REINSURANCE GROUP OF AMERICA INC
Form 10-Q
August 05, 2015
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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, 2015
	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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):
Large accelerated filer X Accelerated filer Non-accelerated filer Smaller reporting company

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

As of July 31, 2015, 66,467,879 shares of the registrant’s common stock were outstanding.

REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
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PART I - FINANCIAL INFORMATION

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

	June 30, 2015	December 31, 2014
	(Dollars in thousands, except share data)	
Assets		
Fixed maturity securities:		
Available-for-sale at fair value (amortized cost of $26,305,332 and $23,105,597)	$ 28,063,975	$ 25,480,972
Mortgage loans on real estate (net of allowances of $5,942 and $6,471)	3,073,313	2,712,238
Policy loans	1,438,156	1,284,284
Funds withheld at interest	5,840,076	5,922,561
Short-term investments	76,118	97,694
Other invested assets	1,110,107	1,198,319
Total investments	39,601,745	36,696,068
Cash and cash equivalents	1,335,661	1,645,669
Accrued investment income	322,069	261,096
Premiums receivable and other reinsurance balances	1,518,208	1,527,729
Reinsurance ceded receivables	711,463	578,206
Deferred policy acquisition costs	3,299,541	3,342,575
Other assets	671,584	628,268
Total assets	$ 47,460,271	$ 44,679,611
Liabilities and Stockholders' Equity		
Future policy benefits	$ 16,773,035	$ 14,476,637
Interest-sensitive contract liabilities	13,516,059	12,591,497
Other policy claims and benefits	3,857,610	3,824,069
Other reinsurance balances	311,388	306,915
Deferred income taxes	2,246,086	2,365,817
Other liabilities	1,032,980	994,230
Long-term debt	2,313,470	2,314,293
Collateral finance and securitization notes	926,410	782,701
Total liabilities	40,977,038	37,656,159
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, 2015 and December 31, 2014	791	791
Additional paid-in-capital	1,805,858	1,798,279
Retained earnings	4,425,302	4,239,647
Treasury stock, at cost - 12,716,098 and 10,364,797 shares	(898,082)	(672,394)
Accumulated other comprehensive income	1,149,364	1,657,129
Total stockholders' equity	6,483,233	7,023,452
Total liabilities and stockholders' equity	$ 47,460,271	$ 44,679,611

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,	
	2015	2014	2015	2014
Revenues:	(Dollars in thousands, except per share data)			
Net premiums	$2,129,043	$2,183,160	$4,152,895	$4,283,797
Investment income, net of related expenses	450,539	410,607	877,430	814,982
Investment related gains (losses), net:				
Other-than-temporary impairments on fixed maturity securities	(4,137)	(870)	(6,664)	(1,173)
Other investment related gains (losses), net	(12,041)	119,397	(1,931)	204,271
Total investment related gains (losses), net	(16,178)	118,527	(8,595)	203,098
Other revenues	66,936	120,726	129,223	188,316
Total revenues	2,630,340	2,833,020	5,150,953	5,490,193
Benefits and Expenses:				
Claims and other policy benefits	1,866,183	1,841,885	3,641,634	3,685,562
Interest credited	77,246	115,962	197,924	226,556
Policy acquisition costs and other insurance expenses	300,412	409,374	577,455	764,247
Other operating expenses	131,600	127,462	253,218	238,398
Interest expense	35,851	35,211	71,478	70,295
Collateral finance and securitization expense	5,258	2,591	11,329	5,160
Total benefits and expenses	2,416,550	2,532,485	4,753,038	4,990,218
Income before income taxes	213,790	300,535	397,915	499,975
Provision for income taxes	83,399	102,239	142,410	165,015
Net income	$130,391	$198,296	$255,505	$334,960
Earnings per share:				
Basic earnings per share	$1.97	$2.87	$3.80	$4.80
Diluted earnings per share	$1.94	$2.84	$3.76	$4.75
Dividends declared per share	$0.33	$0.30	$0.66	$0.60

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,	
	2015	2014	2015	2014
Comprehensive income (loss)	(Dollars in thousands)			
Net income	$130,391	$198,296	$255,505	$334,960
Other comprehensive income (loss), net of tax:				
Change in foreign currency translation adjustments	21,935	42,643	(95,836)	(40)
Change in net unrealized gains and losses on investments	(757,641)	304,997	(413,717)	620,381
Change in other-than-temporary impairment losses on fixed maturity securities	—	1,248	—	1,698
Changes in pension and other postretirement plan adjustments	834	273	1,788	1,014
Total other comprehensive income (loss), net of tax	(734,872)	349,161	(507,765)	623,053
Total comprehensive income (loss)	$(604,481)	$547,457	$(252,260)	$958,013

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,	
	2015	2014
	(Dollars in thousands)	
Cash Flows from Operating Activities:		
Net income	$255,505	$334,960
Adjustments to reconcile net income to net cash provided by operating activities:		
Change in operating assets and liabilities, net of acquisition:		
Accrued investment income	(26,656)	(9,588)
Premiums receivable and other reinsurance balances	(19,683)	(104,002)
Deferred policy acquisition costs	5,136	165,257
Reinsurance ceded receivable balances	(115,355)	(27,310)
Future policy benefits, other policy claims and benefits, and other reinsurance balances	353,946	581,812
Deferred income taxes	77,047	111,735
Other assets and other liabilities, net	42,363	34,577
Amortization of net investment premiums, discounts and other	(39,021)	(51,521)
Investment related gains, net	8,595	(203,098)
Excess tax benefits from share-based payment arrangement	—	(1,268)
Other, net	63,815	76,256
Net cash provided by operating activities	605,692	907,810
Cash Flows from Investing Activities:		
Sales of fixed maturity securities available-for-sale	2,742,814	2,756,942
Maturities of fixed maturity securities available-for-sale	232,712	239,279
Principal payments on mortgage loans on real estate	166,583	200,601
Principal payments on policy loans	441	46,747
Purchases of fixed maturity securities available-for-sale	(2,806,351)	(3,302,047)
Cash invested in mortgage loans on real estate	(531,317)	(266,002)
Cash invested in policy loans	(686)	(52,913)
Cash invested in funds withheld at interest	(57,708)	(39,856)
Purchase of business, net of cash acquired of $19,377	(191,450)	—
Purchases of property and equipment	(22,944)	(43,295)
Cash paid under securities repurchase agreements	(101,203)	—
Change in short-term investments	22,543	93,798
Change in other invested assets	73,529	271,373
Net cash used in investing activities	(473,037)	(95,373)
Cash Flows from Financing Activities:		
Dividends to stockholders	(44,519)	(41,955)
Repayment of collateral finance and securitization notes	(17,632)	—
Net change in short-term debt	—	110,000
Proceeds from collateral finance transactions	160,060	—
Debt issuance costs	(1,170)	—
Principal payments of long-term debt	(1,178)	—
Purchases of treasury stock	(262,515)	(179,592)
Excess tax benefits from share-based payment arrangement	—	1,268
Exercise of stock options, net	12,641	9,578
Change in cash collateral for derivative positions and other arrangements	(31,244)	47,561

Deposits on universal life and other investment type policies and contracts	132,679	51,257
Withdrawals on universal life and other investment type policies and contracts	(363,600)	(374,567)
Net cash used in financing activities	(416,478)	(376,450)
Effect of exchange rate changes on cash	(26,185)	18,483
Change in cash and cash equivalents	(310,008)	454,470
Cash and cash equivalents, beginning of period	1,645,669	923,647
Cash and cash equivalents, end of period	$1,335,661	$1,378,117
Supplemental disclosures of cash flow information:		
Interest paid	$74,637	$67,258
Income taxes paid, net of refunds	$(19,307)	$26,732
Non-cash transactions:		
Transfer of invested assets	$118	$1,580,080
Accrual for capitalized assets	$2,121	$—
Purchase of a business:		
Assets acquired, excluding cash acquired	$3,681,699	$—
Liabilities assumed	(3,490,249)	—
Net cash paid on purchase	$191,450	$—

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, 2015 are not necessarily indicative of the results that may be expected for the year ending December 31, 2015. There were no subsequent events that would require disclosure or adjustments to the accompanying condensed consolidated financial statements through the date the financial statements were issued. 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 2014 Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on March 2, 2015 (the "2014 Annual Report").
Effective January 1, 2015, the Company further refined its reporting of the Canada; Europe, Middle East and Africa; and Asia Pacific segments into traditional and non-traditional businesses to reflect the expanded product offerings within its geographic-based segments. The prior period presentation has been adjusted to conform to the new segment reporting structure. See Part II, Item 5 - Other Information of this report for comparable figures by quarter for 2014 and 2013.
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,	
	2015	2014	2015	2014
Earnings:				
Net income (numerator for basic and diluted calculations)	$130,391	$198,296	$255,505	$334,960
Shares:				
Weighted average outstanding shares (denominator for basic calculation)	66,351	69,076	67,246	69,823
Equivalent shares from outstanding stock options	769	642	785	666
Denominator for diluted calculation	67,120	69,718	68,031	70,489
Earnings per share:				
Basic	$1.97	$2.87	$3.80	$4.80
Diluted	$1.94	$2.84	$3.76	$4.75

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, 2015, no stock options and approximately 0.7 million performance contingent shares were excluded from the calculation. For the three months ended June 30, 2014, approximately 0.3 million stock options and approximately 0.8 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. Accumulated Other Comprehensive Income

The balance of and changes in each component of accumulated other comprehensive income (loss) ("AOCI") for the six months ended June 30, 2015 and 2014 are as follows (dollars in thousands):

	Accumulated Other Comprehensive Income (Loss), Net of Income Tax			
	Accumulated Currency Translation Adjustments	Unrealized Appreciation (Depreciation) of Investments[1]	Pension and Postretirement Benefits	Total
Balance, December 31, 2014	$81,847	$ 1,624,773	$(49,491)	$1,657,129
Other comprehensive income (loss) before reclassifications	(89,220)	(612,314)	733	(700,801)
Deferred income tax benefit (expense)	(6,616)	204,252	(222)	197,414
Other comprehensive income (loss) before reclassifications, net of income tax	(95,836)	(408,062)	511	(503,387)
Amounts reclassified to (from) AOCI	—	(6,192)	1,965	(4,227)
Deferred income tax benefit (expense)	—	537	(688)	(151)
Amounts reclassified to (from) AOCI, net of income tax	—	(5,655)	1,277	(4,378)
Balance, June 30, 2015	$(13,989)	$ 1,211,056	$(47,703)	$1,149,364

	Accumulated Other Comprehensive Income (Loss), Net of Income Tax			
	Accumulated Currency Translation Adjustments	Unrealized Appreciation (Depreciation) of Investments[1]	Pension and Postretirement Benefits	Total
Balance, December 31, 2013	$207,083	$ 820,245	$(21,721)	$1,005,607
Other comprehensive income (loss) before reclassifications	(9,162)	949,650	(257)	940,231
Deferred income tax benefit (expense)	9,122	(302,873)	251	(293,500)
Other comprehensive income (loss) before reclassifications, net of income tax	(40)	646,777	(6)	646,731
Amounts reclassified to (from) AOCI	—	(37,661)	1,570	(36,091)
Deferred income tax benefit (expense)	—	12,963	(550)	12,413
Amounts reclassified to (from) AOCI, net of income tax	—	(24,698)	1,020	(23,678)
Balance, June 30, 2014	$207,043	$ 1,442,324	$(20,707)	$1,628,660

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

The following table presents the amounts of AOCI reclassifications for the three and six months ended June 30, 2015 and 2014 (dollars in thousands):

	Amount Reclassified from AOCI				
	Three months ended June 30,		Six months ended June 30,		
Details about AOCI Components	2015	2014	2015	2014	Affected Line Item in Statement of Income
Unrealized gains and losses on available-for-sale securities	$1,829	$27,142	$4,908	$28,331	Investment related gains (losses), net
Gains and losses on cash flow hedges	543	321	603	539	Investment income

Gains and losses on cash flow hedges	1,495	—	655	—	Investment related gains (losses), net
Deferred policy acquisition costs attributed to unrealized gains and losses[1]	(4,307)	4,370	26	8,791	
Total	(440)	31,833	6,192	37,661	
Provision for income taxes	(245)	(11,059)	(537)	(12,963)	
Net unrealized gains (losses), net of tax	$(685)	$20,774	$5,655	$24,698	
Amortization of unrealized pension and postretirement benefits:					
Prior service cost[2]	$(80)	$(216)	$(163)	$(218)	
Actuarial gains/(losses)[2]	(1,098)	(462)	(1,802)	(1,352)	
Total	(1,178)	(678)	(1,965)	(1,570)	
Provision for income taxes	413	238	688	550	
Amortization of unrealized pension and postretirement benefits, net of tax	$(765)	$(440)	$(1,277)	$(1,020)	
Total reclassifications, net of tax	$(1,450)	$20,334	$4,378	$23,678	

(1) This AOCI component is included in the computation of the deferred policy acquisition cost. See Note 8 – “Deferred Policy Acquisition Costs” of the 2014 Annual Report for additional details.

(2) These AOCI components are included in the computation of the net periodic pension cost. See Note 10 – “Employee Benefit Plans” for additional details.

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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, 2015 and December 31, 2014 (dollars in thousands):

June 30, 2015:	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value	% of Total	Other-than-temporary impairments in AOCI
Available-for-sale:						
Corporate securities	$16,000,887	$730,409	$241,890	$16,489,406	58.8 %	$—
Canadian and Canadian provincial governments	2,655,763	1,140,904	2,860	3,793,807	13.5	—
Residential mortgage-backed securities	1,154,732	47,241	11,094	1,190,879	4.2	(300)
Asset-backed securities	1,051,093	19,915	8,384	1,062,624	3.8	354
Commercial mortgage-backed securities	1,471,419	63,699	9,649	1,525,469	5.4	(1,609)
U.S. government and agencies	1,332,518	18,149	86,669	1,263,998	4.5	—
State and political subdivisions	478,262	38,891	10,981	506,172	1.8	—
Other foreign government, supranational and foreign government-sponsored enterprises	2,160,658	88,674	17,712	2,231,620	8.0	—
Total fixed maturity securities	$26,305,332	$2,147,882	$389,239	$28,063,975	100.0 %	$(1,555)
Non-redeemable preferred stock	$91,717	$2,477	$3,620	$90,574	70.9 %	
Other equity securities	37,642	434	982	37,094	29.1	
Total equity securities	$129,359	$2,911	$4,602	$127,668	100.0 %	

December 31, 2014:	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value	% of Total	Other-than-temporary impairments in AOCI
Available-for-sale:						
Corporate securities	$14,010,604	$965,523	$90,544	$14,885,583	58.4 %	$—
Canadian and Canadian provincial governments	2,668,852	1,196,420	7	3,865,265	15.2	—
Residential mortgage-backed securities	991,867	52,640	6,611	1,037,896	4.1	(300)
Asset-backed securities	1,059,660	20,301	10,375	1,069,586	4.2	354
Commercial mortgage-backed securities	1,453,657	87,593	8,659	1,532,591	6.0	(1,609)
U.S. government and agencies	501,352	25,014	515	525,851	2.0	—
State and political subdivisions	378,457	51,117	3,498	426,076	1.7	—
Other foreign government, supranational and foreign government-sponsored enterprises	2,041,148	110,065	13,089	2,138,124	8.4	—
Total fixed maturity securities	$23,105,597	$2,508,673	$133,298	$25,480,972	100.0 %	$(1,555)
Non-redeemable preferred stock	$93,540	$7,350	$1,527	$99,363	78.3 %	

Other equity securities	26,994	597	94	27,497	21.7	
Total equity securities	$120,534	$7,947	$1,621	$126,860	100.0	%

The Company enters into various collateral arrangements that require both the pledging and acceptance of fixed maturity securities as collateral with derivative, repurchase agreement and reinsurance counterparties. 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 re-pledge collateral it receives; however, as of June 30, 2015 and December 31, 2014, none of the collateral received had been sold or re-pledged. The Company also holds securities 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 certain third-party reinsurance treaties as of June 30, 2015 and December 31, 2014 (dollars in thousands):

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	June 30, 2015		December 31, 2014	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Fixed maturity securities pledged as collateral	$181,681	$190,298	$127,229	$134,863
Fixed maturity securities received as collateral	n/a	126,422	n/a	117,227
Securities held in trust	9,948,045	10,501,206	10,197,489	10,922,947

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 of single issuers greater than 10% of the Company's stockholders' equity included securities of the U.S. government and its agencies as of June 30, 2015, as well as the securities disclosed below as of June 30, 2015 and December 31, 2014 (dollars in thousands).

	June 30, 2015		December 31, 2014	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Fixed maturity securities guaranteed or issued by:				
Canadian province of Ontario	$921,150	$1,295,793	$979,908	$1,359,339
Canadian province of Quebec	1,012,835	1,560,409	1,006,315	1,599,673

The amortized cost and estimated fair value of fixed maturity securities available-for-sale at June 30, 2015 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	$686,582	$696,191
Due after one year through five years	4,882,381	5,118,186
Due after five years through ten years	7,920,478	8,213,365
Due after ten years	9,138,647	10,257,261
Asset and mortgage-backed securities	3,677,244	3,778,972
Total	$26,305,332	$28,063,975

Corporate Fixed Maturity Securities

The tables below show the major industry types of the Company's corporate fixed maturity holdings as of June 30, 2015 and December 31, 2014 (dollars in thousands):

June 30, 2015:	Amortized Cost	Estimated Fair Value	% of Total	
Finance	$ 5,238,400	$5,419,421	32.9	%
Industrial	9,057,282	9,281,262	56.2	
Utility	1,705,205	1,788,723	10.9	
Total	$ 16,000,887	$16,489,406	100.0	%

December 31, 2014:	Amortized Cost	Estimated Fair Value	% of Total	
Finance	$ 4,789,568	$5,066,408	34.0	%
Industrial	7,639,330	8,086,067	54.3	
Utility	1,581,706	1,733,108	11.7	
Total	$ 14,010,604	$14,885,583	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 2014 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,	
	2015	2014	2015	2014
Balance, beginning of period	$7,284	$11,696	$7,284	$11,696
Credit loss OTTI previously recognized on securities which matured, paid down, prepaid or were sold during the period	—	(4,412)	—	(4,412)
Balance, end of period	$7,284	$7,284	$7,284	$7,284

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

The following table presents the total gross unrealized losses for the 1,566 and 932 fixed maturity and equity securities as of June 30, 2015 and December 31, 2014, respectively, where the estimated fair value had declined and remained below amortized cost by the indicated amount (dollars in thousands):

	June 30, 2015		December 31, 2014	
	Gross Unrealized Losses	% of Total	Gross Unrealized Losses	% of Total
Less than 20%	$373,312	94.8 %	$111,965	83.0 %
20% or more for less than six months	10,201	2.6	13,698	10.1
20% or more for six months or greater	10,328	2.6	9,256	6.9
Total	$393,841	100.0 %	$134,919	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 1,566 and 932 fixed maturity and equity securities that have estimated fair values below amortized cost as of June 30, 2015 and December 31, 2014, 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, 2015:	Less than 12 months		12 months or greater		Total	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Investment grade securities:						
Corporate securities	$4,719,168	$194,881	$299,379	$17,451	$5,018,547	$212,332
Canadian and Canadian provincial governments	117,996	2,860	—	—	117,996	2,860
Residential mortgage-backed securities	309,772	6,659	64,855	3,772	374,627	10,431
Asset-backed securities	294,220	3,101	126,602	3,504	420,822	6,605
Commercial mortgage-backed securities	220,262	4,376	22,831	1,392	243,093	5,768
U.S. government and agencies	862,953	86,669	—	—	862,953	86,669
State and political subdivisions	157,210	7,399	13,180	3,582	170,390	10,981
Other foreign government, supranational and foreign government-sponsored enterprises	402,345	13,050	33,829	1,988	436,174	15,038
Total investment grade securities	7,083,926	318,995	560,676	31,689	7,644,602	350,684
Below investment grade securities:						
Corporate securities	553,615	23,667	58,910	5,891	612,525	29,558
Residential mortgage-backed securities	31,443	268	11,779	395	43,222	663
Asset-backed securities	5,305	84	12,102	1,695	17,407	1,779
Commercial mortgage-backed securities	6,523	534	7,544	3,347	14,067	3,881
Other foreign government, supranational and foreign government-sponsored enterprises	62,974	2,502	3,921	172	66,895	2,674
Total below investment grade securities	659,860	27,055	94,256	11,500	754,116	38,555
Total fixed maturity securities	$7,743,786	$346,050	$654,932	$43,189	$8,398,718	$389,239
Non-redeemable preferred stock	$39,466	$2,178	$6,225	$1,442	$45,691	$3,620
Other equity securities	26,791	982	—	—	26,791	982
Total equity securities	$66,257	$3,160	$6,225	$1,442	$72,482	$4,602

December 31, 2014:	Less than 12 months		12 months or greater		Total	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Investment grade securities:						
Corporate securities	$1,225,767	$27,784	$614,294	$30,040	$1,840,061	$57,824
Canadian and Canadian provincial governments	—	—	1,235	7	1,235	7
Residential mortgage-backed securities	78,864	846	135,414	5,247	214,278	6,093
Asset-backed securities	332,785	4,021	109,411	4,289	442,196	8,310
Commercial mortgage-backed securities	78,632	564	28,375	2,461	107,007	3,025
U.S. government and agencies	81,317	89	32,959	426	114,276	515
State and political subdivisions	13,780	17	18,998	3,438	32,778	3,455
Other foreign government, supranational and foreign government-sponsored enterprises	156,725	7,007	76,111	2,946	232,836	9,953
Total investment grade securities	1,967,870	40,328	1,016,797	48,854	2,984,667	89,182
Below investment grade securities:						

Corporate securities	415,886	29,316	32,567	3,404	448,453	32,720
Residential mortgage-backed securities	22,836	293	6,284	225	29,120	518
Asset-backed securities	12,448	274	7,108	1,791	19,556	2,065
Commercial mortgage-backed securities	3,288	249	5,580	5,385	8,868	5,634
State and political subdivisions	964	43	—	—	964	43
Other foreign government, supranational and foreign government-sponsored enterprises	13,986	3,136	—	—	13,986	3,136
Total below investment grade securities	469,408	33,311	51,539	10,805	520,947	44,116
Total fixed maturity securities	$2,437,278	$73,639	$1,068,336	$59,659	$3,505,614	$133,298
Non-redeemable preferred stock	$11,619	$235	$19,100	$1,292	$30,719	$1,527
Other equity securities	—	—	3,545	94	3,545	94
Total equity securities	$11,619	$235	$22,645	$1,386	$34,264	$1,621

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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, 2015 are primarily related to high-yield corporate securities and commercial mortgage-backed securities. Unrealized losses increased across most security types as interest rates increased during the first six months of 2015.

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,	
	2015	2014	2015	2014
Fixed maturity securities available-for-sale	$303,792	$253,456	$573,560	$497,418
Mortgage loans on real estate	37,121	30,373	71,893	63,465
Policy loans	16,248	13,751	30,288	27,189
Funds withheld at interest	87,325	108,059	199,585	220,798
Short-term investments	814	80	1,509	1,045
Other invested assets	22,418	19,021	34,445	33,522
Investment income	467,718	424,740	911,280	843,437
Investment expense	(17,179)	(14,133)	(33,850)	(28,455)
Investment income, net of related expenses	$450,539	$410,607	$877,430	$814,982

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,	
	2015	2014	2015	2014
Fixed maturity and equity securities available for sale:				
Other-than-temporary impairment losses on fixed maturity securities recognized in earnings	$(4,137)	$(870)	$(6,664)	$(1,173)
Gain on investment activity	20,009	34,887	39,210	42,954
Loss on investment activity	(14,475)	(6,877)	(28,071)	(13,460)
Other impairment losses and change in mortgage loan provision	143	(5,309)	(4,025)	(3,645)
Derivatives and other, net	(17,718)	96,696	(9,045)	178,422
Total investment related gains (losses), net	$(16,178)	$118,527	$(8,595)	$203,098

The fluctuations in investment related gains (losses) for derivatives and other for the three and six months ended June 30, 2015, compared to the same periods in 2014, are primarily due to changes in the fair value of interest rate swaps and the embedded derivatives related to modified coinsurance and funds withheld treaties, as a result of changes in interest rates.
During the three months ended June 30, 2015 and 2014, the Company sold fixed maturity and equity securities with fair values of $651.3 million and $222.8 million at losses of $14.5 million and $6.9 million, respectively. During the six months ended June 30, 2015 and 2014, the Company sold fixed maturity and equity securities with fair values of $850.9 million and $457.9 million at losses of $28.1 million and $13.5 million, respectively. The Company generally does not engage in short-term buying and selling of securities.
Securities Borrowing 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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During the year, the Company participated in a repurchase program in which securities, reflected as investments on the Company's condensed consolidated balance sheets, were pledged to a third party. In return, the Company received cash from the third party, reflected as a payable to the third party, included in other liabilities on the condensed consolidated balance sheets. The Company was required to maintain a minimum collateral balance with a fair value of 105% of the cash received. The Company terminated the program and all cash was returned prior to June 30, 2015. The gross balance of the repurchase agreement payable was $101.4 million as of December 31, 2014. This was fully collateralized by securities with a fair value of $107.2 million as of December 31, 2014.

Additionally, the Company participates in a repurchase/reverse 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 securities from the third party 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 following table includes the amount of borrowed securities, repurchased securities pledged and repurchased/reverse repurchased securities pledged and received as of June 30, 2015 and December 31, 2014 (dollars in thousands).

	June 30, 2015		December 31, 2014	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Borrowed securities	$275,060	$284,602	$201,050	$212,946
Repurchase program securities pledged	—	—	92,446	107,158
Repurchase program/reverse repurchase program:				
Securities pledged	298,900	313,771	298,466	314,160
Securities received	n/a	340,201	n/a	338,929

The following table presents information on the securities pledged as collateral by the Company related to its repurchase/reverse repurchase program as of June 30, 2015 (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, 2015				
	Remaining Contractual Maturity of the Agreements				
	Overnight and Continuous	Up to 30 Days	30-90 Days	Greater than 90 Days	Total
Collateral on repurchase program					
U.S. treasury and agency securities	$—	$—	$23,237	$177,294	$200,531
Residential mortgage-backed securities	—	—	—	104,144	104,144
Other debt instruments	9,096	—	—	—	9,096
Total borrowings	$9,096	$—	$23,237	$281,438	$313,771

Gross amount of recognized liabilities for repurchase agreement in preceding table	$340,201
Amounts related to agreements not included in offsetting disclosure	$26,430

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Mortgage Loans on Real Estate

Mortgage loans represented approximately 7.8% and 7.4% of the Company's total investments as of June 30, 2015 and December 31, 2014. The Company makes mortgage loans on income producing properties that are geographically diversified throughout the U.S., with the largest concentration being in California, which represented 20.6% and 18.7% of mortgage loans on real estate as of June 30, 2015 and December 31, 2014, respectively. Loan-to-value ratios at the time of loan approval are 75% or less. The distribution of mortgage loans, gross of valuation allowances, by property type is as follows as of June 30, 2015 and December 31, 2014 (dollars in thousands):

	June 30, 2015			December 31, 2014		
Property type:	Recorded Investment	% of Total		Recorded Investment	% of Total	
Office building	$957,724	31.1	%	$851,749	31.3	%
Retail	964,540	31.4		802,466	29.6	
Industrial	535,856	17.4		466,583	17.2	
Apartment	410,213	13.3		376,430	13.8	
Other commercial	210,922	6.8		221,481	8.1	
Total	$3,079,255	100.0	%	$2,718,709	100.0	%

The maturities of the mortgage loans, gross of valuation allowances, as of June 30, 2015 and December 31, 2014 are as follows (dollars in thousands):

	June 30, 2015			December 31, 2014		
	Recorded Investment	% of Total		Recorded Investment	% of Total	
Due within five years	$877,270	28.5	%	$860,362	31.6	%
Due after five years through ten years	1,459,108	47.4		1,165,530	42.9	
Due after ten years	742,877	24.1		692,817	25.5	
Total	$3,079,255	100.0	%	$2,718,709	100.0	%

Information regarding the Company's credit quality indicators, as determined by the Company's internal evaluation methodology for its recorded investment in mortgage loans, gross of valuation allowances, as of June 30, 2015 and December 31, 2014 is as follows (dollars in thousands):

	June 30, 2015			December 31, 2014		
Internal credit quality grade:	Recorded Investment	% of Total		Recorded Investment	% of Total	
High investment grade	$1,553,149	50.5	%	$1,326,199	48.8	%
Investment grade	1,405,901	45.7		1,235,046	45.4	
Average	81,284	2.6		118,152	4.4	
Watch list	22,036	0.7		22,285	0.8	
In or near default	16,885	0.5		17,027	0.6	
Total	$3,079,255	100.0	%	$2,718,709	100.0	%

None of the payments due to the Company on its recorded investment in mortgage loans were delinquent as of June 30, 2015 and December 31, 2014.

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The following table presents the recorded investment in mortgage loans, by method of measuring impairment, and the related valuation allowances as of June 30, 2015 and December 31, 2014 (dollars in thousands):

	June 30, 2015	December 31, 2014
Mortgage loans:		
Individually measured for impairment	$16,885	$17,027
Collectively measured for impairment	3,062,370	2,701,682
Mortgage loans, gross of valuation allowances	3,079,255	2,718,709
Valuation allowances:		
Individually measured for impairment	671	816
Collectively measured for impairment	5,271	5,655
Total valuation allowances	5,942	6,471
Mortgage loans, net of valuation allowances	$3,073,313	$2,712,238

Information regarding the Company's loan valuation allowances for mortgage loans for the three and six months ended June 30, 2015 and 2014 is as follows (dollars in thousands):

	Three months ended June 30,		Six months ended June 30,	
	2015	2014	2015	2014
Balance, beginning of period	$6,130	$8,466	$6,471	$10,106
Charge-offs, net of recoveries	—	—	—	24
Provision (release)	(188)	1,226	(529)	(438)
Balance, end of period	$5,942	$9,692	$5,942	$9,692

Information regarding the portion of the Company's mortgage loans that were impaired as of June 30, 2015 and December 31, 2014 is as follows (dollars in thousands):

	Unpaid Principal Balance	Recorded Investment	Related Allowance	Carrying Value
June 30, 2015:				
Impaired mortgage loans with no valuation allowance recorded	$4,414	$4,354	$—	$4,354
Impaired mortgage loans with valuation allowance recorded	13,039	12,531	671	11,860
Total impaired mortgage loans	$17,453	$16,885	$671	$16,214
December 31, 2014:				
Impaired mortgage loans with no valuation allowance recorded	$7,314	$6,711	$—	$6,711
Impaired mortgage loans with valuation allowance recorded	10,279	10,316	816	9,500
Total impaired mortgage loans	$17,593	$17,027	$816	$16,211

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,			
	2015		2014	
	Average Recorded Investment(1)	Interest Income	Average Recorded Investment(1)	Interest Income
Impaired mortgage loans with no valuation allowance recorded	$5,524	$35	$14,589	$71
	11,397	229	15,855	259

Impaired mortgage loans with valuation allowance recorded				
Total impaired mortgage loans	$16,921	$264	$30,444	$330

	Six months ended June 30,			
	2015		2014	
	Average Recorded Investment[(1)]	Interest Income	Average Recorded Investment[(1)]	Interest Income
Impaired mortgage loans with no valuation allowance recorded	$5,920	$141	$16,759	$389
Impaired mortgage loans with valuation allowance recorded	11,036	384	16,151	452
Total impaired mortgage loans	$16,956	$525	$32,910	$841

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

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The Company did not acquire any impaired mortgage loans during the six months ended June 30, 2015 and 2014. The Company had no mortgage loans that were on a nonaccrual status at June 30, 2015 and December 31, 2014.

Policy Loans

Policy loans comprised approximately 3.6% and 3.5% of the Company's total investments as of June 30, 2015 and December 31, 2014, 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. As policy loans represent premature distributions of policy liabilities, they have the effect of reducing future disintermediation risk. In addition, the Company earns a spread between the interest rate earned on policy loans and the interest rate credited to corresponding liabilities.

Funds Withheld at Interest

Funds withheld at interest comprised approximately 14.7% and 16.1% of the Company's total investments as of June 30, 2015 and December 31, 2014, respectively. Of the $5.8 billion funds withheld at interest balance, net of embedded derivatives, as of June 30, 2015, $4.2 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), structured loans, derivative contracts, fair value option ("FVO") contractholder-directed unit-linked investments, Federal Home Loan Bank of Des Moines ("FHLB") common stock (included in other in the table below), real estate held-for-investment (included in other in the table below), and equity release mortgages (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 2.8% and 3.3% of the Company's total investments as of June 30, 2015 and December 31, 2014, respectively. Carrying values of these assets as of June 30, 2015 and December 31, 2014 are as follows (dollars in thousands):

	June 30, 2015	December 31, 2014
Equity securities	$127,668	$126,860
Limited partnerships and real estate joint ventures	492,465	446,604
Structured loans	52,185	164,309
Derivatives	194,276	216,966
FVO contractholder-directed unit-linked investments	137,529	140,344
Other	105,984	103,236
Total other invested assets	$1,110,107	$1,198,319

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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, 2015 and December 31, 2014 (dollars in thousands):

	June 30, 2015			December 31, 2014		
	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	$966,658	$71,399	$11,025	$1,144,661	$93,783	$3,934
Interest rate options	—	—	—	240,000	18,195	—
Financial futures	313,905	—	—	275,983	—	—
Foreign currency forwards	60,000	129	7,551	67,967	87	15,098
Consumer price index swaps	39,537	34	57	41,938	—	561
Credit default swaps	891,700	11,757	3,937	805,700	11,689	3,502
Equity options	483,830	44,883	—	555,361	35,242	—
Longevity swaps	891,760	10,853	—	450,000	7,727	—
Mortality swaps	50,000	—	1,754	50,000	—	797
Synthetic guaranteed investment contracts	6,594,770	—	—	6,500,942	—	—
Embedded derivatives in:						
Modified coinsurance or funds withheld arrangements	—	—	3,329	—	22,094	—
Indexed annuity products	—	—	935,619	—	—	925,887
Variable annuity products	—	—	133,535	—	—	159,279
Total non-hedging derivatives	10,292,160	139,055	1,096,807	10,132,552	188,817	1,109,058
Derivatives designated as hedging instruments:						
Interest rate swaps	120,000	—	23,662	120,000	—	18,228
Foreign currency swaps	715,641	88,303	413	676,972	70,906	—
Forward bond purchase commitments	—	—	—	196,452	1,175	14,545
Total hedging derivatives	835,641	88,303	24,075	993,424	72,081	32,773
Total derivatives	$11,127,801	$227,358	$1,120,882	$11,125,976	$260,898	$1,141,831

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, repurchase and repurchase/reverse repurchase programs. See "Embedded Derivatives" below for information regarding the Company's bifurcated embedded

derivatives.

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The following table provides information relating to the Company's derivative instruments as of June 30, 2015 and December 31, 2014 (dollars in thousands):

	Gross Amounts Recognized	Gross Amounts Offset in the Balance Sheet	Net Amounts Presented in the Balance Sheet	Gross Amounts Not Offset in the Balance Sheet		Net Amount
				Financial Instruments	Cash Collateral Pledged/ Received	
June 30, 2015:						
Derivative assets	$ 227,358	$ (22,230)	$ 205,128	$(15,587)	$ (160,768)	$28,773
Derivative liabilities	48,399	(22,230)	26,169	(54,692)	(4,940)	(33,463)
December 31, 2014:						
Derivative assets	$ 238,804	$ (14,111)	$ 224,693	$(20,260)	$ (178,141)	$26,292
Derivative liabilities	56,665	(14,111)	42,554	(47,222)	—	(4,668)

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, including derivatives used to economically hedge changes in the fair value of liabilities associated with the reinsurance of variable annuities with guaranteed living benefits. As of June 30, 2015 and December 31, 2014, the Company held interest rate swaps that were designated and qualified as cash flow hedges of interest rate risk, held foreign currency swaps that were designated and qualified as hedges of a portion of its net investment in its foreign operations, had derivative instruments that were not designated as hedging instruments and, as of December 31, 2014, the Company had forward bond purchase commitments that qualified as cash flow hedges. See Note 2 – "Summary of Significant Accounting Policies" of the Company's 2014 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.

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 certain interest rate swaps, in which the cash flows are denominated in different currencies, commonly referred to as cross-currency swaps, as cash flow hedges. In addition, the Company designates and accounts for its forward bond purchase commitments as cash flow hedges.

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, 2015 and 2014 (dollars in thousands):

	Three months ended June 30,	
	2015	2014
Accumulated other comprehensive income (loss), balance beginning of period	$(30,598)	$(4,020)
Gains (losses) deferred in other comprehensive income (loss) on the effective portion of cash flow hedges	8,735	4,798
Amounts reclassified to investment related gains (losses), net	(1,495)	—
Amounts reclassified to investment income	(543)	(321)
Accumulated other comprehensive income (loss), balance end of period	$(23,901)	$457

	Six months ended June 30,	
	2015	2014
Accumulated other comprehensive income (loss), balance beginning of period	$(31,591)	$(4,578)
Gains (losses) deferred in other comprehensive income (loss) on the effective portion of cash flow hedges	8,948	5,574

Amounts reclassified to investment related gains (losses), net	(655)	—
Amounts reclassified to investment income	(603)	(539)
Accumulated other comprehensive income (loss), balance end of period	$(23,901)	$457

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As of June 30, 2015, the before-tax deferred net gains on derivative instruments recorded in AOCI that are expected to be reclassified to earnings during the next twelve months are approximately $0.5 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 effects of derivatives in cash flow hedging relationships on the condensed consolidated statements of income and AOCI for the three and six months ended June 30, 2015 and 2014 (dollars in thousands):

	Effective Portion			Ineffective Portion	
Derivative Type	Gain (Loss) Recognized in OCI	Gain (Loss) Reclassified into Income from OCI	Classification of Gain (Loss) Reclassified into Net Income	Gain (Loss) Recognized in Income	Classification of Gain (Loss) Recognized in Net Income
For the three months ended June 30, 2015:					
Interest rate swaps	$2,417	$231	Investment Income	$—	Investment related gains (losses)
Forward bond purchase commitments:					
Principal	6,318	1,495	Investment related gains (losses)	—	Investment related gains (losses)
Interest	—	312	Investment Income	—	Investment related gains (losses)
Total	$8,735	$2,038		$—	
For the three months ended June 30, 2014:					
Interest rate swaps	$4,798	$321	Investment Income	$7	Investment related gains (losses)
For the six months ended June 30, 2015:					
Interest rate swaps	$(5,150)	$291	Investment Income	$7	Investment related gains (losses)
Forward bond purchase commitments:					
Principal	14,098	655	Investment related gains (losses)	—	Investment related gains (losses)
Interest	—	312	Investment Income	—	Investment related gains (losses)
Total	$8,948	$1,258		$7	
For the six months ended June 30, 2014:					
Interest rate swaps	$5,574	$539	Investment Income	$1	Investment related gains (losses)

All components of each derivative's gain or loss were included in the assessment of hedge effectiveness.

Hedges of Net Investments in Foreign Operations

The Company uses foreign currency swaps 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, 2015 and 2014 (dollars in thousands):

Derivative Gains (Losses) Deferred in AOCI

Type of NIFO Hedge [1] [2]	For the three months ended June 30, 2015	For the three months ended June 30, 2014	For the six months ended June 30, 2015	For the six months ended June 30, 2014
Foreign currency swaps	$(12,945)	$(22,335)	$37,021	$744

(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 $112.9 million and $75.8 million at June 30, 2015 and December 31, 2014, 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.

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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, including derivatives used to economically hedge changes in the fair value of liabilities associated with the reinsurance of variable annuities with guaranteed living benefits. The gain or loss related to the change in fair value for these derivative instruments is recognized in investment related gains (losses), in the condensed consolidated statements of income, except where otherwise noted.

A summary of the effect of non-hedging derivatives, including embedded derivatives, on the Company's income statement for the three and six months ended June 30, 2015 and 2014 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)	2015	2014
Interest rate swaps	Investment related gains (losses), net	$ (41,729)	$ 22,251
Interest rate options	Investment related gains (losses), net	—	2,004
Financial futures	Investment related gains (losses), net	(2,183)	(7,684)
Foreign currency forwards	Investment related gains (losses), net	(1,433)	1,178
CPI swaps	Investment related gains (losses), net	168	114
Credit default swaps	Investment related gains (losses), net	(187)	4,783
Equity options	Investment related gains (losses), net	(2,606)	(8,800)
Longevity swaps	Other revenues	1,911	—
Mortality swaps	Other revenues	(478)	—
Subtotal		(46,537)	13,846
Embedded derivatives in:			
Modified coinsurance or funds withheld arrangements	Investment related gains (losses), net	(23,098)	78,835
Indexed annuity products	Interest credited	8,080	(27,285)
Variable annuity products	Investment related gains (losses), net	50,878	(5,183)
Total non-hedging derivatives		$ (10,677)	$ 60,213

		Gain (Loss) for the six months ended June 30,	
Type of Non-hedging Derivative	Income Statement Location of Gain (Loss)	2015	2014
Interest rate swaps	Investment related gains (losses), net	$ (12,385)	$ 51,904
Interest rate options	Investment related gains (losses), net	3,275	3,286
Financial futures	Investment related gains (losses), net	(9,514)	(9,268)
Foreign currency forwards	Investment related gains (losses), net	(1,653)	2,332
CPI swaps	Investment related gains (losses), net	97	467
Credit default swaps	Investment related gains (losses), net	2,471	2,669
Equity options	Investment related gains (losses), net	(10,672)	(17,765)
Longevity swaps	Other revenues	3,731	—
Mortality swaps	Other revenues	(957)	—
Subtotal		(25,607)	33,625
Embedded derivatives in:			
Modified coinsurance or funds withheld arrangements	Investment related gains (losses), net	(25,423)	156,076
Indexed annuity products	Interest credited	(21,246)	(51,125)
Variable annuity products	Investment related gains (losses), net	25,745	(28,844)
Total non-hedging derivatives		$ (46,531)	$ 109,732

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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 and to alter interest rate exposure arising from mismatches between assets and liabilities (duration mismatches). 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.

Interest Rate Options

Interest rate options, commonly referred to as swaptions, are used by the Company primarily to hedge living benefit guarantees embedded in certain variable annuity products. A swaption, used to hedge against adverse changes in interest rates, is an option to enter into a swap with a forward starting effective date. The Company pays an upfront premium for the right to exercise this option in the future.

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.

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 to hedge a portion of its net investment in certain foreign operations against adverse movements in exchange rates.

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.

Forward Bond Purchase Commitments

Forward bond purchase commitments are 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.

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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.

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, 2015 and December 31, 2014 (dollars in thousands):

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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 what 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.

For a discussion of the Company’s valuation methodologies for assets and liabilities measured at fair value and the fair value hierarchy, see Note 6 in the Notes to Consolidated Financial Statements included in the Company’s 2017 Annual Report.

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Assets and Liabilities by Hierarchy Level

Assets and liabilities measured at fair value on a recurring basis as of March 31, 2018 and December 31, 2017 are summarized below (dollars in thousands):

March 31, 2018:		Fair Value Measurements Using:		
	Total	Level 1	Level 2	Level 3
Assets:				
Fixed maturity securities – available-for-sale:				
Corporate	$23,520,469	$—	$22,221,205	$1,299,264
Canadian government	4,097,854	—	3,525,107	572,747
RMBS	1,787,148	—	1,666,534	120,614
ABS	1,734,722	—	1,604,016	130,706
CMBS	1,281,933	—	1,280,049	1,884
U.S. government	1,436,114	1,313,806	101,255	21,053
State and political subdivisions	713,513	—	671,637	41,876
Other foreign government	3,373,507	—	3,368,503	5,004
Total fixed maturity securities – available-for-sale	37,945,260	1,313,806	34,438,306	2,193,148
Equity securities	103,983	67,831	—	36,152
Funds withheld at interest – embedded derivatives	135,805	—	—	135,805
Cash equivalents	538,761	538,761	—	—
Short-term investments	58,499	67	55,215	3,217
Other invested assets:				
Derivatives:				
Interest rate swaps	40,812	—	40,812	—
Foreign currency forwards	6,932	—	6,932	—
CPI swaps	(99)	—	(99)	—
Credit default swaps	5,465	—	5,465	—
Equity options	27,140	—	27,140	—
Foreign currency swaps	51,945	—	51,945	—
FVO contractholder-directed unit-linked investments	221,512	221,043	469	—
Total other invested assets	353,707	221,043	132,664	—
Other assets - longevity swaps	44,011	—	—	44,011
Total	$39,180,026	$2,141,508	$34,626,185	$2,412,333
Liabilities:				
Interest sensitive contract liabilities – embedded derivatives	$964,795	$—	$—	$964,795
Other liabilities:				
Derivatives:				
Interest rate swaps	11,752	—	11,752	—
Foreign currency forwards	(345)	—	(345)	—
CPI swaps	201	—	201	—
Credit default swaps	(756)	—	(756)	—
Equity options	(6,818)	—	(6,818)	—
Foreign currency swaps	1,003	—	1,003	—
Mortality swaps	1,683	—	—	1,683
Total	$971,515	$—	$5,037	$966,478

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December 31, 2017:		Fair Value Measurements Using:		
	Total	Level 1	Level 2	Level 3
Assets:				
Fixed maturity securities – available-for-sale:				
Corporate	$23,210,968	$—	$21,873,696	$1,337,272
Canadian government	4,220,076	—	3,626,134	593,942
RMBS	1,719,880	—	1,611,998	107,882
ABS	1,648,362	—	1,524,888	123,474
CMBS	1,303,387	—	1,300,153	3,234
U.S. government	1,943,592	1,818,006	103,075	22,511
State and political subdivisions	703,428	—	662,225	41,203
Other foreign government	3,401,127	—	3,396,035	5,092
Total fixed maturity securities – available-for-sale	38,150,820	1,818,006	34,098,204	2,234,610
Equity securities:				
Non-redeemable preferred stock	39,806	39,806	—	—
Other equity securities	60,346	60,346	—	—
Funds withheld at interest – embedded derivatives	122,194	—	—	122,194
Cash equivalents	356,788	354,071	2,717	—
Short-term investments	50,746	—	47,650	3,096
Other invested assets:				
Derivatives:				
Interest rate swaps	51,359	—	51,359	—
Foreign currency forwards	730	—	730	—
CPI swaps	(221)	—	(221)	—
Credit default swaps	5,908	—	5,908	—
Equity options	16,932	—	16,932	—
Foreign currency swaps	62,905	—	62,905	—
FVO contractholder-directed unit-linked investments	218,541	217,618	923	—
Total other invested assets	356,154	217,618	138,536	—
Other assets - longevity swaps	40,659	—	—	40,659
Total	$39,177,513	$2,489,847	$34,287,107	$2,400,559
Liabilities:				
Interest sensitive contract liabilities – embedded derivatives	$1,014,228	$—	$—	$1,014,228
Other liabilities:				
Derivatives:				
Interest rate swaps	14,311	—	14,311	—
Foreign currency forwards	7,213	—	7,213	—
CPI swaps	1,939	—	1,939	—
Credit default swaps	(760)	—	(760)	—
Equity options	(6,339)	—	(6,339)	—
Foreign currency swaps	6,194	—	6,194	—
Mortality swaps	1,683	—	—	1,683
Total	$1,038,469	$—	$22,558	$1,015,911

Transfers between Levels 1 and 2

Transfers between Levels 1 and 2 are made to reflect changes in observability of inputs and market activity. There were no transfers between Level 1 and Level 2 for the quarter ended March 31, 2018. 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. The following tables present the

transfers between Level 1 and Level 2 during the three months ended March 31, 2017 (dollars in thousands):

	2017	
	Transfers from Level 1 to Level 2	Transfers from Level 2 to Level 1
Fixed maturity securities - available-for-sale:		
Corporate	$ —	$ 38,675

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Quantitative Information Regarding Internally - Priced Level 3 Assets and Liabilities

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 March 31, 2018 and December 31, 2017 (dollars in thousands):

	Estimated Fair Value		Valuation Technique	Unobservable Inputs	Range (Weighted Average)	
	March 31, 2018	December 31, 2017			March 31, 2018	December 31, 2017
Assets:						
Corporate	$183,680	$173,579	Market comparable securities	Liquidity premium	0-2% (1%)	0-2% (1%)
				EBITDA Multiple	5.9X - 7.5X (6.6X)	—
U.S. government	21,053	22,511	Market comparable securities	Liquidity premium	0-1% (1%)	0-1% (1%)
State and political subdivisions	4,452	4,616	Market comparable securities	Liquidity premium	1 %	1 %
Equity securities	25,987	—	Market comparable securities	Liquidity premium	3%	—
				EBITDA Multiple	6.9X - 13.1X (8.0X)	—
Funds withheld at interest- embedded derivatives	135,805	122,194	Total return swap	Mortality	0-100% (2%)	0-100% (2%)
				Lapse	0-35% (9%)	0-35% (9%)
				Withdrawal	0-5% (3%)	0-5% (3%)
				CVA	0-5% (1%)	0-5% (1%)
				Crediting rate	2-4% (2%)	2-4% (2%)
Longevity swaps	44,011	40,659	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	827,109	861,758	Discounted cash flow	Mortality	0-100% (2%)	0-100% (2%)
				Lapse	0-35% (9%)	0-35% (9%)
				Withdrawal	0-5% (3%)	0-5% (3%)
				Option budget projection	2-4% (2%)	2-4% (2%)
Interest sensitive contract liabilities- embedded derivatives-	137,686	152,470	Discounted cash flow	Mortality	0-100% (1%)	0-100% (1%)

variable annuities						
				Lapse	0-25% (5%)	0-25% (5%)
				Withdrawal	0-7% (4%)	0-7% (3%)
				CVA	0-5% (1%)	0-5% (1%)
				Long-term volatility	0-27% (13%)	0-27% (8%)
Mortality swaps	1,683	1,683	Discounted cash flow	Mortality	0-100% (1%)	0-100% (1%)

Changes in Level 3 Assets and Liabilities

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. The Company also transferred equity securities with a fair value of approximately $38.9 million into Level 3 as a result of the adoption of the new accounting guidance for the recognition and measurement of equity securities.

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For further information on the Company’s valuation processes, see Note 6 in the Notes to Consolidated Financial Statements included in the Company’s 2017 Annual Report.

The reconciliations for all assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) are as follows (dollars in thousands):

For the three months ended March 31, 2018:	Fixed maturity securities - available-for-sale			
	Corporate	Canadian government	RMBS	ABS
Fair value, beginning of period	$1,337,272	$593,942	$107,882	$123,474
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	(361)	3,444	(92)	106
Investment related gains (losses), net	—	—	—	2
Included in other comprehensive income	(32,852)	(24,639)	(1,110)	853
Purchases(1)	100,170	—	20,916	11,000
Sales(1)	(6,180)	—	—	—
Settlements(1)	(75,146)	—	(2,963)	(2,739)
Transfers into Level 3	7,166	—	—	—
Transfers out of Level 3	(30,805)	—	(4,019)	(1,990)
Fair value, end of period	$1,299,264	$572,747	$120,614	$130,706
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	$(361)	$3,444	$(92)	$106

For the three months ended March 31, 2018 (continued):	Fixed maturity securities - available-for-sale			
	CMBS	U.S. government	State and political subdivisions	Other foreign government
Fair value, beginning of period	$3,234	$22,511	$41,203	$5,092
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	—	(110)	8	—
Included in other comprehensive income	(47)	(340)	700	(88)
Purchases(1)	—	96	—	—
Settlements(1)	(1)	(1,104)	(35)	—
Transfers out of Level 3	(1,302)	—	—	—
Fair value, end of period	$1,884	$21,053	$41,876	$5,004
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	$—	$(110)	$8	$—

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For the three months ended March 31, 2018 (continued):	Equity securities	Funds withheld at interest-embedded derivatives	Short-term Investments	Other assets - longevity swaps	Interest sensitive contract liabilities embedded derivatives	Other liabilities - mortality swaps
Fair value, beginning of period	$—	$ 122,194	$ 3,096	$ 40,659	$ (1,014,229)	$ (1,683)
Total gains/losses (realized/unrealized)						
Included in earnings, net:						
Investment related gains (losses), net	(2,677)	13,611	—	—	14,785	—
Interest credited	—	—	—	—	25,351	—
Included in other comprehensive income	—	—	(25)	1,085	—	—
Other revenues	—	—	—	2,267	—	—
Purchases[(1)]	—	—	146	—	(8,508)	—
Sales[(1)]	(28)	—	—	—	—	—
Settlements[(1)]	(48)	—	—	—	17,807	—
Transfers into Level 3	38,905	—	—	—	—	—
Fair value, end of period	$ 36,152	$ 135,805	$ 3,217	$ 44,011	$ (964,794)	$ (1,683)
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	$—	$—	$ —	$—	$—	$—
Investment related gains (losses), net	(2,705)	13,611	—	—	12,901	—
Other revenues	—	—	—	2,267	—	—
Interest credited	—	—	—	—	7,544	—

For the three months ended March 31, 2017:	Fixed maturity securities - available-for-sale					
	Corporate	Canadian governments	RMBS	ABS	CMBS	U.S. government
Fair value, beginning of period	$ 1,272,253	$ 475,965	$ 160,291	$ 219,280	$ 21,145	$ 24,488
Total gains/losses (realized/unrealized)						
Included in earnings, net:						
Investment income, net of related expenses	(423)	3,070	(245)	1,018	709	(117)
Investment related gains (losses), net	(1,231)	—	365	—	(595)	—
Included in other comprehensive income	4,948	4,525	650	5,767	(83)	52
Purchases[(1)]	45,914	—	16,499	10,849	—	104
Sales[(1)]	—	—	(10,604)	—	(3,720)	—
Settlements[(1)]	(71,470)	—	(6,784)	(18,154)	(5,401)	(1,053)
Transfers into Level 3	13,934	—	77	35,258	—	—
Transfers out of Level 3	—	—	(16,819)	(45,582)	(10,132)	—
Fair value, end of period	$ 1,263,925	$ 483,560	$ 143,430	$ 208,436	$ 1,923	$ 23,474
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	$(423)	$ 3,070	$(91)	$161	$—	$ (117)
Investment related gains (losses), net	(1,293)	—	(346)	—	—	—

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For the three months ended March 31, 2017 (continued):	Fixed maturity securities available-for-sale						
	State and political subdivisions	Other foreign government	Funds withheld at interest-embedded derivatives	Short-term Investments	Other assets - longevity swaps	Interest sensitive contract liabilities embedded derivatives	Other liabilities - mortality swaps
Fair value, beginning of period	$41,666	$ 12,869	$(22,529)	$ 3,346	$ 26,958	$(990,308)	$(2,462)
Total gains/losses (realized/unrealized)							
Included in earnings, net:							
Investment income, net of related expenses	(88)	—	—	—	—	—	—
Investment related gains (losses), net	—	—	68,702	—	—	22,362	—
Interest credited	—	—	—	—	—	(16,402)	—
Included in other comprehensive income	(843)	(191)	—	33	347	—	—
Other revenues	—	—	—	—	1,865	—	(395)
Purchases[1]	—	—	—	32	—	(6,393)	—
Settlements[1]	(33)	(334)	—	(135)	—	17,811	—
Transfers out of Level 3	(6,844)	—	—	—	—	—	—
Fair value, end of period	$33,858	$ 12,344	$46,173	$ 3,276	$ 29,170	$(972,930)	$(2,857)
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	$(88)	$ —	$—	$ —	$—	$—	$—
Investment related gains (losses), net	—	—	68,702	—	—	20,300	—
Other revenues	—	—	—	—	1,865	—	(395)
Interest credited	—	—	—	—	—	(34,214)	—

(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.

Nonrecurring Fair Value Measurements

During the three months ended March 31, 2018 and March 31, 2017, the Company did not have any adjustments to its assets or liabilities measured at fair value on a nonrecurring basis that are still held at the reporting date.

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, as of March 31, 2018 and December 31, 2017 (dollars in thousands). For additional information regarding the methods and significant assumptions used by the Company to estimate these fair values, see Note 6 in the Notes to Consolidated Financial Statements included in the Company's 2017 Annual Report. 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.

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March 31, 2018:	Carrying Value (1)	Estimated Fair Value	Fair Value Measurement Using: Level 1	Level 2	Level 3	NAV
Assets:						
Mortgage loans on real estate	$ 4,437,994	$ 4,411,472	$ —	$ —	$ 4,411,472	$ —
Policy loans	1,346,930	1,346,930	—	1,346,930	—	—
Funds withheld at interest	5,865,791	6,098,479	—	—	6,098,479	—
Cash and cash equivalents	971,646	971,646	971,646	—	—	—
Short-term investments	71,931	71,931	71,931	—	—	—
Other invested assets	690,200	710,009	10,165	68,903	283,205	347,736
Accrued investment income	408,338	408,338	—	408,338	—	—
Liabilities:						
Interest-sensitive contract liabilities	$ 13,169,951	$ 13,151,162	$ —	$ —	$ 13,151,162	$ —
Long-term debt	2,788,240	2,916,200	—	—	2,916,200	—
Collateral finance and securitization notes	753,393	692,696	—	—	692,696	—
December 31, 2017:						
Assets:						
Mortgage loans on real estate	$ 4,400,533	$ 4,477,654	$ —	$ —	$ 4,477,654	$ —
Policy loans	1,357,624	1,357,624	—	1,357,624	—	—
Funds withheld at interest	5,955,092	6,275,623	—	—	6,275,623	—
Cash and cash equivalents	946,736	946,736	946,736	—	—	—
Short-term investments	42,558	42,558	42,558	—	—	—
Other invested assets	651,792	679,377	28,540	67,778	247,934	335,125
Accrued investment income	392,721	392,721	—	392,721	—	—
Liabilities:						
Interest-sensitive contract liabilities	$ 12,683,872	$ 12,917,243	$ —	$ —	$ 12,917,243	$ —
Long-term debt	2,788,365	2,959,912	—	—	2,959,912	—
Collateral finance and securitization notes	783,938	722,145	—	—	722,145	—

(1) Carrying values presented herein may differ from those in the Company's condensed consolidated balance sheets because certain items within the respective financial statement captions may be measured at fair value on a recurring basis.

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 2017 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.

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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 March 31,	
Revenues:	2018	2017
U.S. and Latin America:		
Traditional	$1,489,694	$1,488,503
Financial Solutions	213,352	298,846
Total	1,703,046	1,787,349
Canada:		
Traditional	302,319	264,275
Financial Solutions	12,777	11,807
Total	315,096	276,082
Europe, Middle East and Africa:		
Traditional	393,782	318,086
Financial Solutions	88,143	79,989
Total	481,925	398,075
Asia Pacific:		
Traditional	614,539	505,230
Financial Solutions	19,846	20,452
Total	634,385	525,682
Corporate and Other	39,255	21,552
Total	$3,173,707	$3,008,740

	Three months ended March 31,	
Income (loss) before income taxes:	2018	2017
U.S. and Latin America:		
Traditional	$2,892	$29,960
Financial Solutions	67,421	103,586
Total	70,313	133,546
Canada:		
Traditional	23,707	19,328
Financial Solutions	3,191	3,592
Total	26,898	22,920
Europe, Middle East and Africa:		
Traditional	15,421	13,976
Financial Solutions	39,164	31,918
Total	54,585	45,894
Asia Pacific:		
Traditional	22,887	41,688
Financial Solutions	4,021	5,872
Total	26,908	47,560
Corporate and Other	(40,779)	(42,076)
Total	$137,925	$207,844

Assets:	March 31, 2018	December 31, 2017

U.S. and Latin America:		
Traditional	$18,839,888	$18,603,423
Financial Solutions	16,349,148	15,959,206
Total	35,189,036	34,562,629
Canada:		
Traditional	4,234,253	4,161,452
Financial Solutions	126,747	126,372
Total	4,361,000	4,287,824
Europe, Middle East and Africa:		
Traditional	3,385,127	3,099,495
Financial Solutions	5,279,499	5,274,993
Total	8,664,626	8,374,488
Asia Pacific:		
Traditional	5,095,054	4,915,442
Financial Solutions	1,175,002	1,198,585
Total	6,270,056	6,114,027
Corporate and Other	6,470,105	7,175,850
Total	$60,954,823	$60,514,818

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8. Commitments, Contingencies and Guarantees

Commitments

Funding of Investments

The Company's commitments to fund investments as of March 31, 2018 and December 31, 2017 are presented in the following table (dollars in thousands):

	March 31, 2018	December 31, 2017
Limited partnership interests and joint ventures	$482,149	$ 485,197
Commercial mortgage loans	67,837	40,815
Bank loans and private placements	96,808	60,472
Equity release mortgages	132,523	153,937

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. Bank loans and private placements are included in fixed maturity securities available-for-sale.

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, however, as of March 31, 2018, 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 March 31, 2018 (dollars in millions):

Commitment Period	Maximum Potential Obligation
2023	$ 500.0
2033	450.0
2034	2,000.0
2035	1,314.2
2036	1,932.0
2037	6,750.0
2038	800.0

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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 March 31, 2018 and December 31, 2017 are reflected in the following table (dollars in thousands):

	March 31, 2018	December 31, 2017
Treaty guarantees	$949,443	$ 1,047,449
Treaty guarantees, net of assets in trust	832,487	926,393
Securities borrowing and repurchase arrangements	291,325	294,325
Financing arrangements	77,858	86,183
Lease obligations	1,465	1,662

9. Income Tax

The Company's effective tax rates differed from the applicable U.S. federal income tax statutory rates of 21% and 35% as a result of the following for the three months ended March 31, 2018 and 2017, respectively (dollars in thousands):

	Three months ended March 31,	
	2018	2017
Tax provision at U.S. statutory rate	$28,964	$72,745
Increase (decrease) in income taxes resulting from:		
U.S. Tax Reform provisional adjustments	775	—
Foreign tax rate differing from U.S. tax rate	1,432	(6,153)
Differences in tax bases in foreign jurisdictions	(5,760)	(3,383)
Deferred tax valuation allowance	7,947	1,182
Amounts related to tax audit contingencies	835	611
Corporate rate changes	111	(1,237)
Subpart F	658	186
Foreign tax credits	(572)	(126)
Global intangible low-taxed income, net of credit	4,409	—
Return to provision adjustments	—	229
Equity compensation excess benefit	(1,114)	(1,856)
Other, net	10	134
Total provision for income taxes	$37,695	$62,332
Effective tax rate	27.3 %	30.0 %

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 ("U.S. Tax Reform") was signed into law. U.S. Tax Reform makes broad and complex changes to the U.S. tax code, including but not limited to, (1) reducing the U.S. federal corporate tax rate from 35% to 21%; (2) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries; (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; (4) eliminating the corporate alternative minimum tax ("AMT") and changing how existing AMT credits can be realized; (5) creating the base erosion anti-abuse tax ("BEAT"), a new minimum tax; (6) establishing a new

provision designed to tax global intangible low-taxed income (“GILTI”), which allows for the possibility of using foreign tax credits and a deduction of up to 50 percent to offset the income tax liability (subject to some limitations); and (7) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017.
Companies subject to GILTI have the option to account for the GILTI tax as a period cost if and when incurred, or to recognize deferred taxes for temporary differences including outside basis differences expected to reverse as GILTI. The Company has not yet made a policy election to account for GILTI, but included an estimate of the current GILTI impact in the tax provision.

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As of March 31, 2018, the Company has not yet completed its accounting for the tax effects of the enactment of the U.S. Tax Reform. The Company continues to gather additional information to account for the effects of U.S. Tax Reform such as information to more precisely compute the pretax deferred tax items upon which the change in rate was applied and refine the necessary valuation allowance related to the foreign tax credits. Also, the Company also continues to monitor new regulatory and accounting guidance which could impact the provisional balances recorded as of December 31, 2017.
The effective tax rate for the three months ended March 31, 2018 was higher than the U.S. Statutory rate of 21.0% primarily as a result of income in non-U.S. jurisdictions with higher tax rates than the U.S., the inclusion of U.S. tax related to GILTI and losses in foreign jurisdictions for which the company established a valuation allowance. The higher rate was partially offset with tax benefits related to bases differences in non-U.S. jurisdictions.

10. Employee Benefit Plans

The components of net periodic benefit cost, included in other operating expenses on the condensed consolidated statements of income, for the three months ended March 31, 2018 and 2017 were as follows (dollars in thousands):

	Pension Benefits Three months ended March 31,		Other Benefits Three months ended March 31,	
	2018	2017	2018	2017
Service cost	$2,654	$2,580	$636	$721
Interest cost	1,330	1,198	530	565
Expected return on plan assets	(1,554)	(1,285)	—	—
Amortization of prior service cost (credit)	83	74	(329)	(156)
Amortization of prior actuarial losses	1,094	1,081	498	457
Settlements	—	257	—	—
Net periodic benefit cost	$3,607	$3,905	$1,335	$1,587

The Company made no pension contributions during the first three months of 2018 and expects to make pension contributions between $8.0 million and $10.0 million in 2018.

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 March 31, 2018 and December 31, 2017, 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 March 31, 2018 and December 31, 2017, 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.
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 March 31, 2018 and December 31, 2017 (dollars in thousands):

		March 31, 2018		December 31, 2017	
Reinsurer	A.M. Best Rating	Amount	% of Total	Amount	% of Total

Reinsurer A	A+	$317,136	39.1 %	$301,478	38.6 %
Reinsurer B	A+	203,137	25.1	203,898	26.1
Reinsurer C	A	69,434	8.6	67,723	8.7
Reinsurer D	A++	42,967	5.3	40,592	5.2
Reinsurer E	A+	42,538	5.2	40,528	5.2
Other reinsurers		135,342	16.7	127,808	16.2
Total		$810,554	100.0%	$782,027	100.0%

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Included in the total reinsurance ceded receivables balance were $291.1 million and $243.8 million of claims recoverable, of which $17.6 million and $1.9 million were in excess of 90 days past due, as of March 31, 2018 and December 31, 2017, 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 Company's condensed consolidated financial statements.

Description	Date of Adoption	Effect on the financial statements or other significant matters
Standards adopted:		
Reporting Comprehensive Income This updated guidance requires reclassification from accumulated other comprehensive income to retained earnings for the stranded tax effects resulting from the newly enacted U.S. federal corporate income tax rate. The amount of the reclassification would be the difference between the historical U.S. federal corporate income tax rate and the newly enacted 21 percent tax rate.	December 31, 2017	The Company adopted the new guidance by reclassifying certain income tax effects of items within accumulated other comprehensive income to retained earnings as a result of the Tax Cuts and Jobs Act of 2017. The impact of adopting this standard was an increase in accumulated other comprehensive income and a reduction in retained earnings of approximately $156.4 million.
Stock Compensation This updated guidance requires excess tax benefits and deficiencies from share-based payment awards be recorded in income tax expense in the income statement. Previously, excess tax benefits and deficiencies were recognized in shareholders' equity or deferred taxes on the balance sheet depending on the tax situation of the Company. In addition, the updated guidance also changes the accounting for forfeitures and statutory tax withholding requirements, as well as the classification in the statement of cash flows.	January 1, 2017	Upon adoption, the Company recognized excess tax benefits of approximately $17.7 million in deferred tax assets that were previously not recognized in a cumulative-effect adjustment increasing retained earnings by $17.7 million. The Company also recorded excess tax benefits of approximately $10.5 million in the provision for income taxes for the year ended December 31, 2017. The number of weighted average diluted shares outstanding were also adjusted to exclude excess tax benefits from the assumed proceeds in the diluted shares calculation resulting in an immaterial increase in the number of dilutive shares outstanding. The Company also elected to continue estimating forfeitures for purposes of recognizing share-based compensation. Other aspects of the adoption of the updated guidance did not have a material impact to the Company's consolidated financial statements.
Financial Instruments - Recognition and Measurement This guidance requires equity investments that are not accounted for under the equity method of accounting to be measured at fair value with changes recognized in net income and also updates certain presentation and disclosure requirements.	January 1, 2018	This guidance required a cumulative-effect adjustment for certain items upon adoption. The adoption of the new guidance was not material to the Company's consolidated financial statements.
Standards not yet adopted:		
Leases		

This new standard, based on the principle that entities should recognize assets and liabilities arising from leases, does not significantly change the lessees' recognition, measurement and presentation of expenses and cash flows from the previous accounting standard. Leases are classified as finance or operating. The new standard's primary change is the requirement for entities to recognize a lease liability for payments and a right of use asset representing the right to use the leased asset during the term of operating lease arrangements. Lessees are permitted to make an accounting policy election to not recognize the asset and liability for leases with a term of twelve months or less. Lessors' accounting is largely unchanged from the previous accounting standard. In addition, the new standard expands the disclosure requirements of lease arrangements. Early adoption is permitted.	January 1, 2019	This new standard will be adopted by applying a modified retrospective transition approach, which includes a number of practical expedients. The Company is currently evaluating the impact of this amendment on its consolidated financial statements; however, it does not expect the adoption of the new standard to have a material impact on its results of operations or balance sheet as a result of the recognition of right-to-use assets and lease liabilities related to operating leases. Contractual obligations related to operating leases totaled approximately $38.2 million as of December 31, 2017.
Derivatives and Hedging		
This updated guidance improves the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements and make certain targeted improvements to simplify the application of the hedge accounting in current GAAP related to the assessment of hedge effectiveness. Early adoption is permitted.	January 1, 2019	This new guidance will be adopted by applying a modified retrospective approach to existing hedging relationships as of the date of adoption. The Company is currently evaluating the impact of this updated guidance on its consolidated financial statements.
Financial Instruments - Credit Losses		
This guidance adds to U.S. GAAP an impairment model, known as current expected credit loss ("CECL") model that is based on expected losses rather than incurred losses. For traditional and other receivables, held-to-maturity debt securities, loans and other instruments entities will be required to use the new forward-looking "expected loss" model that generally will result in earlier recognition of allowance for losses. For available-for-sale debt securities with unrealized losses, entities will measure credit losses similar to what they do today, except the losses will be recognized as allowances rather than reduction to the amortized cost of the securities. Early adoption is permitted.	January 1, 2020	This guidance will be adopted through a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective (that is, a modified-retrospective approach). The Company is currently evaluating the impact of this amendment on its consolidated financial statements.

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ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Cautionary Note Regarding Forward-Looking Statements

This report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 including, among others, statements relating to projections of the strategies, earnings, revenues, income or loss, ratios, future financial performance, and growth potential of the Company. The words "intend," "expect," "project," "estimate," "predict," "anticipate," "should," "believe," and other similar expressions also are intended to identify forward-looking statements. Forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified. Future events and actual results, performance, and achievements could differ materially from those set forth in, contemplated by, or underlying the forward-looking statements.

Numerous important factors could cause actual results and events to differ materially from those expressed or implied by forward-looking statements including, without limitation, (1) adverse capital and credit market conditions and their impact on the Company's liquidity, access to capital and cost of capital, (2) the impairment of other financial institutions and its effect on the Company's business, (3) requirements to post collateral or make payments due to declines in market value of assets subject to the Company's collateral arrangements, (4) the fact that the determination of allowances and impairments taken on the Company's investments is highly subjective, (5) adverse changes in mortality, morbidity, lapsation or claims experience, (6) changes in the Company's financial strength and credit ratings and the effect of such changes on the Company's future results of operations and financial condition, (7) inadequate risk analysis and underwriting, (8) general economic conditions or a prolonged economic downturn affecting the demand for insurance and reinsurance in the Company's current and planned markets, (9) the availability and cost of collateral necessary for regulatory reserves and capital, (10) market or economic conditions that adversely affect the value of the Company's investment securities or result in the impairment of all or a portion of the value of certain of the Company's investment securities, that in turn could affect regulatory capital, (11) market or economic conditions that adversely affect the Company's ability to make timely sales of investment securities, (12) risks inherent in the Company's risk management and investment strategy, including changes in investment portfolio yields due to interest rate or credit quality changes, (13) fluctuations in U.S. or foreign currency exchange rates, interest rates, or securities and real estate markets, (14) adverse litigation or arbitration results, (15) the adequacy of reserves, resources and accurate information relating to settlements, awards and terminated and discontinued lines of business, (16) the stability of and actions by governments and economies in the markets in which the Company operates, including ongoing uncertainties regarding the amount of U.S. sovereign debt and the credit ratings thereof, (17) competitive factors and competitors' responses to the Company's initiatives, (18) the success of the Company's clients, (19) successful execution of the Company's entry into new markets, (20) successful development and introduction of new products and distribution opportunities, (21) the Company's ability to successfully integrate acquired blocks of business and entities, (22) action by regulators who have authority over the Company's reinsurance operations in the jurisdictions in which it operates, (23) the Company's dependence on third parties, including those insurance companies and reinsurers to which the Company cedes some reinsurance, third-party investment managers and others, (24) the threat of natural disasters, catastrophes, terrorist attacks, epidemics or pandemics anywhere in the world where the Company or its clients do business, (25) interruption or failure of the Company's telecommunication, information technology or other operational systems, or the Company's failure to maintain adequate security to protect the confidentiality or privacy of personal or sensitive data stored on such systems, (26) changes in laws, regulations, and accounting standards applicable to the Company, its subsidiaries, or its business, (27) the benefits or burdens associated with the Tax Cuts and Jobs Act of 2017 may be different than expected, (28) the effect of the Company's status as an insurance holding company and regulatory restrictions on its ability to pay principal of and interest on its debt obligations, and (29) other risks and uncertainties described in this document and in the Company's other filings with the Securities and Exchange Commission ("SEC").

Forward-looking statements should be evaluated together with the many risks and uncertainties that affect the Company's business, including those mentioned in this document and described in the periodic reports the Company files with the SEC. These forward-looking statements speak only as of the date on which they are made. The

Company does not undertake any obligations to update these forward-looking statements, even though the Company's situation may change in the future. For a discussion of these risks and uncertainties that could cause actual results to differ materially from those contained in the forward-looking statements, you are advised to see Item 1A – "Risk Factors" in the 2017 Annual Report.

Overview

The Company is among the leading global providers of life reinsurance and financial solutions, with $3.4 trillion of life reinsurance in force. Traditional reinsurance includes individual and group life and health, disability, and critical illness reinsurance. Financial solutions includes longevity reinsurance, asset-intensive reinsurance, and financial reinsurance. The Company derives revenues primarily from renewal premiums from existing reinsurance treaties, new business premiums from existing or new reinsurance treaties, fee income from financial solutions business and income earned on invested assets.

Historically, the Company's primary business has been traditional life reinsurance, which involves reinsuring life insurance policies that are often in force for the remaining lifetime of the underlying individuals insured, with premiums earned typically over a

period of 10 to 30 years. Each year, however, a portion of the business under existing treaties terminates due to, among other things, lapses or voluntary surrenders of underlying policies, deaths of insureds, and the exercise of recapture options by ceding companies. The Company has expanded its financial solutions business, including significant asset-intensive and longevity risk transactions, which allow its clients to take advantage of growth opportunities and manage their capital, longevity and investment risk.

The Company's long-term profitability largely depends on the volume and amount of death- and health-related claims incurred and the ability to adequately price the risks it assumes. While death claims are reasonably predictable over a period of many years, claims become less predictable over shorter periods and are subject to significant fluctuation from quarter to quarter and year to year. Additionally, the Company generates profits on investment spreads associated with the reinsurance of investment type contracts and generates fees from financial reinsurance transactions which are typically shorter duration than its traditional life reinsurance business. The Company believes its sources of liquidity are sufficient to cover potential claims payments on both a short-term and long-term basis.

As is customary in the reinsurance business, clients continually update, refine, and revise reinsurance information provided to the Company. Such revised information is used by the Company in preparation of its condensed consolidated financial statements and the financial effects resulting from the incorporation of revised data are reflected in the current period.

Segment Presentation

The Company has geographic-based and business-based operational segments. Geographic-based operations are further segmented into traditional and financial solutions businesses. 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 consistent basis upon which capital is deployed. The economic capital model considers the unique and specific nature of the risks inherent in RGA's businesses.

As a result of the economic capital allocation process, a portion of investment income is credited 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. Segment investment performance varies with the composition of investments and the relative allocation of capital to the operating segments.

Segment revenue levels can be significantly influenced by currency fluctuations, large transactions, mix of business and reporting practices of ceding companies, and therefore may fluctuate from period to period. Although reasonably predictable over a period of years, segment claims experience can be volatile over shorter periods. See "Results of Operations by Segment" below for further information about the Company's segments.

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Consolidated Results of Operations

	Three months ended March 31,	
	2018	2017
Revenues:	(Dollars in thousands, except per share data)	
Net premiums	$ 2,582,551	$ 2,365,696
Investment income, net of related expenses	516,329	514,364
Investment related gains (losses), net:		
Other-than-temporary impairments on fixed maturity securities	—	(17,189)
Other investment related gains (losses), net	(470)	77,712
Total investment related gains (losses), net	(470)	60,523
Other revenues	75,297	68,157
Total revenues	3,173,707	3,008,740
Benefits and Expenses:		
Claims and other policy benefits	2,362,101	2,106,145
Interest credited	80,449	107,684
Policy acquisition costs and other insurance expenses	356,902	379,389
Other operating expenses	191,274	158,506
Interest expense	37,454	42,402
Collateral finance and securitization expense	7,602	6,770
Total benefits and expenses	3,035,782	2,800,896
Income before income taxes	137,925	207,844
Provision for income taxes	37,695	62,332
Net income	$ 100,230	$ 145,512
Earnings per share:		
Basic earnings per share	$ 1.55	$ 2.26
Diluted earnings per share	$ 1.52	$ 2.22
Dividends declared per share	$ 0.50	$ 0.41

Consolidated income before income taxes decreased $69.9 million, or 33.6%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in income for the first three months of 2018 was primarily due to unfavorable claims experience in the U.S. and Asia Pacific segments and a decrease in investment related gains associated with fair value changes on modco or funds withheld treaties compared to 2017, which was caused by changes in interest rates and credit spreads. The decrease in income before income taxes was partially offset by a decrease in impairments on fixed maturity securities of $17.2 million in the first three months of 2018, as compared to the same period in 2017. Foreign currency fluctuations resulted in an increase in income before income taxes of $8.9 million for the first three months of 2018, as compared to the same period in 2017.

The Company recognizes in consolidated income, any changes in the fair value of embedded derivatives on modco or funds withheld treaties, equity-indexed annuity treaties ("EIAs") and variable annuity products. The combined changes in these three types of embedded derivatives, after adjustment for deferred acquisition costs and retrocession, resulted in an increase in consolidated income before income taxes of $40.9 million and $95.6 million in the first three months of 2018 and 2017, respectively. This fluctuation does not affect current cash flows, crediting rates or spread performance on the underlying treaties. Therefore, management believes it is helpful to distinguish between the effects of changes in these embedded derivatives, net of related hedging activity and deferred acquisition costs, and the primary factors that drive profitability of the underlying treaties, namely investment income, fee income, and interest credited. The individual effect on income before income taxes for these three types of embedded derivatives is as follows:

- The change in the value of embedded derivatives related to reinsurance treaties written on a modco or funds withheld basis are subject to the general accounting principles for derivatives and hedging related to embedded derivatives. The unrealized gains and losses associated with these embedded derivatives, after adjustment for deferred acquisition

costs, increased income before income taxes by $10.5 million and $39.8 million in the first three months of 2018 and 2017, respectively.

- Changes in risk-free rates used in the fair value estimates of embedded derivatives associated with EIAs affect the amount of unrealized gains and losses the Company recognizes. The unrealized gains and losses associated with EIAs, after adjustment for deferred acquisition costs and retrocession, increased income before income taxes by $13.3 million and $11.4 million in the first three months of 2018 and 2017, respectively.

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- The change in the Company's liability for variable annuities associated with guaranteed minimum living benefits affects the amount of unrealized gains and losses the Company recognizes. The unrealized gains and losses associated with guaranteed minimum living benefits, after adjustment for deferred acquisition costs, increased income before income taxes by $17.1 million and $44.4 million in the first three months of 2018 and 2017, respectively. After consideration of the change in fair value of freestanding derivatives used to hedge this liability, income before income taxes decreased by $5.4 million and $4.6 million in the first three months of 2018 and 2017, respectively.

Consolidated net premiums increased $216.9 million, or 9.2%, for the three months ended March 31, 2018, as compared to the same period in 2017, due to growth in life reinsurance in force. Additionally, foreign currency fluctuations contributed to the increase in net premiums by $79.3 million for the first three months of 2018, as compared to the same period in 2017. Consolidated assumed life insurance in force increased to $3,383.8 billion as of March 31, 2018 from $3,136.8 billion as of March 31, 2017 due to new business production, in force transactions and foreign currency exchange fluctuations. The Company added new business production, measured by face amount of insurance in force, of $96.7 billion and $91.6 billion during the first three months of 2018 and 2017, respectively. Favorable foreign currency exchange fluctuations contributed $103.1 billion to the increase in assumed life insurance in force from March 31, 2017. Management believes industry consolidation, regulatory changes and the established practice of reinsuring mortality and morbidity risks should continue to provide opportunities for growth, albeit at rates less than historically experienced in some markets.

Consolidated investment income, net of related expenses, increased $2.0 million, or 0.4%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase is largely attributable to an increase in the average asset base, a higher average investment yield and higher variable investment income. Largely offsetting the increase in investment income was a decrease in the fair value attributed to the Company's funds withheld at interest investment associated with the reinsurance of certain EIAs increased investment income of $43.3 million in the first three months of 2018, as compared to the same period in 2017. The effect on investment income of the EIA's fair value changes is substantially offset by a corresponding change in interest credited to policyholder account balances resulting in an insignificant effect on net income.

Average invested assets at amortized cost, excluding spread related business, for the three months ended March 31, 2018 totaled $27.0 billion, a 7.2% increase over March 31, 2017. The average yield earned on investments, excluding spread related business, was 4.46% and 4.41% for the three months ended March 31, 2018 and 2017, respectively. The average yield will vary from quarter to quarter and year to year depending on a number of variables, including the prevailing interest rate and credit spread environment, prepayment fees and make-whole premiums, changes in the mix of the underlying investments and cash balances, and the timing of dividends and distributions on certain investments. A continued low interest rate environment is expected to put downward pressure on this yield in future reporting periods.

Investment related gains, net decreased by $61.0 million for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease is primarily due to less favorable changes in the fair value of embedded derivatives on modco or funds withheld treaties in the current period compared to 2017 reflecting the impact of changes in interest rates and credit spreads on the calculation of fair value. Changes in the fair value associated with these embedded derivatives increased investment related gains by $13.6 million and $68.7 million in the first three months of 2018 and 2017, respectively. Partially offsetting this decrease were lower impairments on fixed maturity securities, which decreased by $17.2 million in the first three months of 2018, as compared to the same period in 2017. See Note 4 - "Investments" and Note 5 - "Derivative Instruments" in the Notes to Condensed Consolidated Financial Statements for additional information on the impairment losses and derivatives.

The effective tax rate on a consolidated basis was 27.3% and 30.0% for the first quarter 2018 and 2017, respectively. See Note 9 - "Income Tax" in the Notes to Condensed Consolidated Financial Statements for additional information on the Company's consolidated effective tax rates.

Critical Accounting Policies

The preparation of financial statements in conformity with GAAP requires the application of accounting policies that often involve a significant degree of judgment. Management, on an ongoing basis, reviews estimates and assumptions used in the preparation of financial statements. If management determines that modifications in assumptions and estimates are appropriate given current facts and circumstances, results of operations and financial position as reported in the condensed consolidated financial statements could change significantly.

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Management believes the critical accounting policies relating to the following areas are most dependent on the application of estimates and assumptions:

- Premiums receivable;
- Deferred acquisition costs;
- Liabilities for future policy benefits and incurred but not reported claims;
- Valuation of investments and other-than-temporary impairments to specific investments;
- Valuation of embedded derivatives; and
- Income taxes.

A discussion of each of the critical accounting policies may be found in the Company's 2017 Annual Report under "Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies."

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Results of Operations by Segment

U.S. and Latin America Operations

The U.S. and Latin America operations include business generated by its offices in the U.S., Mexico and Brazil. The offices in Mexico and Brazil provide services to clients in other Latin American countries. U.S. and Latin America operations consist of two major segments: Traditional and Financial Solutions. The Traditional segment primarily specializes in individual mortality-risk reinsurance and to a lesser extent, group, health and long-term care reinsurance. The Financial Solutions segment consists of Asset-Intensive and Financial Reinsurance. Asset-Intensive within the Financial Solutions segment provides coinsurance of annuities and corporate-owned life insurance policies and to a lesser extent also issues fee-based synthetic guaranteed investment contracts, which include investment-only, stable value contracts. Financial Reinsurance within the Financial Solutions segment primarily involves assisting ceding companies in meeting applicable regulatory requirements by enhancing the ceding companies' financial strength and regulatory surplus position through relatively low risk reinsurance transactions. Due to the low-risk nature of financial reinsurance transactions, they typically do not qualify as reinsurance under GAAP, so only the related net fees are reflected in other revenues on the condensed consolidated statements of income.

For the three months ended March 31, 2018: (dollars in thousands)		Financial Solutions		
	Traditional	Asset-Intensive	Financial Reinsurance	Total U.S. and Latin America
Revenues:				
Net premiums	$1,299,422	$5,192	$ —	$1,304,614
Investment income, net of related expenses	183,060	157,912	1,822	342,794
Investment related gains (losses), net	1,683	676	—	2,359
Other revenues	5,529	22,959	24,791	53,279
Total revenues	1,489,694	186,739	26,613	1,703,046
Benefits and expenses:				
Claims and other policy benefits	1,254,961	15,945	—	1,270,906
Interest credited	20,280	54,212	—	74,492
Policy acquisition costs and other insurance expenses	177,640	62,035	4,000	243,675
Other operating expenses	33,921	7,285	2,454	43,660
Total benefits and expenses	1,486,802	139,477	6,454	1,632,733
Income before income taxes	$2,892	$47,262	$ 20,159	$70,313

For the three months ended March 31, 2017: (dollars in thousands)		Financial Solutions		
	Traditional	Asset-Intensive	Financial Reinsurance	Total U.S. and Latin America
Revenues:				
Net premiums	$1,304,345	$4,635	$ —	$1,308,980
Investment income, net of related expenses	178,995	187,153	1,664	367,812
Investment related gains (losses), net	1,965	57,771	—	59,736
Other revenues	3,198	23,214	24,409	50,821
Total revenues	1,488,503	272,773	26,073	1,787,349
Benefits and expenses:				
Claims and other policy benefits	1,225,640	17,536	—	1,243,176
Interest credited	20,289	79,157	—	99,446
Policy acquisition costs and other insurance expenses	180,810	83,653	5,941	270,404
Other operating expenses	31,804	6,657	2,316	40,777

Total benefits and expenses	1,458,543	187,003	8,257	1,653,803
Income before income taxes	$29,960	$85,770	$ 17,816	$133,546

Income before income taxes decreased by $63.2 million, or 47.3%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in income before income taxes was primarily due to unfavorable claims experience in the U.S. Traditional segment and changes in the value of the embedded derivatives associated with reinsurance treaties structured on a modco or funds withheld basis.

Traditional Reinsurance

Income before income taxes for the U.S. and Latin America Traditional segment decreased by $27.1 million, or 90.3%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease is primarily due to unfavorable claims experience in the traditional individual mortality line of business and to a lesser extent, the group disability line of business.

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Net premiums decreased $4.9 million, or 0.4%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease was primarily due to the restructuring of a health treaty, which contributed $23.0 million to the decrease in net premiums. Largely offsetting this decrease was organic growth in traditional mortality and group businesses. The segment added new individual life business production, measured by face amount of insurance in force of $23.3 billion and $26.8 billion in the first three months of 2018 and 2017, respectively.

Net investment income increased $4.1 million, or 2.3%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase was due to higher variable income associated with the sale of a joint venture and limited partnership distributions. Investment related gains (losses), net decreased $0.3 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Claims and other policy benefits as a percentage of net premiums (“loss ratios”) were 96.6% and 94.0% for the three months ended March 31, 2018 and 2017, respectively. The increase in the loss ratio in 2018 was primarily due to unfavorable claims experience in traditional individual mortality and group disability lines of business. Management believes the unfavorable individual life and group disability claims experience reflects normal volatility associated with the influenza season.

Interest credited expense remained flat for the three months ended March 31, 2018, as compared to the same period in 2017. Interest credited in this segment relates to amounts credited on cash value products which also have a significant mortality component. Income before income taxes is affected by the spread between the investment income and the interest credited on the underlying products.

Policy acquisition costs and other insurance expenses as a percentage of net premiums were 13.7% and 13.9% for the three months ended March 31, 2018 and 2017, respectively. Overall, while these ratios are expected to remain in a predictable range, they may fluctuate from period to period due to varying allowance levels within coinsurance-type arrangements. In addition, the amortization pattern of previously capitalized amounts, which are subject to the form of the reinsurance agreement and the underlying insurance policies, may vary. Also, the mix of first year coinsurance business versus yearly renewable term business can cause the percentage to fluctuate from period to period.

Other operating expenses increased $2.1 million, or 6.7%, for the three months ended March 31, 2018, as compared to the same period in 2017. Other operating expenses as a percentage of net premiums were 2.6% and 2.4% for the three month periods ended March 31, 2018 and 2017, respectively. The expense ratio tends to fluctuate only slightly from period to period due to the maturity and scale of this segment.

Financial Solutions - Asset-Intensive Reinsurance

Asset-Intensive reinsurance within the U.S. and Latin America Financial Solutions segment primarily involves assuming investment risk within underlying annuities and corporate-owned life insurance policies. Most of these agreements are coinsurance, coinsurance with funds withheld or modco. The Company recognizes profits or losses primarily from the spread between the investment income earned and the interest credited on the underlying deposit liabilities, income associated with longevity risk and fees associated with variable annuity account values and guaranteed investment contracts.

Impact of certain derivatives:

Income from the asset-intensive business tends to be volatile due to changes in the fair value of certain derivatives, including embedded derivatives associated with reinsurance treaties structured on a modco or funds withheld basis, as well as embedded derivatives associated with the Company’s reinsurance of equity-indexed annuities and variable annuities with guaranteed minimum benefit riders. Fluctuations occur period to period primarily due to changing investment conditions including, but not limited to, interest rate movements (including risk-free rates and credit spreads), implied volatility, the Company’s own credit risk and equity market performance, all of which are factors in the calculations of fair value. Therefore, management believes it is helpful to distinguish between the effects of changes in these derivatives, net of related hedging activity, and the primary factors that drive profitability of the underlying treaties, namely investment income, fee income (included in other revenues), and interest credited. These fluctuations are considered unrealized by management and do not affect current cash flows, crediting rates or spread performance on the underlying treaties.

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The following table summarizes the asset-intensive results and quantifies the impact of these embedded derivatives for the periods presented. Revenues before certain derivatives, benefits and expenses before certain derivatives, and income before income taxes and certain derivatives should not be viewed as substitutes for GAAP revenues, GAAP benefits and expenses, and GAAP income before income taxes.

(dollars in thousands)	Three months ended March 31,	
	2018	2017
Revenues:		
Total revenues	$186,739	$272,773
Less:		
Embedded derivatives – modco/funds withheld treaties	11,918	66,738
Guaranteed minimum benefit riders and related free standing derivatives	(4,588)	(6,895)
Revenues before certain derivatives	179,409	212,930
Benefits and expenses:		
Total benefits and expenses	139,477	187,003
Less:		
Embedded derivatives – modco/funds withheld treaties	3,073	28,942
Guaranteed minimum benefit riders and related free standing derivatives	794	(2,282)
Equity-indexed annuities	(13,268)	(11,443)
Benefits and expenses before certain derivatives	148,878	171,786
Income before income taxes:		
Income before income taxes	47,262	85,770
Less:		
Embedded derivatives – modco/funds withheld treaties	8,845	37,796
Guaranteed minimum benefit riders and related free standing derivatives	(5,382)	(4,613)
Equity-indexed annuities	13,268	11,443
Income before income taxes and certain derivatives	$30,531	$41,144

Embedded Derivatives - Modco/Funds Withheld Treaties - Represents the change in the fair value of embedded derivatives on funds withheld at interest associated with treaties written on a modco or funds withheld basis. The fair value changes of embedded derivatives on funds withheld at interest associated with treaties written on a modco or funds withheld basis are reflected in revenues, while the related impact on deferred acquisition expenses is reflected in benefits and expenses. The Company's utilization of a credit valuation adjustment did not have a material effect on the change in fair value of these embedded derivatives for the three months ended March 31, 2018 and 2017.

The change in fair value of the embedded derivatives - modco/funds withheld treaties increased income before income taxes by $8.8 million and $37.8 million for the three months ended March 31, 2018 and 2017, respectively. The increase in income for the three months ended March 31, 2018 was primarily due to tightening credit spreads while the increase in income for the three months ended March 31, 2017 was primarily due to tightening credit spreads and a divergence in the interest rate swap curve relative to treasury rates.

Guaranteed Minimum Benefit Riders - Represents the impact related to guaranteed minimum benefits associated with the Company's reinsurance of variable annuities. The fair value changes of the guaranteed minimum benefits along with the changes in fair value of the free standing derivatives (interest rate swaps, financial futures and equity options), purchased by the Company to substantially hedge the liability are reflected in revenues, while the related impact on deferred acquisition expenses is reflected in benefits and expenses. The Company's utilization of a credit valuation adjustment did not have a material effect on the change in fair value of these embedded derivatives for the three months ended March 31, 2018 and 2017.

The change in fair value of the guaranteed minimum benefits, after allowing for changes in the associated free standing derivatives, decreased income before income taxes by $5.4 million and $4.6 million for the three months ended March 31, 2018 and 2017, respectively. The decrease in income for the three months ended March 31, 2018

was primarily the result of interest rate movements. The decrease for the three months ended March 31, 2017 was primarily the result of lower policyholder lapses.

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Equity-Indexed Annuities - Represents changes in the liability for equity-indexed annuities in excess of changes in account value, after adjustments for related deferred acquisition expenses. The change in fair value of embedded derivative liabilities associated with equity-indexed annuities increased income before income taxes by $13.3 million and $11.4 million for the three months ended March 31, 2018 and 2017, respectively. The increase in income for the three months ended March 31, 2018 was due to lower policyholder lapses and withdrawals. The increase for the three months ended March 31, 2017 was primarily due to changes in the domestic equity markets.

The changes in derivatives discussed above are considered unrealized by management and do not affect current cash flows, crediting rates or spread performance on the underlying treaties. Fluctuations occur period to period primarily due to changing investment conditions including, but not limited to, interest rate movements (including benchmark rates and credit spreads), credit valuation adjustments, implied volatility and equity market performance, all of which are factors in the calculations of fair value. Therefore, management believes it is helpful to distinguish between the effects of changes in these derivatives and the primary factors that drive profitability of the underlying treaties, namely investment income, fee income (included in other revenues) and interest credited.

Discussion and analysis before certain derivatives:

Income before income taxes and certain derivatives decreased by $10.6 million for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease was primarily due to lower investment related gains (losses), net of the corresponding impact to deferred acquisition costs, associated with coinsurance and funds withheld portfolios. Funds withheld capital gains (losses) are reported in investment income.

Revenue before certain derivatives decreased by $33.5 million for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in the first quarter was primarily due to the change in fair value of equity options associated with the reinsurance of EIAs and lower investment related gains (losses) associated with coinsurance and funds withheld portfolios. The effect on investment income related to equity options is substantially offset by a corresponding change in interest credited.

Benefits and expenses before certain derivatives decreased by $22.9 million for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in the first quarter of 2018 was primarily due to lower interest credited associated with the reinsurance of EIAs in coinsurance and funds withheld portfolios. The effect on interest credited related to equity options is substantially offset by a corresponding change in investment income.

The invested asset base supporting this segment increased to $16.0 billion as of March 31, 2018 from $13.2 billion as of March 31, 2017. As of March 31, 2018, $4.1 billion of the invested assets were funds withheld at interest, of which greater than 90% is associated with one client.

Financial Solutions - Financial Reinsurance

Financial Reinsurance within the U.S. and Latin America Financial Solutions segment income before income taxes consists primarily of net fees earned on financial reinsurance transactions. Additionally, a portion of the business is brokered business in which the Company does not participate in the assumption of risk. The fees earned from financial reinsurance contracts and brokered business are reflected in other revenues, and the fees paid to retrocessionaires are reflected in policy acquisition costs and other insurance expenses.

Income before income taxes increased $2.3 million, or 13.2%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase was primarily due to growth from new transactions.

As of March 31, 2018 and 2017, the amount of reinsurance assumed from client companies, as measured by pre-tax statutory surplus, risk based capital and other financial structures was $13.3 billion and $10.6 billion, respectively. The increase was primarily due to a number of new transactions, as well as organic growth on existing transactions. Fees earned from this business can vary significantly depending on the size of the transactions and the timing of their completion and therefore can fluctuate from period to period.

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Canada Operations

The Company conducts reinsurance business in Canada primarily through RGA Canada, which assists clients with capital management activity and mortality and morbidity risk management. The Canada operations is primarily engaged in Traditional reinsurance, which consists mainly of traditional individual life reinsurance, as well as creditor, group life and health, critical illness and disability reinsurance. Creditor insurance covers the outstanding balance on personal, mortgage or commercial loans in the event of death, disability or critical illness and is generally shorter in duration than traditional individual life insurance. The Canada Financial Solutions segment consists of longevity and financial reinsurance.

(dollars in thousands)	Three months ended March 31,					
	2018			2017		
Revenues:	Traditional	Financial Solutions	Total Canada	Traditional	Financial Solutions	Total Canada
Net premiums	$252,723	$ 11,305	$264,028	$215,762	$ 9,410	$225,172
Investment income, net of related expenses	50,584	115	50,699	44,506	1,044	45,550
Investment related gains (losses), net	(731)	—	(731)	3,843	—	3,843
Other revenues	(257)	1,357	1,100	164	1,353	1,517
Total revenues	302,319	12,777	315,096	264,275	11,807	276,082
Benefits and expenses:						
Claims and other policy benefits	212,825	9,115	221,940	191,052	7,619	198,671
Interest credited	5	—	5	4	—	4
Policy acquisition costs and other insurance expenses	57,032	96	57,128	45,682	144	45,826
Other operating expenses	8,750	375	9,125	8,209	452	8,661
Total benefits and expenses	278,612	9,586	288,198	244,947	8,215	253,162
Income before income taxes	$23,707	$ 3,191	$26,898	$19,328	$ 3,592	$22,920

Income before income taxes increased by $4.0 million, or 17.4%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase in income in the first three months of 2018 is primarily due to favorable traditional individual life mortality experience as compared to the same period in 2017 as well as a new in force block transaction entered into in 2018. A strengthening Canadian dollar resulted in an increase in income before income taxes of $1.6 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Traditional Reinsurance

Income before income taxes for the Canada Traditional segment increased by $4.4 million, or 22.7%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase in income before income taxes in 2018 is primarily due to favorable traditional individual life mortality experience as well as a new in force block transaction entered into in 2018. A strengthening Canadian dollar resulted in an increase in income before income taxes of $1.4 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Net premiums increased $37.0 million, or 17.1%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase in 2018 was primarily due to the aforementioned in force block transaction that increased insurance in force by $10.3 billion during the quarter. Foreign currency exchange fluctuation in the Canadian dollar resulted in an increase in net premiums of $10.8 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Net investment income increased $6.1 million, or 13.7%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase in 2018 is primarily a result of an increase in the invested asset base due to growth in underlying business volume and an increase in investment yields from a higher level of variable investment income. Additionally, foreign currency exchange fluctuation in the Canadian dollar resulted in an increase in net investment income of $2.2 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Investment related gains (losses), net decreased by $4.6 million, or 119.0%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in 2018 was primarily due to a decline in the fair market value of derivatives.

Loss ratios for this segment were 84.2% and 88.5% for the three months ended March 31, 2018 and 2017, respectively. The decrease in the loss ratio for the first quarter of 2018, as compared to the same period in 2017, is due to favorable traditional individual life mortality experience and the aforementioned in force block transaction, partially offset by unfavorable results on group business. Loss ratios for the traditional individual life mortality business were 91.3% and 102.4% for the first three months ended March 31, 2018 and 2017, respectively. Excluding creditor business, claims as a percentage of net premiums for this segment were 77.0% and 81.8% for the three months ended March 31, 2018 and 2017, respectively. Historically, the loss ratio increased primarily as the result of several large permanent level premium in force blocks assumed in 1997 and 1998. These blocks are

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mature blocks of long-term permanent level premium business in which mortality as a percentage of net premiums is expected to be higher than historical ratios. The nature of permanent level premium policies requires the Company to set up actuarial liabilities and invest the amounts received in excess of early-year claims costs to fund claims in later years when premiums, by design, continue to be level as compared to expected increasing mortality or claim costs. As such, investment income becomes a more significant component of profitability of these in force blocks. Excluding creditor business, claims and other policy benefits, as a percentage of net premiums and investment income were 75.3% and 81.9% for the three months ended March 31, 2018 and 2017, respectively.

Policy acquisition costs and other insurance expenses as a percentage of net premiums were 22.6% and 21.2% for the three months ended March 31, 2018 and 2017, respectively. Overall, while these ratios are expected to remain in a predictable range, they may fluctuate from period to period due to varying allowance levels and product mix. In addition, the amortization patterns of previously capitalized amounts, which are subject to the form of the reinsurance agreement and the underlying insurance policies, may vary.

Other operating expenses increased by $0.5 million, or 6.6%, for the three months ended March 31, 2018, as compared to the same period in 2017. Other operating expenses as a percentage of net premiums were 3.5% and 3.8% for the three months ended March 31, 2018 and 2017, respectively.

Financial Solutions Reinsurance

Income before income taxes decreased by $0.4 million, or 11.2%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in income in the first three months was primarily due to a decrease in net investment income as a result of a decrease in the invested asset base partially offset by favorable experience on longevity business. A strengthening Canadian dollar resulted in an increase in income before income taxes of $0.2 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Net premiums increased $1.9 million, or 20.1%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase was primarily due to longevity business, where the premium structure generally increases over time. A strengthening Canadian dollar resulted in an increase in net premiums of $0.5 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Net investment income decreased $0.9 million, or 89.0%, for the three months ended March 31, 2018, as compared to the same period in 2017 primarily due to a decrease in the invested asset base.

Claims and other policy benefits increased $1.5 million, or 19.6%, for the three months ended March 31, 2018 as compared to the same period in 2017. The increase was primarily a result of normal aging of the longevity block of business.

Europe, Middle East and Africa Operations

The Europe, Middle East and Africa ("EMEA") operations include business generated by its offices principally in the United Kingdom ("UK"), South Africa, France, Germany, Ireland, Italy, the Netherlands, Poland, Spain and the Middle East region. EMEA consists of two major segments: Traditional and Financial Solutions. The Traditional segment primarily provides reinsurance through yearly renewable term and coinsurance agreements on a variety of life, health and critical illness products. Reinsurance agreements may be facultative or automatic agreements covering primarily individual risks and, in some markets, group risks. The Financial Solutions segment consists of reinsurance and other transactions associated with longevity closed blocks, payout annuities, capital management solutions and financial reinsurance.

(dollars in thousands)	Three months ended March 31,					
	2018			2017		
Revenues:	Traditional	Financial Solutions	Total EMEA	Traditional	Financial Solutions	Total EMEA
Net premiums	$375,729	$47,979	$423,708	$304,672	$ 41,995	$346,667
Investment income, net of related expenses	15,764	31,932	47,696	12,720	29,681	42,401
Investment related gains (losses), net	9	3,352	3,361	7	4,575	4,582
Other revenues	2,280	4,880	7,160	687	3,738	4,425

Total revenues	393,782	88,143	481,925	318,086	79,989	398,075
Benefits and expenses:						
Claims and other policy benefits	326,802	42,471	369,273	266,401	35,936	302,337
Interest credited	—	(2,652)	(2,652)	—	4,113	4,113
Policy acquisition costs and other insurance expenses	25,552	1,080	26,632	15,163	289	15,452
Other operating expenses	26,007	8,080	34,087	22,546	7,733	30,279
Total benefits and expenses	378,361	48,979	427,340	304,110	48,071	352,181
Income (loss) before income taxes	$15,421	$39,164	$54,585	$13,976	$ 31,918	$45,894

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Income before income taxes increased by $8.7 million, or 18.9%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase in income before income taxes for the first three months was primarily due to foreign currency exchange fluctuations and favorable Financial Solutions performance in payout annuities. Foreign currency exchange fluctuations resulted in an increase in income before income taxes totaling $6.1 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Traditional Reinsurance

Income before income taxes increased by $1.4 million, or 10.3%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase in income before income taxes was primarily due to foreign currency exchange fluctuations while favorable experience in group and health business was offset by unfavorable individual mortality and morbidity experience. Foreign currency exchange fluctuations resulted in an increase in income before income taxes totaling $1.8 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Net premiums increased $71.1 million, or 23.3%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase in net premiums was primarily due to foreign currency exchange fluctuations as well as increased business volumes, primarily from individual mortality business in the UK and Middle East region. Foreign currency exchange fluctuations increased net premiums by $40.3 million for the three months ended March 31, 2018, as compared to the same period in 2017.

A portion of the net premiums for the segment, in each period presented, relates to reinsurance of critical illness coverage, primarily in the UK. This coverage provides a benefit in the event of the diagnosis of a pre-defined critical illness. Net premiums earned from this coverage totaled $48.9 million and $46.0 million for the first three months of 2018 and 2017, respectively.

Net investment income increased $3.0 million, or 23.9%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase for the first three months of 2018 was primarily due to an increase in the invested asset base. Foreign currency exchange fluctuation resulted in an increase in net investment income of $1.7 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Loss ratios for this segment were 87.0% and 87.4% for the three month periods ended March 31, 2018 and 2017, respectively. The slight decrease in the loss ratio for the first three months of 2018 is primarily due to changes in business mix, partially offset by slightly higher overall claim rates. Management views recent claims experience as normal short-term volatility that is inherent in the business.

Policy acquisition costs and other insurance expenses as a percentage of net premiums were 6.8% and 5.0% for the three months ended March 31, 2018 and 2017, respectively. These percentages fluctuate due to timing of client company reporting, variations in the mixture of business and the relative maturity of the business. Certain new treaties have included higher than average ceding allowances.

Other operating expenses increased $3.5 million, or 15.4%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase was primarily due to foreign currency exchange fluctuation, which resulted in an increase in operating expenses of $2.9 million for the three months ended March 31, 2018, as compared to the same period in 2017. Other operating expenses as a percentage of net premiums totaled 6.9% and 7.4% for the three months ended March 31, 2018 and 2017, respectively.

Financial Solutions Reinsurance

Income before income taxes increased by $7.2 million, or 22.7%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase in income before income taxes for the first three months was primarily due to foreign currency exchange fluctuations and favorable payout annuity and closed block longevity experience. Foreign currency exchange fluctuations resulted in an increase in income before income taxes totaling $4.3 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Net premiums increased $6.0 million, or 14.2%, for the three months ended March 31, 2018, as compared to the same period in 2017. Net premiums increased primarily due to foreign currency exchange fluctuations and increased volumes related to closed block longevity business. Foreign currency exchange fluctuations increased net premiums by $5.4 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Net investment income increased $2.3 million, or 7.6%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase was primarily due to an increase in the asset base related to new business and favorable foreign currency exchange fluctuation offset by a decrease in investment income related to unit-linked products. The effect on investment income related to unit-linked products is substantially offset by a corresponding change in interest credited. Foreign currency exchange fluctuation resulted in an increase in investment income of $3.4 million for the three months ended March 31, 2018, as compared to the same period in 2017.

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Other revenues increased by $1.1 million, or 30.6%, for the three months ended March 31, 2018, as compared to the same period in 2017. Fees earned from this business can vary significantly depending on the size of the transactions and the timing of their completion and, therefore, can fluctuate from period to period.
Claims and other policy benefits increased $6.5 million, or 18.2%, for the three months ended March 31, 2018, as compared to the same period in 2017. An increase in claims and other policy benefits was due primarily to foreign currency exchange fluctuations and increased payout annuity business volumes. Foreign currency exchange fluctuations increased claims and other policy benefits by $4.7 million for the three months ended March 31, 2018, as compared to the same period in 2017.
Interest credited expense decreased by $6.8 million for the three months ended March 31, 2018, as compared to the same period in 2017. Interest credited in this segment relates to amounts credited to the contractholders of unit-linked products. The effect on interest credited related to unit-linked products is substantially offset by a corresponding change in investment income.
Other operating expenses increased $0.3 million, or 4.5%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase is primarily due to foreign currency exchange fluctuation, which resulted in an increase in operating expenses of $1.0 million for the three months ended March 31, 2018, as compared to the same period in 2017.
Asia Pacific Operations
The Asia Pacific operations include business generated by its offices principally in Australia, China, Hong Kong, India, Japan, Malaysia, New Zealand, Singapore, South Korea and Taiwan. The Traditional segment's principal types of reinsurance include individual and group life and health, critical illness, disability and superannuation. Superannuation is the Australian government mandated compulsory retirement savings program. Superannuation funds accumulate retirement funds for employees, and, in addition, typically offer life and disability insurance coverage. The Financial Solutions segment includes financial reinsurance, asset-intensive and certain disability and life blocks. Reinsurance agreements may be facultative or automatic agreements covering primarily individual risks and in some markets, group risks.

(dollars in thousands)	Three months ended March 31,					
	2018			2017		
Revenues:	Traditional	Financial Solutions	Total Asia Pacific	Traditional	Financial Solutions	Total Asia Pacific
Net premiums	$589,513	$ 678	$590,191	$483,307	$ 1,526	$484,833
Investment income, net of related expenses	24,600	10,394	34,994	21,902	5,536	27,438
Investment related gains (losses), net	8	3,467	3,475	—	7,185	7,185
Other revenues	418	5,307	5,725	21	6,205	6,226
Total revenues	614,539	19,846	634,385	505,230	20,452	525,682
Benefits and expenses:						
Claims and other policy benefits	495,194	4,468	499,662	355,439	6,495	361,934
Interest credited	—	6,394	6,394	—	2,997	2,997
Policy acquisition costs and other insurance expenses	58,782	1,197	59,979	72,857	1,917	74,774
Other operating expenses	37,676	3,766	41,442	35,246	3,171	38,417
Total benefits and expenses	591,652	15,825	607,477	463,542	14,580	478,122
Income before income taxes	$22,887	$ 4,021	$26,908	$41,688	$ 5,872	$47,560

Income before income taxes decreased by $20.7 million, or 43.4%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in income before income taxes for the first three months is primarily attributable to unfavorable claims experience and from new business mix. Foreign currency exchange fluctuations resulted in an increase to income before income taxes totaling $1.1 million for the three months ended March 31, 2018, as compared to the same period in 2017.
Traditional Reinsurance

Income before income taxes decreased by $18.8 million, or 45.1%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in income before income taxes in 2018 was primarily due to unfavorable claims experience and new business mix. Foreign currency exchange fluctuations resulted in an increase to income before income taxes totaling $1.0 million for the three months ended 2018, as compared to the same period in 2017.

Net premiums increased by $106.2 million, or 22.0%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase for the three month period in 2018 was driven by new business written in Asian markets. Foreign currency exchange fluctuations resulted in an increase in net premiums of $21.3 million for the three months ended March 31, 2018, as compared to the same period in 2017.

A portion of the net premiums for the segment, in each period presented, relates to reinsurance of critical illness coverage. This coverage provides a benefit in the event of the diagnosis of a pre-defined critical illness. Reinsurance of critical illness in the segment is offered primarily in South Korea, Australia and Hong Kong. Net premiums earned from this coverage totaled $235.7 million and $141.9 million for the three months ended March 31, 2018 and 2017, respectively.

Net investment income increased $2.7 million, or 12.3%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase was primarily due to an increase in the invested asset base. Foreign currency exchange fluctuations resulted in an increase in net investment income of $0.8 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Loss ratios for this segment were 84.0% and 73.5% for the three months ended March 31, 2018 and 2017, respectively. The increase in the loss ratio for the first three months of 2018 was primarily due to unfavorable claims experience in Australia and several Asian markets. The loss ratio in 2017 reflected favorable claims experience in several markets.

Policy acquisition costs and other insurance expenses as a percentage of net premiums were 10.0% and 15.1% for the three months ended March 31, 2018 and 2017, respectively. The ratio of policy acquisition costs and other insurance expenses as a percentage of net premiums fluctuates periodically due to timing of client company reporting and variations in the mixture of business. The decrease in the current quarter is primarily due to the true-up of allowances based on updated client reporting.

Other operating expenses increased $2.4 million or 6.9%, for the three months ended March 31, 2018, as compared to the same period in 2017 mainly due to higher compensation and employee related expenses. Foreign currency exchange fluctuations resulted in an increase in other operating expenses of $1.4 million for the three months ended March 31, 2018, as compared to the same period in 2017. Other operating expenses as a percentage of net premiums totaled 6.4% and 7.3% for the three months ended March 31, 2018 and 2017, respectively. The timing of premium flows and the level of costs associated with development of new markets within the segment may cause other operating expenses as a percentage of net premiums to fluctuate from period to period.

Financial Solutions Reinsurance

Income before income taxes decreased by $1.9 million, or 31.5%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in income before income taxes is primarily attributable to a decline in investment related gains (losses) in the first three months of 2018 as compared to the same period in 2017. Foreign currency exchange fluctuations increased income before income taxes by $0.1 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Net premiums decreased $0.8 million, or 55.6%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease was primarily due to policy lapses on a closed treaty in Japan.

Net investment income increased $4.9 million, or 87.8%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase is primarily driven by growth in invested asset base from new transactions. Foreign currency exchange fluctuation resulted in an increase in net investment income of $0.2 million for the three months ended March 31, 2018, as compared to the same period in 2017.

Other revenues decreased by $0.9 million, or 14.5%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease is primarily due to foreign currency gains recorded in the first three months of 2017. As of March 31, 2018 and 2017, the amount of reinsurance assumed from client companies, as measured by pre-tax statutory surplus, risk based capital and other financial reinsurance structures was $2.6 billion and $1.5 billion, respectively. Fees earned from this business can vary significantly depending on the size of the transactions and the timing of their completion and, therefore, can fluctuate from period to period.

Claims and other policy benefits decreased by $2.0 million, or 31.2%, for the three months ended March 31, 2018, as compared to the same period in 2017. This decrease is attributable to lower lapses on the aforementioned closed treaty in Japan.

Interest credited expense increased by $3.4 million, or 113.3%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase is primarily driven by growth from new asset-intensive transactions.

Other operating expenses increased $0.6 million, or 18.8%, for the three months ended March 31, 2018, as compared to the same period in 2017. The timing of premium flows and the level of costs associated with the entrance into and development of new markets within the segment may cause other operating expenses to fluctuate from period to period.

Corporate and Other

Corporate and Other revenues primarily include investment income from unallocated invested assets and investment related gains and losses. Corporate and Other expenses consist of the offset to capital charges allocated to the operating segments within the policy acquisition costs and other insurance income line item, unallocated overhead and executive costs, interest expense related to debt, and the investment income and expense associated with the Company's collateral finance and securitization transactions. Additionally, Corporate and Other includes results from certain wholly-owned subsidiaries, such as RGAx, and joint ventures that, among other activities, develop and market technology, and provide consulting and outsourcing solutions for the insurance and reinsurance industry.

(dollars in thousands)	Three months ended March 31,	
	2018	2017
Revenues:		
Net premiums	$10	$44
Investment income, net of related expenses	40,146	31,163
Investment related gains (losses), net	(8,934)	(14,823)
Other revenues	8,033	5,168
Total revenues	39,255	21,552
Benefits and expenses:		
Claims and other policy benefits	320	27
Interest credited	2,210	1,124
Policy acquisition costs and other insurance income	(30,512)	(27,067)
Other operating expenses	62,960	40,372
Interest expense	37,454	42,402
Collateral finance and securitization expense	7,602	6,770
Total benefits and expenses	80,034	63,628
Loss before income taxes	$(40,779)	$(42,076)

Loss before income taxes decreased by $1.3 million, or 3.1%, for the three months ended March 31, 2018, as compared to the same period in 2017. The decrease in loss before income taxes in the first quarter is primarily due to increases in investment income, investment related gains (losses), net and lower interest expense partially offset by an increase in other operating expenses.

Total revenues increased by $17.7 million, or 82.1%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase for the first three months is primarily due to increases of $9.0 million in investment income, related to an increase in unallocated invested assets and higher investment yields, as well as a $5.9 million reduction in investment related losses. The decrease in investment related losses, net was primarily caused by a $14.1 million reduction in other-than-temporary impairments on fixed maturity securities, which was offset by a $4.2 million change in fair value of equity securities and a $3.0 million increase in net losses on the sale of securities. In addition, the Company's January 2018 acquisition of LOGiQ3 Inc., a group of companies providing technology, consulting and outsourcing solutions primarily to the North American life insurance and reinsurance industry, contributed $2.9 million to other revenues in the current quarter.

Total benefits and expenses increased by $16.4 million, or 25.8%, for the three months ended March 31, 2018, as compared to the same period in 2017. The increase in the first three months is primarily due to a $22.6 million increase in other operating expenses, offset by a decrease of $4.9 million in interest expense. The increase in operating expenses was primarily related to increased consulting expenses and compensation expense due to increased compliance costs, strategic initiatives and acquisitions. The aforementioned acquisition of LOGiQ3 Inc. contributed $4.7 million of other operating expenses in the current quarter. The decrease in interest expense was primarily due to the repayment of $300.0 million of long-term debt in 2017.

Liquidity and Capital Resources

Overview

The Company believes that cash flows from the source of funds available to it will provide sufficient cash flows for the next twelve months to satisfy the current liquidity requirements of RGA, Inc. and its subsidiaries under various scenarios that include the potential risk of early recapture of reinsurance treaties, market events and higher than expected claims. The Company performs periodic liquidity stress testing to ensure its asset portfolio includes sufficient high quality liquid assets that could be utilized to bolster its liquidity position under stress scenarios. These assets could be utilized as collateral for secured borrowing transactions with various third parties or by selling the securities in the open market if needed. The Company’s liquidity requirements have been and will continue to be funded through net cash flows from operations. However, in the event of significant unanticipated

cash requirements beyond normal liquidity needs, the Company has multiple liquidity alternatives available based on market conditions and the amount and timing of the liquidity need. These alternatives include borrowings under committed credit facilities, secured borrowings, the ability to issue long-term debt, preferred securities or common equity and, if necessary, the sale of invested assets subject to market conditions.

Current Market Environment

The current low interest rate environment in select markets, primarily the U.S. and Canada, continues to put downward pressure on the Company's investment yield. The Company’s average investment yield, excluding spread business, for the three months ended March 31, 2018 was 4.46%, five basis points above the same period in 2017. The Company’s insurance liabilities, in particular its annuity products, are sensitive to changing market factors. Gross unrealized gains on fixed maturity securities available-for-sale decreased from $2,982.8 million at December 31, 2017 to $2,413.0 million at March 31, 2018. Similarly, gross unrealized losses increased from $113.3 million at December 31, 2017 to $381.5 million at March 31, 2018.

The Company continues to be in a position to hold any investment security showing an unrealized loss until recovery, provided it remains comfortable with the credit of the issuer. As indicated above, gross unrealized gains on fixed maturity securities of $2,413.0 million remain well in excess of gross unrealized losses of $381.5 million as of March 31, 2018. The Company does not rely on short-term funding or commercial paper and to date it has experienced no liquidity pressure, nor does it anticipate such pressure in the foreseeable future.

The Company projects its reserves to be sufficient, and it would not expect to write down deferred acquisition costs or be required to take any actions to augment capital, even if interest rates remain at current levels for the next five years, assuming all other factors remain constant. While the Company has felt the pressures of sustained low interest rates and volatile equity markets and may continue to do so, its business operations are not overly sensitive to these risks. Although management believes the Company’s current capital base is adequate to support its business at current operating levels, it continues to monitor new business opportunities and any associated new capital needs that could arise from the changing financial landscape.

The Holding Company

RGA is an insurance holding company whose primary uses of liquidity include, but are not limited to, the immediate capital needs of its operating companies, dividends paid to its shareholders, repurchase of common stock and interest payments on its indebtedness. The primary sources of RGA’s liquidity include proceeds from its capital-raising efforts, interest income on undeployed corporate investments, interest income received on surplus notes with RGA Reinsurance, RCM and Rockwood Re and dividends from operating subsidiaries. As the Company continues its expansion efforts, RGA will continue to be dependent upon these sources of liquidity. The following tables provide comparative information for RGA (dollars in thousands):

	Three months ended March 31,	
	2018	2017
Interest expense	$45,444	$50,221
Capital contributions to subsidiaries	11,000	7,500
Dividends to shareholders	32,241	26,381
Interest and dividend income	31,547	26,073

	March 31, 2018	December 31, 2017
Cash and invested assets	$677,956	$779,996

See Item 15, Schedule II - “Condensed Financial Information of the Registrant” in the 2017 Annual Report for additional financial information related to RGA.

The undistributed earnings of substantially all of the Company’s foreign subsidiaries have been reinvested indefinitely in those non-U.S. operations, as described in Note 9 - “Income Tax” of the Notes to Consolidated Financial Statements in the 2017 Annual Report. As U.S. Tax Reform generally eliminates U.S. federal income taxes on dividends from foreign subsidiaries, the Company does not expect to incur material income taxes if these funds are repatriated.

RGA endeavors to maintain a capital structure that provides financial and operational flexibility to its subsidiaries, credit ratings that support its competitive position in the financial services marketplace, and shareholder returns. As part of the Company's capital deployment strategy, it has in recent years repurchased shares of RGA common stock and paid dividends to RGA shareholders, as authorized by the board of directors. RGA's current share repurchase program, which was approved by the board of directors in January 2017, authorizes the repurchase of up to $400.0 million of common stock. The pace of repurchase activity depends on various factors such as the level of available cash, an evaluation of the costs and benefits associated with alternative uses of excess capital, such as acquisitions and in force reinsurance transactions, and RGA's stock price.

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In April 2018, RGA's board of directors declared a quarterly dividend of $0.50 per share. All future payments of dividends are at the discretion of RGA's board of directors and will depend on the Company's earnings, capital requirements, insurance regulatory conditions, operating conditions, and other such factors as the board of directors may deem relevant. The amount of dividends that RGA can pay will depend in part on the operations of its reinsurance subsidiaries. See Note 3 - "Equity" in the Notes to Condensed Consolidated Financial Statements for information on the Company's share repurchase program.

Debt

Certain of the Company's debt agreements contain financial covenant restrictions related to, among others, liens, the issuance and disposition of stock of restricted subsidiaries, minimum requirements of consolidated net worth, maximum ratios of debt to capitalization and change of control provisions. The Company is required to maintain a minimum consolidated net worth, as defined in the debt agreements, of $3.5 billion, calculated as of the last day of each fiscal quarter. Also, consolidated indebtedness, calculated as of the last day of each fiscal quarter, cannot exceed 35% of the sum of the Company's consolidated indebtedness plus adjusted consolidated stockholders' equity. A material ongoing covenant default could require immediate payment of the amount due, including principal, under the various agreements. Additionally, the Company's debt agreements contain cross-default covenants, which would make outstanding borrowings immediately payable in the event of a material uncured covenant default under any of the agreements, including, but not limited to, non-payment of indebtedness when due for an amount in excess of $100.0 million, bankruptcy proceedings, or any other event which results in the acceleration of the maturity of indebtedness.

As of March 31, 2018 and December 31, 2017, the Company had $2.8 billion in outstanding borrowings under its debt agreements and was in compliance with all covenants under those agreements. As of March 31, 2018 and December 31, 2017, the average interest rate on long-term debt outstanding was 5.24%. The ability of the Company to make debt principal and interest payments depends on the earnings and surplus of subsidiaries, investment earnings on undeployed capital proceeds, available liquidity at the holding company, and the Company's ability to raise additional funds.

The Company enters into derivative agreements with counterparties that reference either the Company's debt rating or its financial strength rating. If either rating is downgraded in the future, it could trigger certain terms in the Company's derivative agreements, which could negatively affect overall liquidity. For the majority of the Company's derivative agreements, there is a termination event, at the Company's option, should the long-term senior debt ratings drop below either BBB+ (S&P) or Baa1 (Moody's) or the financial strength ratings drop below either A- (S&P) or A3 (Moody's).

The Company may borrow up to $850.0 million in cash and obtain letters of credit in multiple currencies on its revolving credit facility that matures in September 2019. As of March 31, 2018, the Company had no cash borrowings outstanding and $80.9 million in issued, but undrawn, letters of credit under this facility.

Based on the historic cash flows and the current financial results of the Company, management believes RGA's cash flows will be sufficient to enable RGA to meet its obligations for at least the next 12 months.

Credit and Committed Facilities

At March 31, 2018, the Company maintained an $850.0 million syndicated revolving credit facility and certain committed letter of credit facilities aggregating $1,275.8 million. See Note 13 - "Debt" in the Notes to Consolidated Financial Statements in the 2017 Annual Report for further information about these facilities.

The Company has obtained bank letters of credit in favor of various affiliated and unaffiliated insurance companies from which the Company assumes business. These letters of credit represent guarantees of performance under the reinsurance agreements and allow ceding companies to take statutory reserve credits. Certain of these letters of credit contain financial covenant restrictions similar to those described in the "Debt" discussion above. At March 31, 2018, there were approximately $110.8 million of outstanding bank letters of credit in favor of third parties. Additionally, in accordance with applicable regulations, the Company utilizes letters of credit to secure statutory reserve credits when it retrocedes business to its affiliated subsidiaries. The Company cedes business to its affiliates to help reduce the amount of regulatory capital required in certain jurisdictions, such as the U.S. and the UK. The Company believes the capital required to support the business in the affiliates reflects more realistic expectations than the original

jurisdiction of the business, where capital requirements are often considered to be quite conservative. As of March 31, 2018, $1.7 billion in letters of credit from various banks were outstanding, but undrawn, backing reinsurance between the various subsidiaries of the Company.

Cash Flows

The Company’s principal cash inflows from its reinsurance operations include premiums and deposit funds received from ceding companies. The primary liquidity concerns with respect to these cash flows are early recapture of the reinsurance contract by the ceding company and lapses of annuity products reinsured by the Company. The Company’s principal cash inflows from its invested assets result from investment income and the maturity and sales of invested assets. The primary liquidity concerns with respect

to these cash inflows relates to the risk of default by debtors and interest rate volatility. The Company manages these risks very closely. See “Investments” and “Interest Rate Risk” below.

Additional sources of liquidity to meet unexpected cash outflows in excess of operating cash inflows and current cash and equivalents on hand include selling short-term investments or fixed maturity securities and drawing funds under a revolving credit facility, under which the Company had availability of $769.1 million as of March 31, 2018. The Company also has $1.1 billion of funds available through collateralized borrowings from the FHLB as of March 31, 2018. As of March 31, 2018, the Company could have borrowed these additional amounts without violating any of its existing debt covenants.

The Company’s principal cash outflows relate to the payment of claims liabilities, interest credited, operating expenses, income taxes, dividends to shareholders, purchases of treasury stock, and principal and interest under debt and other financing obligations. The Company seeks to limit its exposure to loss on any single insured and to recover a portion of benefits paid by ceding reinsurance to other insurance enterprises or reinsurers under excess coverage and coinsurance contracts (See Note 2, “Summary of Significant Accounting Policies” in the Notes to Consolidated Financial Statements in the 2017 Annual Report). The Company performs annual financial reviews of its retrocessionaires to evaluate financial stability and performance. The Company has never experienced a material default in connection with retrocession arrangements, nor has it experienced any difficulty in collecting claims recoverable from retrocessionaires; however, no assurance can be given as to the future performance of such retrocessionaires nor to the recoverability of future claims. The Company’s management believes its current sources of liquidity are adequate to meet its cash requirements for the next 12 months.

Summary of Primary Sources and Uses of Liquidity and Capital

The Company’s primary sources and uses of liquidity and capital are summarized as follows:

	For the three months ended March 31,	
	2018	2017
	(Dollars in thousands)	
Sources:		
Net cash provided by operating activities	$223,749	$417,365
Exercise of stock options, net	1,163	1,719
Change in cash collateral for derivative positions and other arrangements	19,537	—
Cash provided by changes in universal life and other investment type policies and contracts	—	1,066
Effect of exchange rate changes on cash	21,989	18,833
Total sources	266,438	438,983
Uses:		
Net cash provided by (used in) investing activities	(76,550)	110,967
Dividends to stockholders	32,241	26,381
Repayment of collateral finance and securitization notes	27,104	16,908
Principal payments of long-term debt	662	300,636
Purchases of treasury stock	2,616	3,067
Change in cash collateral for derivative positions and other arrangements	—	3,628
Cash used for changes in universal life and other investment type policies and contracts	73,482	—
Total uses	59,555	461,587
Net change in cash and cash equivalents	$206,883	$(22,604)

Cash Flows from Operations - The principal cash inflows from the Company’s reinsurance activities come from premiums, investment and fee income, annuity considerations and deposit funds. The principal cash outflows relate to the liabilities associated with various life and health insurance, annuity and disability products, operating expenses,

income tax payments and interest on outstanding debt obligations. The primary liquidity concern with respect to these cash flows is the risk of shortfalls in premiums and investment income, particularly in periods with abnormally high claims levels.

Cash Flows from Investments - The principal cash inflows from the Company's investment activities come from repayments of principal on invested assets, proceeds from maturities of invested assets, sales of invested assets and settlements of freestanding derivatives. The principal cash outflows relate to purchases of investments, issuances of policy loans and settlements of freestanding derivatives. The Company typically has a net cash outflow from investing activities because cash inflows from insurance operations are reinvested in accordance with its asset/liability management discipline to fund insurance liabilities. The Company closely monitors and manages these risks through its credit risk management process. The primary liquidity concerns with respect to these cash flows are the risk of default by debtors and market disruption, which could make it difficult for the Company to sell investments.

Financing Cash Flows - The principal cash inflows from the Company's financing activities come from issuances of RGA debt and equity securities, and deposit funds associated with universal life and other investment type policies and contracts. The principal

cash outflows come from repayments of debt, payments of dividends to stockholders, purchases of treasury stock, and withdrawals associated with universal life and other investment type policies and contracts. A primary liquidity concern with respect to these cash flows is the risk of early contractholder and policyholder withdrawal.

Contractual Obligations

There were no material changes in the Company's contractual obligations from those reported in the 2017 Annual Report.

Asset / Liability Management

The Company actively manages its cash and invested assets using an approach that is intended to balance quality, diversification, asset/liability matching, liquidity and investment return. The goals of the investment process are to optimize after-tax, risk-adjusted investment income and after-tax, risk-adjusted total return while managing the assets and liabilities on a cash flow and duration basis.

The Company has established target asset portfolios for its operating segments, which represent the investment strategies intended to profitably fund its liabilities within acceptable risk parameters. These strategies include objectives and limits for effective duration, yield curve sensitivity and convexity, liquidity, asset sector concentration and credit quality.

The Company's asset-intensive products are primarily supported by investments in fixed maturity securities reflected on the Company's balance sheet and under funds withheld arrangements with the ceding company. Investment guidelines are established to structure the investment portfolio based upon the type, duration and behavior of products in the liability portfolio so as to achieve targeted levels of profitability. The Company manages the asset-intensive business to provide a targeted spread between the interest rate earned on investments and the interest rate credited to the underlying interest-sensitive contract liabilities. The Company periodically reviews models projecting different interest rate scenarios and their effect on profitability. Certain of these asset-intensive agreements, primarily in the U.S. and Latin America Financial Solutions operating segment, are generally funded by fixed maturity securities that are withheld by the ceding company.

The Company's liquidity position (cash and cash equivalents and short-term investments) was $1,640.8 million and $1,396.8 million at March 31, 2018 and December 31, 2017, respectively. Cash and cash equivalents includes cash collateral received from derivative counterparties of $188.4 million and $185.9 million as of March 31, 2018 and December 31, 2017, respectively. This unrestricted cash collateral is included in cash and cash equivalents and the obligation to return it is included in other liabilities in the Company's condensed consolidated balance sheets. Liquidity needs are determined from valuation analyses conducted by operational units and are driven by product portfolios. Periodic evaluations of demand liabilities and short-term liquid assets are designed to adjust specific portfolios, as well as their durations and maturities, in response to anticipated liquidity needs.

See "Securities Borrowing, Lending and Other" in Note 4 - "Investments" in the Notes to Condensed Consolidated Financial Statements for information related to the Company's securities borrowing, lending and repurchase/reverse repurchase programs. In addition to its security agreements with third parties, certain RGA's subsidiaries have entered into intercompany securities lending agreements to more efficiently source securities for lending to third parties and to provide for more efficient regulatory capital management.

The Company is a member of the FHLB and holds $68.9 million of FHLB common stock, which is included in other invested assets on the Company's condensed consolidated balance sheets. Membership provides the Company access to borrowing arrangements ("advances") and funding agreements, discussed below, with the FHLB. The Company did not have any advances from the FHLB at March 31, 2018 and December 31, 2017. The Company had no outstanding balance of advances for the first three months of 2018. The Company's average outstanding balance of advances was $3.1 million for the first three months of 2017. Interest on advances is reflected in interest expense on the Company's condensed consolidated statements of income.

In addition, the Company has also entered into funding agreements with the FHLB under guaranteed investment contracts whereby the Company has issued the funding agreements in exchange for cash and for which the FHLB has been granted a blanket lien on the Company's commercial and residential mortgage-backed securities and commercial mortgage loans used to collateralize the Company's obligations under the funding agreements. The Company

maintains control over these pledged assets, and may use, commingle, encumber or dispose of any portion of the collateral as long as there is no event of default and the remaining qualified collateral is sufficient to satisfy the collateral maintenance level. The funding agreements and the related security agreements represented by this blanket lien provide that upon any event of default by the Company, the FHLB's recovery is limited to the amount of the Company's liability under the outstanding funding agreements. The amount of the Company's liability for the funding agreements with the FHLB under guaranteed investment contracts was $1.4 billion at both March 31, 2018 and December 31, 2017, which is included in interest sensitive contract liabilities on the Company's condensed consolidated balance sheets. The advances on these agreements are collateralized primarily by commercial and residential mortgage-backed securities, commercial mortgage loans, and U.S. Treasury and government agency securities. The amount of collateral exceeds the liability and is dependent on the type of assets collateralizing the guaranteed investment contracts.

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Investments

Management of Investments

The Company's investment and derivative strategies involve matching the characteristics of its reinsurance products and other obligations and to seek to closely approximate the interest rate sensitivity of the assets with estimated interest rate sensitivity of the reinsurance liabilities. The Company achieves its income objectives through strategic and tactical asset allocations, security and derivative strategies within an asset/liability management and disciplined risk management framework. Derivative strategies are employed within the Company's risk management framework to help manage duration, currency, and other risks in assets and/or liabilities and to replicate the credit characteristics of certain assets. For a discussion of the Company's risk management process see "Market and Credit Risk" in the "Enterprise Risk Management" section below.

The Company's portfolio management groups work with the Enterprise Risk Management function to develop the investment policies for the assets of the Company's domestic and international investment portfolios. All investments held by the Company, directly or in a funds withheld at interest reinsurance arrangement, are monitored for conformance with the Company's stated investment policy limits as well as any limits prescribed by the applicable jurisdiction's insurance laws and regulations. See Note 4 – "Investments" in the Notes to Condensed Consolidated Financial Statements for additional information regarding the Company's investments.

Portfolio Composition

The Company had total cash and invested assets of $53.0 billion at March 31, 2018 and December 31, 2017, as illustrated below (dollars in thousands):

	March 31, 2018	% of Total	December 31, 2017	% of Total
Fixed maturity securities, available-for-sale	$37,945,260	71.6 %	$38,150,820	71.9 %
Equity securities	103,983	0.2	100,152	0.2
Mortgage loans on real estate	4,437,994	8.4	4,400,533	8.3
Policy loans	1,346,930	2.5	1,357,624	2.6
Funds withheld at interest	6,005,892	11.3	6,083,388	11.5
Short-term investments	130,430	0.2	93,304	0.2
Other invested assets	1,512,147	2.9	1,505,332	2.8
Cash and cash equivalents	1,510,407	2.9	1,303,524	2.5
Total cash and invested assets	$52,993,043	100.0%	$52,994,677	100.0%

Investment Yield

The following table presents consolidated average invested assets at amortized cost, net investment income and investment yield, excluding spread related business. Spread related business is primarily associated with contracts on which the Company earns an interest rate spread between assets and liabilities. To varying degrees, fluctuations in the yield on other spread related business is generally subject to corresponding adjustments to the interest credited on the liabilities (dollars in thousands).

	Three months ended March 31,		
	2018	2017	Increase/ (Decrease)
Average invested assets at amortized cost	$27,024,934	$25,212,377	7.2 %
Net investment income	296,473	273,208	8.5 %
Investment yield (ratio of net investment income to average invested assets)	4.46 %	4.41 %	5 bps

Investment yield increased for the three months ended March 31, 2018 in comparison to the same period in the prior year primarily due to increased income from real estate joint ventures and limited partnership investments, which are included in other invested assets on the condensed consolidated balance sheets.

Fixed Maturity and Equity Securities Available-for-Sale

See “Fixed Maturity and Equity Securities Available-for-Sale” in Note 4 – “Investments” in the Notes to Condensed Consolidated Financial Statements for tables that provide the amortized cost, unrealized gains and losses, estimated fair value of these securities, and the other-than-temporary impairments in AOCI by sector as of March 31, 2018 and December 31, 2017.

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The Company holds various types of fixed maturity securities available-for-sale and classifies them as corporate securities (“Corporate”), Canadian and Canadian provincial government securities (“Canadian government”), residential mortgage-backed securities (“RMBS”), asset-backed securities (“ABS”), commercial mortgage-backed securities (“CMBS”), U.S. government and agencies (“U.S. government”), state and political subdivisions, and other foreign government, supranational and foreign government-sponsored enterprises (“Other foreign government”). As of March 31, 2018 and December 31, 2017, approximately 95.5% and 95.6%, respectively, of the Company’s consolidated investment portfolio of fixed maturity securities were investment grade.
Important factors in the selection of investments include diversification, quality, yield, call protection and total rate of return potential. The relative importance of these factors is determined by market conditions and the underlying reinsurance liability and existing portfolio characteristics. The largest asset class in which fixed maturity securities were invested was corporate securities, which represented approximately 61.9% and 60.9% of total fixed maturity securities as of March 31, 2018 and December 31, 2017, respectively. See “Corporate Fixed Maturity Securities” in Note 4 – “Investments” in the Notes to Condensed Consolidated Financial Statements for tables showing the major industry types, which comprise the corporate fixed maturity holdings at March 31, 2018 and December 31, 2017.
As of March 31, 2018, the Company’s investments in Canadian and Canadian provincial government securities represented 10.8% of the fair value of total fixed maturity securities compared to 11.1% of the fair value of total fixed maturities at December 31, 2017. These assets are primarily high quality, long duration provincial strips, the valuation of which is closely linked to the interest rate curve. These assets are longer in duration and held primarily for asset/liability management to meet Canadian regulatory requirements. See “Fixed Maturity Securities Available-for-Sale” in Note 4 – “Investments” in the Notes to Condensed Consolidated Financial Statements for tables showing the various sectors as of March 31, 2018 and December 31, 2017.
The Company references rating agency designations in some of its investments disclosures. These designations are based on the ratings from nationally recognized statistical rating organizations, primarily Moody’s, S&P and Fitch. Structured securities (mortgage-backed and asset-backed securities) held by the Company’s insurance subsidiaries that maintain the NAIC statutory basis of accounting utilize the NAIC rating methodology. The NAIC assigns designations to publicly traded as well as privately placed securities. The designations assigned by the NAIC range from class 1 to class 6, with designations in classes 1 and 2 generally considered investment grade (BBB or higher rating agency designation). NAIC designations in classes 3 through 6 are generally considered below investment grade (BB or lower rating agency designation).
The quality of the Company’s available-for-sale fixed maturity securities portfolio, as measured at fair value and by the percentage of fixed maturity securities invested in various ratings categories, relative to the entire available-for-sale fixed maturity security portfolio, at March 31, 2018 and December 31, 2017 was as follows (dollars in thousands):

		March 31, 2018				December 31, 2017			
NAIC Designation	Rating Agency Designation	Amortized Cost	Estimated Fair Value	% of Total		Amortized Cost	Estimated Fair Value	% of Total	
1	AAA/AA/A	$23,699,901	$25,416,105	67.0	%	$23,534,574	$25,762,103	67.5	%
2	BBB	10,502,621	10,816,607	28.5		10,115,008	10,709,170	28.1	
3	BB	1,209,542	1,211,330	3.2		1,139,200	1,173,639	3.1	
4	B	439,444	439,736	1.2		408,990	420,284	1.1	
5	CCC and lower	45,617	43,929	0.1		78,143	79,747	0.2	
6	In or near default	16,580	17,553	—		5,497	5,877	—	
	Total	$35,913,705	$37,945,260	100.0	%	$35,281,412	$38,150,820	100.0	%

The Company’s fixed maturity portfolio includes structured securities. The following table shows the types of structured securities the Company held at March 31, 2018 and December 31, 2017 (dollars in thousands):

March 31, 2018	December 31, 2017

	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
RMBS:				
Agency	$861,908	$861,214	$878,559	$896,977
Non-agency	929,099	925,934	816,567	822,903
Total RMBS	1,791,007	1,787,148	1,695,126	1,719,880
CMBS	1,281,452	1,281,933	1,285,594	1,303,387
ABS	1,727,810	1,734,722	1,634,758	1,648,362
Total	$4,800,269	$4,803,803	$4,615,478	$4,671,629

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The Company’s RMBS include agency-issued pass-through securities and collateralized mortgage obligations. A majority of the agency-issued pass-through securities are guaranteed or otherwise supported by the Federal Home Loan Mortgage Corporation, Federal National Mortgage Association, or the Government National Mortgage Association. The principal risks inherent in holding mortgage-backed securities are prepayment and extension risks, which will affect the timing of when cash will be received and are dependent on the level of mortgage interest rates. Prepayment risk is the unexpected increase in principal payments from the expected, primarily as a result of owner refinancing. Extension risk relates to the unexpected slowdown in principal payments from the expected. In addition, non-agency mortgage-backed securities face credit risk should the borrower be unable to pay the contractual interest or principal on their obligation. The Company monitors its mortgage-backed securities to mitigate exposure to the cash flow uncertainties associated with these risks.

The Company’s ABS include credit card receivables, railcar leasing, student loans, single-family rentals, home equity loans and collateralized debt obligations (primarily collateralized loan obligations). The Company owns floating rate securities that represent approximately 14.7% and 13.8% of the total fixed maturity securities at March 31, 2018 and December 31, 2017, respectively. These investments have a higher degree of income variability than the other fixed income holdings in the portfolio due to the floating rate nature of the interest payments. The Company holds these investments to match specific floating rate liabilities primarily reflected in the condensed consolidated balance sheets as collateral finance notes, as well as to enhance asset management strategies. In addition to the risks associated with floating rate securities, principal risks in holding asset-backed securities are structural, credit and capital market risks. Structural risks include the securities’ cash flow priority in the capital structure and the inherent prepayment sensitivity of the underlying collateral. Credit risks include the adequacy and ability to realize proceeds from the collateral. Credit risks are mitigated by credit enhancements which include excess spread, over-collateralization and subordination. Capital market risks include general level of interest rates and the liquidity for these securities in the marketplace.

The Company monitors its fixed maturity securities to determine impairments in value and evaluates factors such as financial condition of the issuer, payment performance, the length of time and the extent to which the market value has been below amortized cost, compliance with covenants, general market and industry sector conditions, current intent and ability to hold securities, and various other subjective factors. Based on management’s judgment, securities determined to have an other-than-temporary impairment in value are written down to fair value. See “Investments – Other-than-Temporary Impairment” in Note 2 – “Summary of Significant Accounting Policies” in the Notes to Consolidated Financial Statements in the 2017 Annual Report for additional information. The table below summarizes other-than-temporary impairments and changes in the mortgage loan provision for the three months ended March 31, 2018 and 2017 (dollars in thousands).

	Three months ended March 31,	
	2018	2017
Impairment losses on fixed maturity securities	$—	$17,189
Other impairment losses	828	(2)
Change in mortgage loan provision	(516)	101
Total	$312	$17,288

There were no fixed maturity impairments for the three months ended March 31, 2018. The fixed maturity impairments for the three months ended March 31, 2017 were largely related to high-yield corporate securities. In addition, other impairment losses for the three months ended March 31, 2018 were primarily due to impairments on real estate joint ventures.

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At March 31, 2018 and December 31, 2017, the Company had $381.5 million and $113.3 million, respectively, of gross unrealized losses related to its fixed maturity securities. The distribution of the gross unrealized losses related to these securities is shown below.

	March 31, 2018	December 31, 2017
Sector:		
Corporate	63.0 %	48.8 %
Canadian government	0.8	1.5
RMBS	7.2	10.5
ABS	2.5	4.6
CMBS	3.2	4.3
U.S. government	15.6	19.4
State and political subdivisions	2.1	3.8
Other foreign government	5.6	7.1
Total	100.0 %	100.0 %
Industry:		
Finance	22.5 %	15.8 %
Asset-backed	2.5	4.6
Industrial	35.3	30.0
Mortgage-backed	10.4	14.8
Government	24.1	31.8
Utility	5.2	3.0
Total	100.0 %	100.0 %

See “Unrealized Losses for Fixed Maturity and Equity Securities Available-for-Sale” in Note 4 – “Investments” in the Notes to Condensed Consolidated Financial Statements for a table that presents the total gross unrealized losses for these securities at March 31, 2018 and December 31, 2017, respectively, where the estimated fair value had declined and remained below amortized cost by less than 20% or more than 20%.

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 and the deferability features of these securities.

See “Unrealized Losses for Fixed Maturity and Equity Securities Available-for-Sale” in Note 4 – “Investments” in the Notes to Condensed Consolidated Financial Statements for tables that present the estimated fair values and gross unrealized losses, including other-than-temporary impairment losses reported in AOCI, for these securities that have estimated fair values below amortized cost, by class and grade security, as well as the length of time the related market value has remained below amortized cost as of March 31, 2018 and December 31, 2017.

As of March 31, 2018 and December 31, 2017, the Company classified approximately 5.8% and 5.9%, respectively, of its fixed maturity securities in the Level 3 category (refer to Note 6 – “Fair Value of Assets and Liabilities” in the Notes to Condensed Consolidated Financial Statements for additional information). These securities primarily consist of private placement corporate securities, bank loans, Canadian provincial strips, below investment grade mortgage-backed securities, collateralized loan obligations and subprime asset-backed securities with inactive trading markets.

See “Securities Borrowing and Other” in Note 4 - “Investments” in the Notes to Condensed Consolidated Financial Statements for information related to the Company’s securities borrowing, repurchase and repurchase/reverse

repurchase programs.

Mortgage Loans on Real Estate

Mortgage loans represented approximately 8.4% and 8.3% of the Company's cash and invested assets as of March 31, 2018 and December 31, 2017, respectively. The Company's mortgage loan portfolio consists of U.S. and Canadian based investments primarily in commercial offices, light industrial properties and retail locations. The mortgage loan portfolio is diversified by geographic region and property type. Additional information on geographic concentration and property type can be found under "Mortgage Loans on Real Estate" in Note 4 – "Investments" in the Notes to Condensed Consolidated Financial Statements.

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As of March 31, 2018 and December 31, 2017, the Company's mortgage loans, gross of unamortized deferred loan origination fees and expenses and valuation allowances, were distributed geographically as follows (dollars in thousands):

	March 31, 2018		December 31, 2017	
	Recorded Investment	% of Total	Recorded Investment	% of Total
U.S. Region:				
Pacific	$1,266,368	28.5 %	$1,258,753	28.6 %
South Atlantic	911,960	20.5	896,117	20.3
Mountain	662,903	14.9	694,324	15.7
East North Central	529,707	11.9	527,316	11.9
West North Central	316,837	7.1	309,326	7.0
West South Central	395,543	8.9	387,151	8.8
Middle Atlantic	156,010	3.5	137,600	3.1
East South Central	96,375	2.2	96,887	2.2
New England	5,691	0.1	5,700	0.1
Subtotal - U.S.	4,341,394	97.6	4,313,174	97.7
Canada	108,897	2.4	99,997	2.3
Total	$4,450,291	100.0%	$4,413,171	100.0%

Valuation allowances on mortgage loans are established based upon inherent losses expected by management to be realized in connection with future dispositions or settlement of mortgage loans, including foreclosures. The valuation allowances are established after management considers, among other things, the value of underlying collateral and payment capabilities of debtors. Any subsequent adjustments to the valuation allowances will be treated as investment gains or losses.

See "Mortgage Loans on Real Estate" in Note 4 – "Investments" in the Notes to Condensed Consolidated Financial Statements for information regarding valuation allowances and impairments.

Policy Loans

Policy loans comprised approximately 2.5% and 2.6% of the Company's cash and invested assets as of March 31, 2018 and December 31, 2017, 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 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.

Funds Withheld at Interest

Funds withheld at interest comprised approximately 11.3% and 11.5% of the Company's cash and invested assets as of March 31, 2018 and December 31, 2017. For reinsurance agreements written on a modified coinsurance basis and certain agreements written on a coinsurance 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 by the ceding company. Interest accrues to the total funds withheld at interest assets at rates defined by the treaty terms. Additionally, under certain treaties the Company is subject to the investment performance on the withheld assets, although it does not directly control them. These assets are primarily fixed maturity investment securities and pose risks similar to the fixed maturity securities the Company owns. To mitigate this risk, the Company helps set the investment guidelines followed by the ceding company and monitors compliance. Ceding companies with funds withheld at interest had an average financial strength rating of "A" at March 31, 2018 and December 31, 2017. Certain ceding companies maintain segregated portfolios for the benefit of the Company.

Other Invested Assets

Other invested assets include limited partnership interests, joint ventures (other than operating joint ventures), equity release mortgages, derivative contracts, FVO contractholder-directed unit-linked investments, and FHLB common stock. Other invested assets represented approximately 2.9% and 2.8% of the Company's cash and invested assets as of March 31, 2018 and December 31, 2017, respectively. See "Other Invested Assets" in Note 4 – "Investments" in the Notes to Condensed Consolidated Financial Statements for a table that presents the carrying value of the Company's other invested assets by type as of March 31, 2018 and December 31, 2017.

The Company utilizes derivative financial instruments to protect the Company against possible changes in the fair value of its investment portfolio as a result of interest rate changes, to hedge against risk of changes in the purchase price of securities, to hedge liabilities associated with the reinsurance of variable annuities with guaranteed living benefits and to manage the portfolio's effective yield, maturity and duration. In addition, the Company utilizes derivative financial instruments to reduce the risk associated with fluctuations in foreign currency exchange rates. The Company uses both exchange-traded, centrally cleared, and customized over-the-counter derivative financial instruments.

See Note 5 - "Derivative Instruments" in the Notes to Condensed Consolidated Financial Statements for a table that presents the notional amounts and fair value of investment related derivative instruments held at March 31, 2018 and December 31, 2017.

The Company may be exposed to credit-related losses in the event of non-performance by counterparties to derivative financial instruments. Generally, the credit exposure of the Company's derivative contracts is limited to the fair value at the reporting date plus or minus any collateral posted or held by the Company. The Company had no credit exposure related to its derivative contracts, excluding futures and mortality swaps, at March 31, 2018 and December 31, 2017, as the net amount of collateral pledged to the Company from counterparties exceeded the fair value of the derivative contracts.

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

See Note 5 - "Derivative Instruments" in the Notes to Condensed Consolidated Financial Statements for more information regarding the Company's derivative instruments.

Enterprise Risk Management

RGA maintains a dedicated Enterprise Risk Management ("ERM") function that is responsible for analyzing and reporting the Company's risks on an aggregated basis; facilitating monitoring to ensure the Company's risks remain within its appetites and limits; and ensuring, on an ongoing basis, that RGA's ERM objectives are met. This includes ensuring proper risk controls are in place; risks are effectively identified, assessed, and managed; and key risks to which the Company is exposed are disclosed to appropriate stakeholders. The ERM function plays an important role in fostering the Company's risk management culture and practices.

Enterprise Risk Management Structure and Governance

The Board of Directors ("the Board") oversees enterprise risk through its standing committees. The Finance, Investments, and Risk Management ("FIRM") Committee of the Board oversees the management of the Company's ERM program and policies. The FIRM receives regular reports and assessments which describe the Company's key risk exposures and include quantitative and qualitative assessments and information about breaches, exceptions, and waivers.

The Company's Global Chief Risk Officer ("CRO") leads the dedicated ERM function. The CRO reports to the Chief Executive Officer ("CEO") and has direct access to the Board through the FIRM Committee with formal reporting occurring quarterly. The CRO is supported by a network of Business Unit Chief Risk Officers and Risk Management Officers throughout the business who are responsible for the analysis and management of risks within their scope. A Lead Risk Management Officer is assigned to each risk to take overall responsibility to monitor and assess the risk consistently across all markets.

In addition to leading the ERM function, the CRO also chairs the Company's Risk Management Steering Committee ("RMSC"), which is made up of senior management executives, including the CEO, the Chief Financial Officer ("CFO"), and the Chief Operating Officer, among others. The RMSC provides oversight for the Insurance, Market and Credit, Capital, and Operational risk committees and retains direct risk oversight responsibilities for the following:

- Company's global ERM framework, activities, and issues.
- Identification, assessments, and management of all known, new and emerging strategic risk exposures.

- Risk appetite statement, including the ongoing alignment of the risk appetite statement with the Company's strategy and capital plans.
- Review, revise and approve RGA group-level strategic risk limits consistent with the risk appetite statement

The Insurance, Market and Credit, Capital, and Operational risk committees have direct oversight accountability for their respective risks areas including the identification, assessments, and management of known, new and emerging risk exposures and the review and approval of RGA group-level risk limits

To ensure appropriate oversight of enterprise-wide risk management issues without unnecessary duplication, as well as to foster cross-committee communication and coordination regarding risk issues, risk committee chairs attend RMSC meetings. In addition

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to the risk committees, their sub-committees and working groups, some RGA operating entities have risk management committees that oversee relevant risks related to segment-level risk limits.

Enterprise Risk Management Framework

RGA's ERM framework provides a platform to assess the risk / return profiles of risks throughout the organization to enable enhanced decision making by business leaders. The ERM framework also guides the development and implementation of mitigation strategies to reduce exposures to these risks to acceptable levels.

RGA's ERM framework includes the following elements:

1. Risk Culture: Risk management is an integral part of the Company's culture and is embedded in RGA's business processes in accordance with RGA's risk philosophy. As the cornerstone of the ERM framework, a culture of prudent risk management reinforced by senior management plays a preeminent role in the effective management of risks assumed by RGA.
2. Risk Appetite Statement: A general and high level overview of the risk profile RGA aims to achieve to meet its strategic objectives. This statement is then supported by more granular risk limits guiding the businesses to achieve this Risk Appetite Statement.
3. Risk Limits: Risk Limits establish the maximum amount of defined risk that the Company is willing to assume to remain within the Company's overall risk appetite. These risks have been identified by the management of the Company as relevant to manage the overall risk profile of the Company while allowing achievement of strategic objectives.
4. Risk Assessment Process: RGA uses qualitative and quantitative methods to assess key risks through a portfolio approach, which analyzes established and emerging risks in conjunction with other risks.
5. Business Specific Limits/Controls: These limits/controls provide additional safeguards against undesired risk exposures and are embedded in business processes. Examples include maximum retention limits, pricing and underwriting reviews, per issuer limits, concentration limits, and standard treaty language.

Proactive risk monitoring and reporting enable early detection and mitigation of emerging risks. The RMSC and its subcommittees monitor adherence to risk limits through the ERM function, which reports regularly to the RMSC and FIRM Committee. The frequency of monitoring is tailored to the volatility assessment and relative priority of each risk. Risk escalation channels coupled with open communication lines enhance the mitigants explained above. The Company has devoted significant resources to developing its ERM program and expects to continue to do so in the future. Nonetheless, the Company's policies and procedures to identify, manage, and monitor risks may not be fully effective. Many of the Company's methods for managing risk are based on historical information, which may not be a good predictor of future risk exposures, such as the risk of a pandemic causing a large number of deaths. Management of operational, legal, and regulatory risk relies on policies and procedures which may not be fully effective under all scenarios.

Risk Categories

The Company groups its risks into the following categories: Insurance risk, Market and Credit risk, Capital risk, Operational risk and Strategic risk. Specific risk assessments and descriptions can be found below and in Item 1A – "Risk Factors" of the 2017 Annual Report.

Insurance Risk

Insurance risk is the risk of lower or negative earnings and potentially a reduction in enterprise value due to a greater amount of benefits and related expenses paid than expected, or from non-market related adverse policyholder or client behavior. The Company uses multiple approaches to managing insurance risk: active insurance risk assessment and pricing appropriately for the risks assumed, transferring undesired risks, and managing the retained exposure prudently. These strategies are explained below.

Insurance Risk Assessment and Pricing

The Company has developed extensive expertise in assessing insurance risks which ultimately forms an integral part of ensuring that it is compensated commensurately for the risks it assumes and that it does not overpay for the risks it transfers to third parties. This expertise includes a vast array of market and product knowledge supported by a large information database of historical experience which is closely monitored. Analysis and experience studies derived

from this database help form the basis for the Company's pricing assumptions which are used in developing rates for new risks. If actual mortality or morbidity experience is materially adverse, some reinsurance treaties allow for increases to future premium rates.

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Misestimation of any key risk can threaten the long term viability of the enterprise. Further, the pricing process is a key operational risk and significant effort is applied to ensuring the appropriateness of pricing assumptions. Some of the safeguards the Company uses to ensure proper pricing are: experience studies, strict underwriting, sensitivity and scenario testing, pricing guidelines and controls, authority limits and internal and external pricing reviews. In addition, the ERM function provides pricing oversight which includes periodic pricing audits.

Risk Transfer

To minimize volatility in financial results and reduce the impact of large losses, the Company transfers some of its insurance risk to third parties using vehicles such as retrocession and catastrophe coverage.

Individual Exposure Retrocession

In the normal course of business, the Company seeks to limit its exposure to loss on any single insured and to recover a portion of claims paid by ceding reinsurance to other insurance enterprises (or retrocessionaires) under excess coverage and coinsurance contracts. In individual life markets, the Company retains a maximum of $8.0 million of coverage per individual life. In certain limited situations the Company has retained more than $8.0 million per individual life. The Company enters into agreements with other reinsurers to mitigate the residual risk related to the over-retained policies. Additionally, due to some lower face amount reinsurance coverages provided by the Company in addition to individual life, such as group life, disability and health, under certain circumstances, the Company could potentially incur claims totaling more than $8.0 million per individual life.

Catastrophic Excess Loss Retrocession

The Company seeks to limit its exposure to loss on its assumed catastrophic excess of loss reinsurance agreements by ceding a portion of its exposure to multiple retrocessionaires through retrocession line slips or directly to retrocession markets. The Company's policy is to retain a maximum of $20.0 million of catastrophic loss exposure per agreement and to retrocede up to $30.0 million additional loss exposures to the retrocession markets. The Company limits its exposure on a country-by-country (and state-by-state in the U.S.) basis by managing its total exposure to all catastrophic excess of loss agreements bound within a given country to established maximum aggregate exposures. The maximum exposures are established and managed both on gross amounts issued prior to including retrocession and for amounts net of exposures retroceded.

Catastrophe Coverage

The Company accesses the markets each year for annual catastrophic coverages and reviews current coverage and pricing of current and alternate designs. The coverage may vary from year to year based on the Company's perceived value of such protection. The current policy covers events involving 8 or more insured deaths from a single occurrence and covers $100.0 million of claims in excess of the Company's $25.0 million deductible.

Managing Retained Exposure

The Company retains most of the inbound insurance risk. The Company manages the retained exposure proactively using various mitigating factors such as diversification and limits. Diversification is the primary mitigating factor of short term volatility risk, but it also mitigates adverse impacts of changes in long term trends and catastrophic events. The Company's insured populations are dispersed globally, diversifying the insurance exposure because factors that cause actual experience to deviate materially from expectations do not affect all areas uniformly and synchronously or in close sequence. A variety of limits mitigate retained insurance risk. Examples of these limits include geographic exposure limits, which set the maximum amount of business that can be written in a given country, and jumbo limits, which prevent excessive coverage on a given individual.

In the event that mortality or morbidity experience develops in excess of expectations, some reinsurance treaties allow for increases to future premium rates. Other treaties include experience refund provisions, which may also help reduce RGA's mortality risk.

RGA has various methods to manage its insurance risks, including access to the capital and reinsurance markets.

Market and Credit Risk

Market and Credit risk is the risk of lower or negative earnings and potentially a reduction in enterprise value due to changes in the market prices of asset and liabilities.

Interest Rate Risk

Interest Rate risk is risk that changes in the level and volatility of nominal interest rates affect the profitability, value or solvency position of the Company. This includes credit spread changes and inflation but excludes credit quality deterioration. This risk arises from many of the Company’s primary activities, as the Company invests substantial funds in interest-sensitive assets, primarily fixed maturity securities, and also has certain interest-sensitive contract liabilities. A prolonged period where market yields are significantly below the book yields of the Company’s asset portfolio puts downward pressure on portfolio book yields.

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The Company has been proactive in its investment strategies, reinsurance structures and overall asset-liability management practices to reduce the risk of unfavorable consequences in this type of environment.

The Company manages interest rate risk to optimize the return on the Company's capital and to preserve the value created by its business operations within certain constraints. For example, certain management and monitoring processes are designed to minimize the effect of sudden and/or sustained changes in interest rates on fair value, cash flows, and net interest income. The Company manages its exposure to interest rates principally by managing the relative matching of the cash flows of its liabilities and assets.

The Company's exposure to interest rate price risk and interest rate cash flow risk is reviewed on a quarterly basis. Interest rate price risk exposure is measured using interest rate sensitivity analysis to determine the change in fair value of the Company's financial instruments in the event of a hypothetical change in interest rates. Interest rate cash flow risk exposure is measured using interest rate sensitivity analysis to determine the Company's variability in cash flows in the event of a hypothetical change in interest rates.

In order to reduce the exposure to changes in fair values from interest rate fluctuations, the Company has developed strategies to manage the net interest rate sensitivity of its assets and liabilities. In addition, from time to time, the Company has utilized the swap market to manage the sensitivity of fair values to interest rate fluctuations.

Inflation can also have direct effects on the Company's assets and liabilities. The primary direct effect of inflation is the increase in operating expenses. A large portion of the Company's operating expenses consists of salaries, which are subject to wage increases at least partly affected by the rate of inflation.

The Company reinsures annuities with benefits indexed to the cost of living. Some of these benefits are hedged with a combination of CPI swaps and indexed bonds when material.

Long Term Care products have an inflation component linked to the future cost of such services. If health care costs increase at a much larger rate than what is prevalent in the nominal interest rates available in the markets, the Company may not earn enough investment yield to pay future claims on such products.

Foreign Currency Risk

Foreign currency risk is the risk of changes in level and volatility of currency exchange rates affect the profitability, value or solvency position of the Company. The Company manages its exposure to currency principally by currency matching invested assets with the underlying liabilities to the extent possible. The Company has in place net investment hedges for a portion of its investments in its Canadian operations to reduce excess exposure to these currencies. Translation differences resulting from translating foreign subsidiary balances to U.S. dollars are reflected in stockholders' equity on the condensed consolidated balance sheets.

The Company generally does not hedge the foreign currency exposure of its subsidiaries transacting business in currencies other than their functional currency (transaction exposure). However, the Company has entered into cross currency swaps to manage exposure to specific currencies. The majority of the Company's foreign currency transactions are denominated in Australian dollars, British pounds, Canadian dollars, Euros, Japanese yen, Korean won, and the South African rand. The maximum amount of assets held in a specific currency (with the exception of the U.S. dollar) is measured relative to risk targets and is monitored regularly.

Real Estate Risk

Real Estate risk is the risk that changes in the level and volatility of real estate market valuations may impact the profitability, value or solvency position of the Company. The Company has investments in direct real estate equity and debt instruments collateralized by real estate ("real estate loans"). Real estate equity risks include significant reduction in valuations, which could be caused by downturns in the broad economy or in specific geographic regions or sectors. In addition, real estate loan risks include defaults, borrower or tenant bankruptcy and reduced liquidity. Real estate loan risks are partially mitigated by the excess of the value of the property over the loan principle, which provides a buffer should the value of the real estate decrease. The Company manages its real estate loan risk by diversifying by property type and geography and through exposure limits.

Equity Risk

Equity risk is the risk that changes in the level and volatility of equity market valuations affect the profitability, value or solvency position of the Company. This risk includes Variable Annuity and other equity linked exposures and asset

related equity exposure. The Company assumes equity risk from alternative investments, fixed indexed annuities and variable annuities. The Company uses derivatives to hedge its exposure to movements in equity markets that have a direct correlation with certain of its reinsurance products.

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Alternative Investments

Alternative investments are investments in non-traditional asset classes that primarily back the Company’s capital and surplus. The Company generally restricts the alternative investments portfolio to non-liability supporting assets: that is, free surplus. Alternative investments generally encompass: hedge funds, emerging markets debt, distressed debt, commodities, infrastructure, tax credits, and equities, both public and private. The Company mitigates its exposure to alternative investments by limiting the size of the alternative investments holding and using per-issuer investment limits.

Fixed Indexed Annuities

The Company reinsures fixed indexed annuities (“FIAs”). Credits for FIAs are affected by changes in equity markets. Thus the fair value of the benefit is primarily a function of index returns and volatility. The Company hedges most of the underlying FIA equity exposure with derivatives.

Variable Annuities

The Company reinsures variable annuities including those with guaranteed minimum death benefits (“GMDB”), guaranteed minimum income benefits (“GMIB”), guaranteed minimum accumulation benefits (“GMAB”) and guaranteed minimum withdrawal benefits (“GMWB”). Strong equity markets, increases in interest rates and decreases in equity market volatility will generally decrease the fair value of the liabilities underlying the benefits. Conversely, a decrease in the equity markets along with a decrease in interest rates and an increase in equity market volatility will generally result in an increase in the fair value of the liabilities underlying the benefits, which has the effect of increasing reserves and lowering earnings. The Company maintains a customized dynamic hedging program that is designed to substantially mitigate the risks associated with income volatility around the change in reserves on guaranteed benefits, ignoring the Company’s own credit risk assessment. However, the hedge positions may not fully offset the changes in the carrying value of the guarantees due to, among other things, time lags, high levels of volatility in the equity and derivative markets, extreme swings in interest rates, unexpected contract holder behavior, and divergence between the performance of the underlying funds and hedging indices. These factors, individually or collectively, may have a material adverse effect on the Company’s net income, financial condition or liquidity. The table below provides a summary of variable annuity account values and the fair value of the guaranteed benefits as of March 31, 2018 and December 31, 2017.

(dollars in millions)	March 31, 2018	December 31, 2017
No guarantee minimum benefits	$890	$ 950
GMDB only	178	182
GMIB only	23	24
GMAB only	16	22
GMWB only	1,299	1,366
GMDB / WB	327	343
Other	28	31
Total variable annuity account values	$2,761	$ 2,918
Fair value of liabilities associated with living benefit riders	$138	$ 152

Credit Risk

Credit risk, which includes default risk, is risk of loss due to credit quality deterioration of an individual financial asset, derivative or non-derivative contract or instrument. Credit quality deterioration may or may not be accompanied by a ratings downgrade. Generally, the credit exposure for an asset is limited to the fair value, net of any collateral received, at the reporting date.

Investment Credit Risk

Investment credit risk is credit risk related to invested assets. The Company manages investment credit risk using per-issuer investment limits. In addition to per-issuer limits, the Company also limits the total amounts of investments

per rating category. An automated compliance system checks for compliance for all investment positions and sends warning messages when there is a breach. The Company manages its credit risk related to over-the-counter derivatives by entering into transactions with creditworthy counterparties, maintaining collateral arrangements and through the use of master agreements that provide for a single net payment to be made by one counterparty to another at each due date and upon termination. Because futures are transacted 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 to such derivative instruments.

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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 vary depending on the posting party's financial strength ratings. Additionally, a decrease in the Company's financial strength rating to a specified level results in potential settlement of the derivative positions under the Company's agreements with its counterparties. A committee is responsible for setting rules and approving and overseeing all transactions requiring collateral. See "Credit Risk" in Note 5 – "Derivative Instruments" in the Notes to Condensed Consolidated Financial Statements for additional information on credit risk related to derivatives.

Counterparty Risk

Counterparty risk is the potential for the Company to incur losses due to a client, retrocessionaire, or partner becoming distressed or insolvent. This includes run-on-the-bank risk and collection risk.

Run-on-the-Bank

The risk that a client's in force block incurs substantial surrenders and/or lapses due to credit impairment, reputation damage or other market changes affecting the counterparty. Substantially higher than expected surrenders and/or lapses could result in inadequate in force business to recover cash paid out for acquisition costs.

Collection Risk

For clients and retrocessionaires, this includes their inability to satisfy a reinsurance agreement because the right of offset is disallowed by the receivership court; the reinsurance contract is rejected by the receiver, resulting in a premature termination of the contract; and/or the security supporting the transaction becomes unavailable to RGA.

The Company manages counterparty risk by limiting the total exposure to a single counterparty and by only initiating contracts with creditworthy counterparties. In addition, some of the counterparties have set up trusts and letters of credit, reducing the Company's exposure to these counterparties.

Generally, RGA's insurance subsidiaries retrocede amounts in excess of their retention to certain other RGA insurance subsidiaries. External retrocessions are arranged through the Company's retrocession pools for amounts in excess of its retention. As of March 31, 2018, all retrocession pool members in this excess retention pool rated by the A.M. Best Company were rated "A-" or better. A rating of "A-" is the fourth highest rating out of sixteen possible ratings. For a majority of the retrocessionaires that were not rated, letters of credit or trust assets have been given as additional security. In addition, the Company performs annual financial and in force reviews of its retrocessionaires to evaluate financial stability and performance.

The Company has never experienced a material default in connection with retrocession arrangements, nor has it experienced any material difficulty in collecting claims recoverable from retrocessionaires; however, no assurance can be given as to the future performance of such retrocessionaires or as to the recoverability of any such claims.

Aggregate Counterparty Limits

In addition to investment credit limits and counterparty limits, there are aggregate counterparty risk limits which include counterparty exposures from reinsurance, financing and investment activities at an aggregated level to control total exposure to a single counterparty. Counterparty risk aggregation is important because it enables the Company to capture risk exposures at a comprehensive level and under more extreme circumstances compared to analyzing the components individually.

All counterparty exposures are calculated on a quarterly basis, reviewed by management and monitored by the ERM function.

Capital Risk

Capital risk is the risk of lower/negative earnings, potential reduction in enterprise value, and/or the loss of ability to conduct business due to insufficient financial capacity, including not having the appropriate amount of group or entity-level capital to conduct business today or in the future. The Company monitors capital risk exposure using relevant bases of measurement including but not limited to economic, rating agency, and local regulatory methodologies. Additionally, the Company regularly assesses risk related to collateral, financing, liquidity and tax.

Collateral Risk

Collateral risk is the risk that collateral will not be available at expected costs or in the capacity required to meet current and future needs. The Company monitors risks related to interest rate movement, collateral requirements and

position and capital markets environment. Collateral demands and resources continue to be actively managed with available collateral sources being more than sufficient to cover stress level collateral demands.

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Financing Risk

Financing risk is the risk that capital will not be available at expected costs or in the capacity required. The Company continues to monitor financing risks related to regulatory financing, contingency financing, and debt capital and sees no immediate issues with its current structures, capacity and plans.

Liquidity Risk

Liquidity risk is the risk that the Company is unable to meet payment obligations at expected costs or in the capacity required. The Company's traditional liquidity demands include items such as claims, expenses, debt financing and investment purchases which are largely known or can be reasonably forecasted. The Company regularly performs liquidity risk modeling, including both market and Company specific stresses, to assess the sufficiency of available resources.

Tax Risk

Tax risk is the risk that current and future tax positions are different than expected. The Company monitors tax risks related to the evolving tax and regulatory environment, business transactions, legal entity reorganizations, tax compliance obligations, and financial reporting.

Operational Risk

Operational risk is the risk of lower/negative earnings and a potential reduction in enterprise value caused by unexpected losses associated with inadequacy or failure on the part of internal processes, people and systems, or from external events. The Company regularly monitors and assesses the risks related to business conduct and governance, fraud, privacy and security, business disruption, and business operations. Various insurance, market and credit, capital, and strategy risk obligations and concerns often intersect with the Company's core operational process risk areas. Given the scope of the Company's business and the number of countries in which it operates, this set of risks has the potential to affect the business locally, regionally, or globally. Operational risks are core to managing the Company's brand and market confidence as well as maintaining its ability to acquire and retain the appropriate expertise to execute and operate the business.

Business Conduct and Governance

Business conduct and governance is the risk related to management oversight, compliance, market conduct, and legal matters. The Company's Compliance Risk Management Program facilitates a proactive evaluation of present and potential compliance risks associated with both local and enterprise-wide regulatory requirements as well as compliance with Company policies and procedures.

Fraud Risk

Fraud risk is the risk related to the deliberate abuse of and/or taking of Company assets in order to secure gain for the perpetrator or inflict harm on the Company or other victim. Ongoing monitoring and an annual fraud risk assessment enables the Company to continually evaluate potential fraud risks within the organization.

Privacy and Security Risk

Privacy and security risk is the risk of theft, loss, or unauthorized disclosure of physical or electronic assets resulting in a loss of asset value, confidentiality, or intellectual property. The Company's privacy and security programs, processes, and procedures are designed to prevent unauthorized physical and electronic theft and the disclosure of confidential and personal data related to its customers, insured individuals or its employees. The Company employs technology, administrative related processes and procedural controls, security measures and other preventative actions to reduce the risk of such incidents.

Business Disruption Risk

Business disruption risk is the risk of impairment to operational capabilities due to the unavailability of people, systems, and/or facilities. The Company's global business continuity process enables associates to identify potential impacts that threaten operations by providing the framework, policies and procedures and required recurring training for how the Company will recover and restore interrupted critical functions, within a predetermined time, after a disaster or extended disruption, until its normal facilities are restored.

Business Operations Risk

Business operations risk is the risk related to business processes and procedures. Business operations risk includes risk associated with the processing of transactions, data use and management, monitoring and reporting, the integrity and accuracy of models and the use of third party and advisory services.

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Human Capital Risk
Human capital risk is related to workforce management, including talent acquisition, development, retention, and employment relations/regulations. The Company actively monitors human capital risks using multiple practices which include but are not limited to human resource and compliance policies and procedures, regularly reviewing key risk indicators, performance evaluations, compensation and benefits benchmarking, succession planning, employee engagement surveys and associate exit interviews.

Strategic Risk
Strategic risk relates to the planning, implementation, and management of the Company's business plans and strategies, including the risks associated with: the global environment in which it operates; future law and regulation changes; political risks; and relationships with key external parties.

Strategy Risk
Strategy risk is the risk related to the design and execution of the Company's strategic plan, including risks associated with merger and acquisition activity. Strategy risks are addressed by a multi-year planning process, regular business unit level assessments of strategy execution and active benchmarking of key performance and risk indicators across the Company's portfolios of businesses. The Company's risk appetites and limits are set consistently with strategic objectives.

External Environment Risk
External environment risk relates to external competition, macro trends, and client needs. Macro characteristics that drive market opportunities, risk and growth potential, the competitive landscape and client feedback are closely monitored.

Key Relationships Risk
Key relationships risk relates to areas of important interactions with parties external to the Company. The Company's reputation is a critical asset in successfully conducting business and therefore relationships with its primary stakeholders (including but not limited to business partners, shareholders, clients, rating agencies, and regulators) are all carefully monitored.

Political and Regulatory Risk
Political and regulatory risk relates to future law and regulation changes and the impact of political changes or instability on the Company's ability to achieve its objectives. Regulatory and political developments and related risks that may affect the Company are identified, assessed and monitored as part of regular oversight activities.

New Accounting Standards
See Note 12 — "New Accounting Standards" in the Notes to Condensed Consolidated Financial Statements.

ITEM 3. Quantitative and Qualitative Disclosures About Market Risk
There has been no significant change in the Company's quantitative or qualitative aspects of market risk during the quarter ended March 31, 2018 from that disclosed in the 2017 Annual Report. See "Item 2 – Management's Discussion and Analysis of Financial Condition and Results of Operations – Market and Credit Risk", which is included herein, for additional information.

ITEM 4. Controls and Procedures
The Chief Executive Officer and the Chief Financial Officer have evaluated the effectiveness of the design and operation of the Company's disclosure controls and procedures as defined in Exchange Act Rule 13a-15(e) as of the end of the period covered by this report. Based on that evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that these disclosure controls and procedures were effective.

There was no change in the Company's internal control over financial reporting as defined in Exchange Act Rule 13a-15(f) during the quarter ended March 31, 2018, that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II - OTHER INFORMATION

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ITEM 1. Legal Proceedings

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.

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ITEM 1A. Risk Factors

There were no material changes from the risk factors disclosed in the 2017 Annual Report.

ITEM 2. Unregistered Sales of Equity Securities and Use of Proceeds

Issuer Purchases of Equity Securities

The following table summarizes RGA's repurchase activity of its common stock during the quarter ended March 31, 2018:

	Total Number of Shares Purchased [(1)]	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs [(1)]	Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plan or Program
January 1, 2018 - January 31, 2018	12,549	$ 161.74	—	$ 373,103,074
February 1, 2018 - February 28, 2018	3,140	$ 153.35	—	$ 373,103,074
March 1, 2018 - March 31, 2018	662	$ 158.64	—	$ 373,103,074

(1) RGA had no repurchases of common stock under its share repurchase program during January, February and March 2018. The Company net settled certain equity incentive awards - issuing 33,712, 8,812 and 3,929 shares from treasury and repurchasing from recipients 12,549, 3,140 and 662 shares in January, February and March, respectively, in settlement of income tax withholding requirements incurred by the recipients of such equity incentive awards.

On January 26, 2017, RGA's board of directors authorized a share repurchase program, with no expiration date, for up to $400.0 million of RGA's outstanding common stock.

ITEM 6. Exhibits

See index to exhibits.

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INDEX TO EXHIBITS

Exhibit Number	Description
3.1	Amended and Restated Articles of Incorporation, incorporated by reference to Exhibit 3.1 of Current Report on Form 8-K filed November 25, 2008
3.2	Amended and Restated Bylaws, incorporated by reference to Exhibit 3.1 of Current Report on Form 8-K filed July 18, 2014
10.1	Form of Performance Contingent Share Agreement under RGA Flexible Stock Plan, as amended and restated effective May 23, 2017*
10.2	Form of Stock Appreciation Right Award Agreement under RGA Flexible Stock Plan, as amended and restated effective May 23, 2017*
31.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

* Represents a management contract or compensatory plan or arrangement

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Reinsurance Group of America, Incorporated

Date: May 4, 2018 By: /s/ Anna Manning
Anna Manning
President & Chief Executive Officer
(Principal Executive Officer)

Date: May 4, 2018 By: /s/ Todd C. Larson
Todd C. Larson
Senior Executive Vice President & Chief Financial Officer
(Principal Financial and Accounting Officer)