six months of 2017 were lower than the U.S. Statutory rate of 35.0% primarily as a result of income generated in non-U.S. jurisdictions, predominately related to income earned in RGA Life Reinsurance Company of Canada and the United Kingdom Branch of RGA International Reinsurance Company dac, with statutory rates of approximately 26.6% and 19.3%, respectively. Further, tax benefits derived from differences in tax bases in foreign jurisdictions and benefits related to the filing of an amended tax return also lowered the effective tax rate. These items were partially offset with a valuation allowance established related to the amended return filing. The effective tax rates for the second quarter and first six months of 2016 were lower than the U.S. Statutory rate of 35.0% primarily as a result of tax benefits from income in non-U.S. jurisdictions, mostly related to RGA Life Reinsurance Company of Canada, with lower tax rates than the U.S. and differences in tax bases in foreign jurisdictions. These benefits were partially offset by an accrual related to an uncertain tax position.

10. Employee Benefit Plans

The components of net periodic benefit costs, included in other operating expenses on the condensed consolidated statements of income, for the three and six months ended June 30, 2017 and 2016 were as follows (dollars in thousands):

	Pension Benefits Three months ended June 30,		Other Benefits Three months ended June 30,	
	2017	2016	2017	2016
Service cost	$2,819	$2,652	$721	$1,015
Interest cost	1,431	1,076	565	643
Expected return on plan assets	(1,823)	(1,345)	—	—
Amortization of prior service cost	95	75	(155)	—
Amortization of prior actuarial loss	1,082	1,224	457	617
Settlements	256	—	—	—
Net periodic benefit cost	$3,860	$3,682	$1,588	$2,275

	Pension Benefits Six months ended June 30,		Other Benefits Six months ended June 30,	
	2017	2016	2017	2016
Service cost	$5,399	$4,958	$1,442	$2,031
Interest cost	2,629	2,335	1,130	1,286
Expected return on plan assets	(3,108)	(2,569)	—	—
Amortization of prior service cost	169	153	(311)	—
Amortization of prior actuarial loss	2,163	2,081	914	1,233
Settlements	513	—	—	—
Net periodic benefit cost	$7,765	$6,958	$3,175	$4,550

The Company has made $5.0 million in pension contributions during the first six months of 2017 and expects to make total pension contributions between $5.0 million and $10.0 million in 2017.

11. Reinsurance

Retrocession reinsurance treaties do not relieve the Company from its obligations to direct writing companies. Failure of retrocessionaires to honor their obligations could result in losses to the Company. Consequently, allowances would be established for amounts deemed uncollectible. At June 30, 2017 and December 31, 2016, no allowances were deemed necessary. The Company regularly evaluates the financial condition of the insurance companies from which it assumes and to which it cedes reinsurance.

Retrocessions are arranged through the Company’s retrocession pools for amounts in excess of the Company’s retention limit. As of June 30, 2017 and December 31, 2016, all rated retrocession pool participants followed by the A.M. Best Company were rated “A- (excellent)” or better. The Company verifies retrocession pool participants’ ratings on a quarterly basis. For a majority of the retrocessionaires that were not rated, security in the form of letters of credit or trust assets has been posted. In addition, the Company performs annual financial reviews of its retrocessionaires to evaluate financial stability and performance. In addition to its third party retrocessionaires, various RGA reinsurance subsidiaries retrocede amounts in excess of their retention to affiliated subsidiaries.

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The following table presents information for the Company’s reinsurance ceded receivable assets, including the respective amount and A.M. Best rating for each reinsurer representing in excess of five percent of the total as of June 30, 2017 and December 31, 2016 (dollars in thousands):

		June 30, 2017		December 31, 2016	
Reinsurer	A.M. Best Rating	Amount	% of Total	Amount	% of Total
Reinsurer A	A+	$291,029	36.4 %	$240,894	35.2 %
Reinsurer B	A+	195,222	24.4	183,881	26.9
Reinsurer C	A+	67,691	8.5	68,832	10.1
Reinsurer D	A++	47,520	6.0	36,202	5.3
Reinsurer E	A	42,808	5.4	35,484	5.2
Other reinsurers		154,095	19.3	118,679	17.3
Total		$798,365	100.0%	$683,972	100.0%

Included in the total reinsurance ceded receivables balance were $257.6 million and $242.0 million of claims recoverable, of which $3.8 million and $4.0 million were in excess of 90 days past due, as of June 30, 2017 and December 31, 2016, respectively.

12. New Accounting Standards

Changes to the general accounting principles are established by the Financial Accounting Standards Board (“FASB”) in the form of accounting standards updates to the FASB Accounting Standards Codification™. Accounting standards updates not listed below were assessed and determined to be either not applicable or are expected to have minimal impact on the Compa