

RG Americas Reinsurance Company, Ltd.

Consolidated Financial Statements as of and for the
Years Ended December 31, 2017 and 2016, and
Independent Auditors' Report

RGAMERICAS REINSURANCE COMPANY, LTD.

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INDEPENDENT AUDITORS' REPORT

To the Shareholder and Board of Directors of
RGA Americas Reinsurance Company, Ltd.:

We have audited the accompanying consolidated financial statements of RGA Americas Reinsurance Company, Ltd. and its subsidiaries (the "Company"), which comprise the consolidated balance sheets as of December 31, 2017 and 2016, and the related consolidated statements of income, comprehensive income, changes in shareholder's equity, and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matters

As discussed in Note 1 to the consolidated financial statements, in 2017 Reinsurance Group of America, Incorporated contributed to the Company all the outstanding shares of its wholly-owned subsidiary, RGA Australian Holdings Pty Limited ("RGA Australia"). The Company recorded RGA Australia's assets and liabilities at their carrying values in its consolidated financial statements as if the transaction occurred at the beginning of 2016 as RGA Australia and the Company are under common control. Our opinion is not modified with respect to this matter.

As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for its future policy benefits, interest-sensitive contract liabilities and reinsurance ceded receivables for its reinsurance transactions and related retrocession contracts (collectively referred to as "reinsurance liabilities") retrospectively, to a basis consistent with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters

Results of the Company may not be indicative of those of a stand-alone entity, as the Company is a member of a controlled group of affiliated companies. Our opinion is not modified with respect to this matter.

In our opinion dated April 21, 2017, we issued a qualified opinion on the 2016 consolidated financial statements because the Company presented its reinsurance liabilities on a U.S. income tax basis. The Company has subsequently changed its method of accounting to a basis consistent with accounting principles generally accepted in the United States of America. Accordingly, our present opinion on the 2016 consolidated financial statements is different from that expressed in our previous opinion.

Deloitte + Touche LLP

April 12, 2018

RGAMERICAS REINSURANCE COMPANY, LTD.

CONSOLIDATED BALANCE SHEETS AS OF DECEMBER 31, 2017 AND 2016

(Expressed in thousands of U.S. dollars, except share data)

	2017	2016
Assets		
Fixed maturity securities:		
Available-for-sale at fair value (amortized cost of \$12,490,723 and \$9,826,430)	\$ 14,434,096	\$ 11,307,978
Funds withheld at interest	4,887,867	1,274,386
Short-term investments	63,173	49,000
Other invested assets	723,072	518,726
Total investments	<u>20,108,208</u>	<u>13,150,090</u>
Cash and cash equivalents	508,225	415,474
Accrued investment income	150,873	124,599
Premiums receivable	551,063	521,020
Reinsurance ceded receivables	1,762,083	1,761,354
Deferred policy acquisition costs	1,168,453	564,096
Other reinsurance balances	181,307	593,532
Income tax recoverable	1,468	15,165
Receivable from parent and affiliates	13,151	1,904
Other assets	108,375	115,673
Total assets	<u>\$ 24,553,206</u>	<u>\$ 17,262,907</u>
Liabilities and Shareholder's Equity		
Future policy benefits	\$ 12,925,497	\$ 8,903,803
Interest-sensitive contract liabilities	2,667,988	586,263
Other policy claims and benefits	2,278,875	2,036,571
Other reinsurance balances	358,562	517,805
Securities lending obligation	94,757	94,600
Deferred income taxes	1,028,744	1,154,635
Affiliated note payable	46,854	43,248
Payable to parent and affiliates	168,118	8,170
Other liabilities	123,842	138,488
Total liabilities	<u>19,693,237</u>	<u>13,483,583</u>
Commitments and contingent liabilities (See Note 13)		
Shareholder's Equity:		
Common stock (par value \$1.00 per share; unlimited shares authorized; shares issued: 75,500,000 at December 31, 2017 and 2016)	75,500	75,500
Additional paid-in-capital	889,117	885,585
Retained earnings	2,648,158	2,045,857
Accumulated other comprehensive income	1,247,194	772,382
Total shareholder's equity	<u>4,859,969</u>	<u>3,779,324</u>
Total liabilities and shareholder's equity	<u>\$ 24,553,206</u>	<u>\$ 17,262,907</u>

See accompanying notes to consolidated financial statements.

RGAMERICAS REINSURANCE COMPANY, LTD.

CONSOLIDATED STATEMENTS OF INCOME FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(Expressed in thousands of U.S. dollars)

	2017	2016
Revenues		
Net premiums	\$ 2,756,612	\$ 2,467,930
Investment income, net of related expenses	554,363	484,091
Change in value of funds withheld embedded derivatives	41,386	(809)
Investment related gains, net:		
Other-than-temporary impairments on fixed maturity securities	(2,481)	—
Other-than-temporary impairments on fixed maturity securities transferred to other comprehensive income	—	—
Other investment related gains, net	6,023	49,136
Total investment related gains, net	3,542	49,136
Other revenues	515,027	94,689
Total revenues	<u>3,870,930</u>	<u>3,095,037</u>
Benefits and expenses		
Claims and other policy benefits	2,153,892	2,171,083
Interest credited	39,711	13,813
Policy acquisition costs and other insurance expenses	991,391	297,901
Other operating expenses	207,437	205,298
Collateral finance expense	2,145	1,456
Total benefits and expenses	<u>3,394,576</u>	<u>2,689,551</u>
Income before income taxes	476,354	405,486
Provision for income taxes	(147,791)	123,260
Net income	<u>\$ 624,145</u>	<u>\$ 282,226</u>

See accompanying notes to consolidated financial statements.

RGAMERICAS REINSURANCE COMPANY, LTD.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(Expressed in thousands of U.S. dollars)

	<u>2017</u>	<u>2016</u>
Comprehensive income		
Net income	\$ 624,145	\$ 282,226
Other comprehensive income, net of tax:		
Foreign currency translation adjustments	107,986	4,231
Net unrealized investment gains	345,036	196,042
Defined benefit pension and postretirement plan adjustments	(54)	(613)
Total other comprehensive income, net of tax	<u>452,968</u>	<u>199,660</u>
Total comprehensive income	<u>\$ 1,077,113</u>	<u>\$ 481,886</u>

See accompanying notes to consolidated financial statements.

RGAMERICAS REINSURANCE COMPANY, LTD.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDER'S EQUITY FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(Expressed in thousands of U.S. dollars)

	Common Stock	Additional Paid-In- Capital	Retained Earnings	Accumulated Other Comprehensive Income	Total
Balance, January 1, 2016	\$ 75,500	\$ 833,470	\$ 1,963,631	\$ 572,722	\$ 3,445,323
Net income	—	—	282,226	—	282,226
Total other comprehensive income	—	—	—	199,660	199,660
Equity based compensation	—	4,050	—	—	4,050
Proforma relief of Subpart F	—	2,183	—	—	2,183
Dividends to shareholder	—	—	(200,000)	—	(200,000)
Capital contribution	—	45,882	—	—	45,882
Balance, December 31, 2016	75,500	885,585	2,045,857	772,382	3,779,324
Adoption of new accounting standard	—	—	(21,844)	21,844	—
Net income	—	—	624,145	—	624,145
Total other comprehensive income	—	—	—	452,968	452,968
Equity based compensation	—	3,418	—	—	3,418
Proforma relief of Subpart F	—	114	—	—	114
Balance, December 31, 2017	\$ 75,500	\$ 889,117	\$ 2,648,158	\$ 1,247,194	\$ 4,859,969

See accompanying notes to consolidated financial statements.

RGAMERICAS REINSURANCE COMPANY, LTD.

CONSOLIDATED STATEMENTS OF CASH FLOWS FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016

(Expressed in thousands of U.S. dollars)

	2017	2016
Cash flows from operating activities		
Net income	\$ 624,145	\$ 282,226
Adjustments to reconcile net income to net cash provided by operating activities:		
Change in operating assets and liabilities:		
Accrued investment income	(16,773)	(9,553)
Premiums receivable and other reinsurance balances	500,712	1,412,793
Reinsurance ceded receivables	51,211	(1,741,165)
Deferred policy acquisition costs	(28,130)	10,227
Future policy benefits, other policy claims and benefits, and other reinsurance balances	379,833	644,071
Deferred income taxes	(219,802)	111,692
Federal income taxes	14,831	(14,968)
Receivable from parent and affiliates	(11,229)	747
Payable to parent and affiliates	159,747	(1,284)
Other assets	(32,497)	(23,343)
Other liabilities	5,601	25,594
Amortization of net investment premiums, discounts and other	(95,319)	(84,424)
Depreciation and amortization expense	5,596	4,984
Investment related gains, net	(3,542)	(49,136)
Change in value of funds withheld embedded derivatives	(41,386)	809
Equity based compensation	3,418	4,050
Net cash provided by operating activities	<u>1,296,416</u>	<u>573,320</u>
Cash flows from investing activities		
Sales of fixed maturity securities available-for-sale	1,892,742	1,659,140
Sales of equity securities	421	11,122
Maturities of fixed maturity securities available-for-sale	223,009	100,350
Purchases of fixed maturity securities available-for-sale	(2,957,473)	(2,460,688)
Purchases of equity securities	(10,243)	(6,999)
Cash invested in funds withheld at interest	(621,110)	(201,101)
Change in short-term investments	(9,432)	166,277
Change in other invested assets	(200,013)	(171,597)
Net cash used in investing activities	<u>(1,682,099)</u>	<u>(903,496)</u>
Cash flows from financing activities		
Dividends to shareholder	—	(200,000)
Capital contribution	—	45,882
Change in securities lending obligation	150	78,863
Change in cash collateral for derivative positions and other arrangements	(26,159)	19,028
Deposits on variable annuity contracts	539,055	206,533
Withdrawals on variable annuity contracts	(63,921)	(18,642)
Net cash provided by financing activities	<u>449,125</u>	<u>131,664</u>
Effect of exchange rate changes on cash	29,309	(16,589)
Change in cash and cash equivalents	92,751	(215,101)
Cash and cash equivalents, beginning of period	415,474	630,575
Cash and cash equivalents, end of period	<u>\$ 508,225</u>	<u>\$ 415,474</u>
Supplemental disclosures of cash flow information:		
Interest paid	\$ 3,090	\$ 2,565
Income taxes paid, net of refunds	57,441	30,820
Non-cash transactions:		
Transfer of invested assets	\$ 3,764,940	\$ 115,627

See accompanying notes to consolidated financial statements.

RGAMERICAS REINSURANCE COMPANY, LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEARS ENDED DECEMBER 31, 2017 AND 2016 (Expressed in U.S. dollars)

Note 1 BUSINESS AND BASIS OF PRESENTATION

Business

RGA Americas Reinsurance Company, Ltd. ("RGA Americas") was incorporated under the laws of Barbados on July 2, 1998 under the Exempt Insurance Act of Barbados, 1983 and was redomiciled to Bermuda on September 25, 2014 under the Companies Act 1981 of Bermuda. RGA Americas is a wholly owned subsidiary of Reinsurance Group of America, Incorporated ("RGA"), a U.S. insurance holding company, formed on December 31, 1992. As of December 31, 2017, all outstanding shares of RGA Americas were owned by RGA. The consolidated financial statements herein include the assets, liabilities, and results of operations of RGA Americas and its wholly owned subsidiaries, RGA Atlantic Reinsurance Company Ltd. ("RGA Atlantic"), RGA Life Reinsurance Company of Canada ("RGA Canada"), RGA South African Holdings (Pty) Ltd. ("RGA South Africa"), RGA International Reinsurance Company dac ("RGA International"), Leidsche Leven Holding B.V. ("Leidsche"), and RGA Australian Holdings Pty Limited ("RGA Australia") (collectively, the "Company"). Intercompany balances and transactions have been eliminated.

In 2017, RGA contributed to RGA Americas all of the outstanding shares of its wholly owned subsidiary, RGA Australia. RGA Americas recorded RGA Australia's assets and liabilities at their carrying values and has reflected the transaction on its consolidated financial statements as if it had occurred at the beginning of 2016, which is the required method for transactions between entities under common control. As such, the consolidated financial statements and financial information presented for the prior year have been retrospectively adjusted to furnish comparative information.

In 2016, RGA contributed to RGA Americas all of the outstanding shares of two of its wholly owned subsidiaries, RGA International and Leidsche. RGA Americas recorded RGA International's and Leidsche's assets and liabilities at their carrying values and has reflected the transaction on its consolidated financial statements.

The Company is engaged in providing traditional reinsurance, which includes individual and group life and health, disability, and critical illness reinsurance. The Company also provides financial solutions, which includes longevity reinsurance, asset-intensive products, primarily annuities, and financial reinsurance. In addition, the Company engages in direct insurance via its subsidiary, Leidsche.

Reinsurance is an arrangement under which an insurance company, the reinsurer, agrees to indemnify another insurance company, the ceding company, for all or a portion of the insurance risks underwritten by the ceding company. Reinsurance is designed to (i) reduce the net liability on individual risks, thereby enabling the ceding company to increase the volume of business it can underwrite, as well as increase the maximum risk it can underwrite on a single life or risk; (ii) stabilize operating results by leveling fluctuations in the ceding company's loss experience; (iii) assist the ceding company to meet applicable regulatory requirements; and (iv) enhance the ceding company's financial strength and surplus position.

Basis of Presentation

The consolidated financial statements of the Company have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). In order to facilitate adherence to certain U.S. income tax statutes, the Company reflected, in the prior year consolidated financial statements, future policy benefits, interest-sensitive contract liabilities and reinsurance ceded receivables calculated on a U.S. income tax basis relating to reinsurance contracts and their related retrocession contracts with an offsetting adjustment to other reinsurance balances. Under GAAP, neither these adjustments to the future policy benefits, interest-sensitive contract liabilities, reinsurance ceded receivables, nor the related other reinsurance balances, should be presented. As of December 31, 2017, the Company is reflecting future policy benefits, interest-sensitive contract liabilities, reinsurance ceded receivables, and other reinsurance balances in accordance with GAAP. As such, the consolidated financial statements and financial information presented for the prior year have been retrospectively adjusted to furnish comparative information. This adjustment, which was deemed immaterial to the consolidated financial statements, had the following effect on the December 31, 2016 balances as reflected in the current consolidated balance sheets (dollars in thousands):

	Increase/ (Decrease)
Reinsurance ceded receivables	\$ (2,940,991)
Other reinsurance balances	(3,178,093)
Total assets	(6,119,084)
Future policy benefits	(6,292,442)
Other reinsurance balances	173,358
Total liabilities	(6,119,084)

This adjustment had no impact to the consolidated statements of income, comprehensive income, changes in shareholder's equity, or cash flows.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosures of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The most significant estimates include those used in determining deferred policy acquisition costs, premiums receivable, future policy benefits, incurred but not reported claims, income taxes, valuation of investments and investment impairments, and valuation of embedded derivatives. Actual results could differ materially from the estimates and assumptions used by management.

The accompanying consolidated financial statements include the accounts of RGA Americas and its subsidiaries, all of which are wholly owned. Entities in which the Company has significant influence over the operating and financing decisions but are not required to be consolidated are reported under the equity method of accounting. Intercompany balances and transactions have been eliminated. A portion of the Company's reinsurance receivables and policy liabilities are associated with affiliated companies, and the Company relies on affiliated companies for services. See Note 12 - "Related-Party Transactions" for further details.

There were no subsequent events that would require disclosure or adjustments to the accompanying consolidated financial statements through the date the consolidated financial statements were issued.

Note 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Investments

Fixed Maturity Securities

Fixed maturity securities classified as available-for-sale are reported at fair value and are so classified based upon the possibility that such securities could be sold prior to maturity if that action enables the Company to execute its investment philosophy and appropriately match investment results to operating and liquidity needs.

Unrealized gains and losses on fixed maturity securities classified as available-for-sale, less applicable deferred income taxes as well as related adjustments to deferred acquisition costs, if applicable, are reflected as a direct charge or credit to accumulated other comprehensive income ("AOCI") in shareholder's equity on the consolidated balance sheets.

Investment income is recognized as it accrues or is legally due. Realized gains and losses on sales of investments are included in investment related gains, net, as are credit impairments that are other-than-temporary in nature. The cost of investments sold is primarily determined based upon the specific identification method.

Funds Withheld at Interest

Funds withheld at interest represent amounts contractually withheld by ceding companies in accordance with reinsurance agreements. For agreements written on a modified coinsurance basis and agreements written on a coinsurance funds withheld basis, assets which support the net statutory reserves or as defined in the treaty, are withheld and legally owned by the ceding company. Interest, recorded in investment income, net of related expenses in the consolidated statements of income, accrues to these assets at calculated rates as defined by the treaty terms.

Short-term Investments

Short-term investments represent investments with remaining maturities greater than three months but less than twelve months, at the date of purchase, and are stated at estimated fair value or amortized cost, which approximates estimated fair value. Interest on short-term investments is recorded in investment income, net of related expenses in the consolidated statements of income.

Other Invested Assets

In addition to derivative contracts discussed below, other invested assets include equity securities, contractholder-directed investments, mortgage loans on real estate, equity release mortgages, cash pledged as collateral, limited partnerships and a purchase agreement (carried at cost). Other invested assets are reviewed quarterly for impairment.

Equity securities classified as available-for-sale are carried at fair value. The fair value option ("FVO") was elected for contractholder-directed investments supporting unit-linked variable annuity type liabilities which do not qualify for presentation and reporting as separate accounts. Changes in estimated fair value of these securities are included in investment income, net of related expenses. Limited partnership interests are primarily carried at cost. Based on the nature and structure of these investments, they do not meet the characteristics of an equity security in accordance with applicable accounting standards. Equity release mortgages are carried at unpaid principal balances, net of any unamortized premium or discount and valuation allowances. Interest income is accrued on the principal amount of the equity release mortgage based on its contractual interest rate.

Mortgage loans on real estate are carried at unpaid principal balances, net of any unamortized premium or discount and valuation allowances. Interest income is accrued on the principal amount of the mortgage loan based on its contractual interest rate. Amortization of premiums and discounts is recorded using the effective yield method. The Company accrues interest on loans until it is probable the Company will not receive interest or the loan is 90 days past due. Interest income, amortization of premiums, accretion of discounts and prepayment fees are reported in investment income, net of related expenses in the consolidated statements of income.

A mortgage loan is considered to be impaired when, based on the current information and events, it is probable that the Company will be unable to collect all amounts due according to the contractual terms of the mortgage agreement. Although all available and applicable factors are considered in the Company's analysis, loan-to-value and debt service coverage ratios are the most critical factors in determining impairment.

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 Company establishes valuation allowances for estimated impairments on an individual loan basis as of the balance sheet date. Such valuation allowances are based on the excess carrying value of the loan over the present value of expected future cash flows discounted at the loan's original effective interest rate, the value of the loan's collateral if the loan is in the process of foreclosure or is otherwise collateral-dependent, or the loan's market value if the loan is being sold. Non-specific valuation allowances are established for mortgage loans based upon several loan factors, including the Company's historical experience for loan losses, defaults and loss severity, loss expectations for loans with similar risk characteristics and industry statistics. These evaluations are revised as conditions change and new information becomes available. In addition to historical experience, management considers qualitative factors that include the impact of changing macro-economic conditions, which may not be currently reflected in the loan portfolio performance, and the quality of the loan portfolio.

Any interest accrued or received on the net carrying amount of the impaired loan will be included in investment income or applied to the principal of the loan, depending on the assessment of the collectability of the loan. Mortgage loans deemed to be uncollectible or that have been foreclosed are charged off against the valuation allowances and subsequent recoveries, if any, are credited to the valuation allowances. Changes in valuation allowances are reported in investment related gains, net on the consolidated statements of income.

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

The Company identifies fixed maturity and equity securities that could potentially have credit impairments that are other-than-temporary by monitoring market events that could impact issuers' credit ratings, business climates, management changes, litigation, government actions and other similar factors. The Company also monitors late payments, pricing levels, rating agency actions, key financial ratios, financial statements, revenue forecasts and cash flow projections as indicators of credit issues.

The Company reviews all securities on a case-by-case basis to determine whether an other-than-temporary decline in value exists and whether losses should be recognized. The Company considers relevant facts and circumstances in evaluating whether a credit or interest rate-related impairment of a security is other-than-temporary. Relevant facts and circumstances considered include: (1) the extent and length of time the fair value has been below cost; (2) the reasons for the decline in fair value; (3) the issuer's financial position and access to capital; and (4) for fixed maturity securities, the Company's intent to sell a security or whether it is more likely than not it will be required to sell the security before the recovery of its amortized cost which, in some cases, may extend to maturity and for equity securities, the Company's ability and intent to hold the security for a period of time that allows for the recovery in value. To the extent the Company determines that a security is deemed to be other-than-temporarily impaired, an impairment loss is recognized.

Impairment losses on equity securities are reported in investment related gains, net on the consolidated statements of income. Impairment losses on fixed maturity securities recognized in the consolidated financial statements are dependent on the facts and circumstances related to the specific security. If the Company intends to sell a security or it is more likely than not that it would be required to sell a security before the recovery of its amortized cost, less any recorded credit loss, it recognizes an other-than-temporary impairment in investment related gains, net on the consolidated statements of income for the difference between amortized cost and fair value. If neither of these two conditions exists then the recognition of the other-than-temporary impairment is bifurcated and the Company recognizes the credit loss portion in investment related gains, net and the non-credit loss portion in AOCI.

The Company estimates the amount of the credit loss component of a fixed maturity security impairment as the difference between amortized cost and the present value of the expected cash flows of the security. The present value is determined using the best estimate cash flows discounted at the effective interest rate implicit to the security at the date of purchase or the current yield to accrete an asset-backed or floating rate security. The techniques and assumptions for establishing the best estimate cash flows vary depending on the type of security. For mortgage-backed securities and asset-backed securities, cash flow estimates are based on security-specific facts and circumstances that may include collateral characteristics, expectations of delinquency and default rates, loss severity and prepayment speeds and structural support, including subordination and guarantees. The corporate and government fixed maturity security cash flow estimates are derived from scenario-based outcomes of expected corporate restructurings or the disposition of assets using security-specific facts and circumstances including timing, security interests and loss severity.

In periods after an other-than-temporary impairment loss is recognized on a fixed maturity security, the Company will report the impaired security as if it had been purchased on the date it was impaired and will continue to estimate the present value of the estimated cash flows of the security. Accordingly, the discount (or reduced premium) based on the new cost basis is accreted into investment income, net of related expenses over the remaining term of the fixed maturity security in a prospective manner based on the amount and timing of estimated future cash flows.

The Company considers its cost method investments for other-than-temporary impairment when the carrying value of these investments exceeds the net asset value. The Company takes into consideration the severity and duration of this excess when deciding if the cost method investment is other-than-temporarily impaired. For equity method investments, the Company considers financial and other information provided by the investee, other known information and inherent risks in the underlying investments, as well as future capital commitments in determining whether an impairment has occurred.

Derivative Instruments

Overview

The Company utilizes a variety of derivative instruments including swaps, options and futures, primarily to manage or hedge interest rate risk, credit risk, inflation risk, foreign currency risk, market volatility and various other market risks associated with its business. The Company does not invest in derivatives for speculative purposes. It is the Company's policy to enter into derivative contracts primarily with highly rated parties. See Note 4 - "Derivative Instruments" for additional detail on the Company's derivative positions.

Accounting and Financial Statement Presentation of Derivatives

Derivatives are carried on the Company's consolidated balance sheets primarily in other invested assets or other liabilities, at fair value. Certain derivatives are subject to master netting provisions and reported as a net asset or liability. On the date a derivative contract is executed, the Company designates the derivative as (1) a fair value hedge, (2) a cash flow hedge, (3) a net investment hedge in a foreign operation or (4) free-standing derivatives held for other risk management purposes, which primarily involve managing asset or liability risks associated with the Company's reinsurance treaties which do not qualify for hedge accounting.

Changes in the fair value of free-standing derivative instruments, which do not receive accounting hedge treatment, are primarily reflected in investment related gains, net.

Changes in the fair value of non-investment free-standing derivative instruments (e.g. longevity swaps), which do not receive accounting hedge treatment, are reflected in other revenues.

Hedge Documentation and Hedge Effectiveness

To qualify for hedge accounting, at the inception of the hedging relationship, the Company formally documents its risk management objective and strategy for undertaking the hedging transaction, as well as its designation of the hedge as either (i) a fair value hedge; (ii) a cash flow hedge; or (iii) a hedge of a net investment in a foreign operation. In this documentation, the Company sets forth how the hedging instrument is expected to hedge the designated risks related to the hedged item and sets forth the method that will be used to retrospectively and prospectively assess the hedging instrument's effectiveness and the method which will be used to measure ineffectiveness. A derivative designated as a hedging instrument must be assessed as being highly effective in offsetting the designated risk of the hedged item. Hedge effectiveness is formally assessed at inception and periodically throughout the life of the designated hedging relationship.

Under a fair value hedge, changes in the fair value of the hedging derivative, including amounts measured as ineffective, and changes in the fair value of the hedged item related to the designated risk being hedged, are reported within investment related gains, net. The fair values of the hedging derivatives are exclusive of any accruals that are separately reported in the consolidated statements of income within interest income or interest expense to match the location of the hedged item.

Under a cash flow hedge, changes in the fair value of the hedging derivative measured as effective are reported within AOCI and the deferred gains or losses on the derivative are reclassified into the consolidated statements of income when the Company's

earnings are affected by the variability in cash flows of the hedged item. Changes in the fair value of the hedging instrument measured as ineffective are reported within investment related gains, net. The fair values of the hedging derivatives are exclusive of any accruals that are separately reported in the consolidated statements of income within interest income or interest expense to match the location of the hedged item.

In a hedge of a net investment in a foreign operation, changes in the fair value of the hedging derivative that are measured as effective are reported within AOCI consistent with the translation adjustment for the hedged net investment in the foreign operation. Changes in the fair value of the hedging instrument measured as ineffective are reported within investment related gains, net.

The Company discontinues hedge accounting prospectively when: (i) it is determined that the derivative is no longer highly effective in offsetting changes in the estimated fair value or cash flows of a hedged item; (ii) the derivative expires, is sold, terminated, or exercised; (iii) it is no longer probable that the hedged forecasted transaction will occur; or (iv) the derivative is de-designated as a hedging instrument.

When hedge accounting is discontinued because it is determined that the derivative is not highly effective, the derivative continues to be carried in the consolidated balance sheets at fair value, with changes in fair value recognized in investment related gains, net. The carrying value of the hedged asset or liability under a fair value hedge is no longer adjusted for changes in its estimated fair value due to the hedged risk, and the cumulative adjustment to its carrying value is amortized into income over the remaining life of the hedged item. Provided the hedged forecasted transaction occurrence is still probable, the changes in estimated fair value of derivatives recorded in other comprehensive income (loss) ("OCI") related to discontinued cash flow hedges are released into the consolidated statements of income when the Company's earnings are affected by the variability in cash flows of the hedged item.

When hedge accounting is discontinued because it is no longer probable that the forecasted transactions will occur on the anticipated date or within two months of that date, the derivative continues to be carried in the consolidated balance sheets at its estimated fair value, with changes in estimated fair value recognized currently in investment related gains, net. Deferred gains and losses of a derivative recorded in OCI pursuant to the discontinued cash flow hedge of a forecasted transaction that is no longer probable are recognized immediately in investment related gains, net.

In all other situations in which hedge accounting is discontinued, the derivative is carried at its estimated fair value in the consolidated balance sheets, with changes in its estimated fair value recognized in the current period as investment related gains, net.

Embedded Derivatives

The Company reinsures certain annuity products that contain terms that are deemed to be embedded derivatives, primarily variable annuities with guaranteed minimum benefits. The Company assesses reinsurance contract terms to identify embedded derivatives which are required to be bifurcated under the general accounting principles for *Derivatives and Hedging*. If the contract is not reported for in its entirety at fair value and it is determined that the terms of the embedded derivative are not clearly and closely related to the economic characteristics of the host contract, and that a separate instrument with the same terms would qualify as a derivative instrument, the embedded derivative is bifurcated from the host contract and accounted for separately.

Such embedded derivatives are carried on the consolidated balance sheets at fair value in the same line item as the host contract. Changes in the fair value of embedded derivatives associated with variable annuity guaranteed minimum benefits are reflected in investment related gains, net on the consolidated statements of income. See "Interest-Sensitive Contract Liabilities" below for additional information on embedded derivatives related to variable annuities. The Company has implemented an economic hedging strategy to mitigate the volatility associated with its reinsurance of variable annuity guaranteed minimum benefits. The hedging strategy is designed such that changes in the fair value of the hedge contracts, primarily futures, swap contracts and options, move in the opposite direction of changes in the fair value of the embedded derivatives. While the Company actively manages its hedging program, the hedges that are in place may not be totally effective in offsetting the embedded derivative changes due to the many variables that must be managed and the Company may see a corresponding increase or decrease in the net liability. The Company has elected not to assess this hedging strategy for hedge accounting treatment.

Additionally, reinsurance treaties written on a modified coinsurance or funds withheld basis are subject to the general accounting principles for *Derivatives and Hedging* related to embedded derivatives. Management believes the embedded derivative feature in each of these reinsurance treaties is similar to a total return swap on the assets held by the ceding companies. The valuation of embedded derivatives is sensitive to the investment credit spread environment. Changes in investment credit spreads are also affected by the application of a credit valuation adjustment ("CVA"). The fair value calculation of an embedded derivative in an asset position utilizes a CVA based on the ceding company's credit risk. Conversely, the fair value calculation of an embedded derivative in a liability position utilizes a CVA based on the Company's credit risk. Generally, an increase in investment credit spreads, ignoring changes in the CVA, will have a negative impact on the fair value of the embedded derivative (decrease in income). The fair value of the embedded derivatives is included in the funds withheld at interest line item on the consolidated balance sheets. The change in the fair value of the embedded derivatives is recorded in change in value of funds withheld embedded derivatives on the consolidated statements of income.

The Company has entered into various financial reinsurance treaties on a funds withheld and modified coinsurance basis. These treaties do not transfer significant insurance risk and are recorded on a deposit method of accounting with the Company earning a net fee. As a result of the experience refund provisions contained in these treaties, the value of the embedded derivatives in these contracts is currently considered immaterial. The Company monitors the performance of these treaties on a quarterly basis. Significant adverse performance or losses on these treaties may result in a loss associated with the embedded derivative.

Fair Value Measurements

General accounting principles for *Fair Value Measurements and Disclosures* define fair value, establish a framework for measuring fair value, establish a fair value hierarchy based on the inputs used to measure fair value and enhance disclosure requirements for fair value measurements. In compliance with these principles, the Company has categorized its assets and liabilities, based on the priority of the inputs to the valuation technique, into a three level hierarchy or separately for assets measured using the net asset value ("NAV"). The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1), the second highest priority to quoted prices in markets that are not active or inputs that are observable either directly or indirectly (Level 2) and the lowest priority to unobservable inputs (Level 3).

If the inputs used to measure fair value fall within different levels of the hierarchy, the category level is based on the lowest priority level input that is significant to the fair value measurement of the asset or liability.

See Note 5 - "Fair Value of Assets and Liabilities" for further details on the Company's assets and liabilities recorded at fair value.

Cash and Cash Equivalents

Cash and cash equivalents include cash on deposit and highly liquid debt instruments purchased with an original maturity of three months or less.

Premiums Receivable

Premiums are accrued when due and in accordance with information received from the ceding company. When the Company enters into a new reinsurance agreement, it records accruals based on the terms of the reinsurance treaty. Similarly, when a ceding company fails to report information on a timely basis, the Company records accruals based on the terms of the reinsurance treaty as well as historical experience. Other management estimates include adjustments for increased in force on existing treaties, lapsed premiums given historical experience, the financial health of specific ceding companies, collateral value and the legal right of offset on related amounts (i.e. allowances and claims) owed to the ceding company. Under the legal right of offset provisions in its reinsurance treaties, the Company can withhold payments for allowances and claims from unpaid premiums. Based on its review of these factors and historical experience, the Company did not believe a provision for doubtful accounts was necessary as of December 31, 2017 or 2016.

Reinsurance Ceded Receivables

The Company generally reports retrocession activity on a gross basis. Amounts paid or deemed to have been paid for reinsurance are reflected in reinsurance ceded receivables. The cost of reinsurance related to long-duration contracts is recognized over the terms of the reinsured policies on a basis consistent with the reporting of those policies.

The Company mainly retrocedes business to affiliates, as well as utilizing the Company's third party retrocession pools. In addition, 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 or as to recoverability of any such claims.

Deferred Policy Acquisition Costs

Costs of acquiring new business, which vary with and are directly related to the production of new business, have been deferred to the extent that such costs are deemed recoverable from future premiums or gross profits. Such costs include commissions and allowances as well as certain costs of policy issuance and underwriting. Non-commission costs related to the acquisition of new and renewal insurance contracts may be deferred only if they meet the following criteria:

- Incremental direct costs of a successful contract acquisition
- Portions of employees' salaries and benefits directly related to time spent performing specified acquisition activities for a contract that has been acquired or renewed
- Other costs directly related to the specified acquisition or renewal activities that would not have been incurred had that acquisition contract transaction not occurred

The Company tests the recoverability for each year of business at issue before establishing additional deferred acquisition costs ("DAC"). The Company also performs annual tests to establish that DAC are expected to remain recoverable, and if financial

performance significantly deteriorates to the point where a deficiency exists, a cumulative charge to current operations will be recorded. No such adjustments related to DAC recoverability were made in 2017 or 2016.

DAC related to traditional life insurance contracts are amortized with interest over the premium-paying period of the related policies in proportion to the ratio of individual period premium revenues to total anticipated premium revenues over the life of the policy. Such anticipated premium revenues are estimated using the same assumptions used for computing liabilities for future policy benefits.

DAC related to interest-sensitive life and investment-type policies are amortized over the lives of the policies, in proportion to the gross profits realized from mortality, investment income less interest credited, and expense margins.

Other Reinsurance Balances

The Company assumes and retrocedes financial reinsurance contracts that do not expose it to a reasonable possibility of loss from insurance risk. These contracts are reported as deposits and are included in other reinsurance assets/liabilities. The amount of revenue reported in other revenues on these contracts represents fees and the cost of insurance under the terms of the reinsurance agreement. Assets and liabilities are reported on a net or gross basis, depending on the specific details within each treaty. Reinsurance agreements reported on a net basis, where a legal right of offset exists, are generally included in other reinsurance balances on the consolidated balance sheets. Balances resulting from the assumption and/or subsequent transfer of benefits and obligations resulting from cash flows related to variable annuities have also been classified as other reinsurance balance assets and/or liabilities. Other reinsurance assets are included in other reinsurance balances within total assets, while other reinsurance liabilities are included in other reinsurance balances within total liabilities on the consolidated balance sheets.

Receivable From/Payable To Parent and Affiliates

Receivable from/payable to parent and affiliates is primarily comprised of non-reinsurance related amounts receivable/payable. See Note 12 - "Related-Party Transactions" for further details about transactions with affiliated companies.

Other Assets

Other assets primarily includes capitalized assets, operating joint ventures, and receivables due to cash provided by the Company as collateral to its derivative counterparties. Capitalized assets are stated at cost, less accumulated depreciation and amortization. Carrying values are reviewed periodically for indicators of impairment in value.

Operating Joint Ventures

The Company has made investments in certain joint ventures that are strategic in nature and made other than for the sole purpose of generating investment income. These investments are reported under the equity method of accounting and are included in other assets on the consolidated balance sheets. The Company's share of earnings from these joint ventures is reported in other revenues on the consolidated statements of income. The Company's investments in operating joint ventures do not have a material effect on the Company's results of operations and financial condition, and as a result no additional disclosures have been presented.

Future Policy Benefits

Liabilities for future benefits on life policies are established in an amount adequate to meet the estimated future obligations on policies in force. Liabilities for future policy benefits under long-term life insurance policies have been computed based upon expected investment yields, mortality and withdrawal (lapse) rates, and other assumptions. These assumptions include a margin for adverse deviation and vary with the characteristics of the plan of insurance, year of issue, age of insured, and other appropriate factors. The mortality and withdrawal assumptions are based on the Company's experience as well as industry experience and standards. In establishing reserves for future policy benefits, the Company assigns policy liability assumptions to particular timeframes (eras) in such a manner as to be consistent with the underlying assumptions and economic conditions at the time the risks are assumed. The Company maintains a consistent approach to setting the provision for adverse deviation between eras.

Liabilities for future benefits on longevity business, including annuities in the payout phase, are established in an amount adequate to meet the estimated future obligations on policies in force. Liabilities for future benefits related to the longevity business, including annuities in the payout phase have been calculated using expected mortality, investment yields, and other assumptions. These assumptions include a margin for adverse deviation and vary with the characteristics of the plan of insurance, year of issue, age of insured, and other appropriate factors. The mortality assumptions are based on the Company's experience as well as industry experience and standards. A deferred profit liability is established when the gross premium exceeds the net premium.

The Company periodically reviews actual and anticipated experience compared to the assumptions used to establish policy benefits. The Company establishes premium deficiency reserves if actual and anticipated experience indicates that existing policy liabilities together with the present value of future gross premiums will not be sufficient to cover the present value of future benefits, settlement and maintenance costs and to recover unamortized acquisition costs. Anticipated investment income is considered in the calculation of premium deficiency losses for short duration contracts. The premium deficiency reserve is established by a

charge to income, as well as a reduction in unamortized acquisition costs and, to the extent there are no unamortized acquisition costs, an increase in future policy benefits.

The reserving process includes normal periodic reviews of assumptions used and adjustments of reserves to incorporate the refinement of the assumptions. Any such adjustments relate only to policies assumed in recent periods and the adjustments are reflected by a cumulative charge or credit to current operations.

The Company reinsures disability products in various markets. Liabilities for future benefits on disability policies' active lives are established in an amount adequate to meet the estimated future obligations on policies in force. These reserves are the amounts which, with the additional premiums to be received and interest thereon compounded annually at certain assumed rates, are calculated to be sufficient to meet the various policy and contract obligations as they mature.

The Company establishes future policy benefits for guaranteed minimum death benefits ("GMDB") relating to the reinsurance of certain variable annuity contracts by estimating the expected value of death benefits in excess of the projected account balance and recognizing the excess proportionally over the accumulation period based on total expected assessments. The Company regularly evaluates estimates used and adjusts the additional liability balance, with a related charge or credit to claims and other policy benefits, if actual experience or other evidence suggests that earlier assumptions should be revised. The assumptions used in estimating the GMDB liabilities are consistent with those used for amortizing DAC, and are thus subject to the same variability and risk. The Company's GMDB liabilities at December 31, 2017 and 2016 were not material.

Interest-Sensitive Contract Liabilities

Liabilities for future benefits on interest-sensitive life and investment-type contract liabilities are carried at the accumulated contract holder values without reduction for potential surrender or withdrawal charges. The Company reinsures asset-intensive products, including annuities. The liabilities under asset-intensive insurance contracts or reinsurance contracts reinsured on a coinsurance basis are included in interest-sensitive contract liabilities on the consolidated balance sheets. Asset-intensive contracts principally include individual fixed annuities in the accumulation phase, individual variable annuities, and group fixed annuities. Interest-sensitive contract liabilities are equal to (i) policy account values, which consist of an accumulation of gross premium payments; (ii) credited interest less expenses, mortality charges, and withdrawals; and (iii) fair value adjustments relating to business combinations. Liabilities for immediate annuities are calculated as the present value of the expected cash flows, with the locked-in discount rate determined such that there is no gain or loss at inception. Additionally, certain annuity contracts the Company reinsures contain terms, such as guaranteed minimum benefits and equity participation options, which are deemed to be embedded derivatives and are accounted for based on the general accounting principles for *Derivatives and Hedging*.

The Company establishes liabilities for guaranteed minimum living benefits relating to certain variable annuity products as follows: Guaranteed minimum income benefits ("GMIB") provide the contract holder, after a specified period of time determined at the time of issuance of the variable annuity contract, with a minimum level of income (annuity) payments. Under the reinsurance treaty, the Company makes a payment to the ceding company equal to the GMIB net amount-at-risk at the time of annuitization and thus these contracts meet the net settlement criteria of the general accounting principles for *Derivatives and Hedging* and the Company assumes no mortality risk. Accordingly, the GMIB is considered an embedded derivative, which is measured at fair value separately from the host variable annuity product.

Guaranteed minimum withdrawal benefits ("GMWB") guarantee the contract holder a return of their purchase payment via partial withdrawals, even if the account value is reduced to zero, provided that the contract holder's cumulative withdrawals in a contract year do not exceed a certain limit. The initial guaranteed withdrawal amount is equal to the initial benefit base as defined in the contract (typically, the initial purchase payments plus applicable bonus amounts). The GMWB is also an embedded derivative, which is measured at fair value separately from the host variable annuity product.

Guaranteed minimum accumulation benefits ("GMAB") provide the contract holder, after a specified period of time determined at the time of issuance of the variable annuity contract, with a minimum accumulation of their purchase payments even if the account value is reduced to zero. The initial guaranteed accumulation amount is equal to the initial benefit base as defined in the contract (typically, the initial purchase payments plus applicable bonus amounts). The GMAB is also an embedded derivative, which is measured at fair value separately from the host variable annuity product.

For GMIB, GMWB and GMAB, the initial benefit base is increased by additional purchase payments made within a certain time period and decreased by benefits paid and/or withdrawal amounts. After a specified period of time, the benefit base may also increase as a result of an optional reset as defined in the contract.

The fair values of the GMIB, GMWB and GMAB embedded derivative liabilities are reflected in interest-sensitive contract liabilities on the consolidated balance sheets and are calculated based on actuarial and capital market assumptions related to the projected cash flows, including benefits and related contract charges over the lives of the contracts. These projected cash flows incorporate expectations concerning policyholder behavior, such as lapses, withdrawals and benefit selections, and capital market assumptions such as interest rates and equity market volatilities. In measuring the fair value of GMIBs, GMWBs and GMABs, the Company attributes a portion of the fees collected from the policyholder equal to the present value of expected future guaranteed

minimum income, withdrawal and accumulation benefits (at inception). The changes in fair value are reported in investment related gains, net. Any additional fees represent "excess" fees and are reported in other revenues on the consolidated statements of income. These variable annuity guaranteed living benefits may be more costly than expected in volatile or declining equity markets or falling interest rate markets, causing an increase in interest-sensitive contract liabilities, negatively affecting net income.

The Company reviews its estimates of actuarial liabilities for interest-sensitive contract liabilities and compares them with its actual experience. Differences between actual experience and the assumptions used in pricing these guarantees and benefits and in the establishment of the related liabilities result in variances in profit and could result in losses. The effects of changes in such estimated liabilities are included in the results of operations in the period in which the changes occur.

Other Policy Claims and Benefits

Claims payable for incurred but not reported losses are determined using case-basis estimates and lag studies of past experience. The time lag from the date of the claim or death to when the ceding company reports the claim to the Company can vary significantly by ceding company, business segment and product type. Incurred but not reported claims are estimates on an undiscounted basis, using actuarial estimates of historical claims expense, adjusted for current trends and conditions. These estimates are continually reviewed and the ultimate liability may vary significantly from the amount recognized, which are reflected in claims and other policy benefits in the consolidated statements of income in the period in which they are determined.

Securities Lending Obligation

The Company occasionally enters into securities lending and securities borrowing arrangements with several affiliated companies. The Company's obligation to return the securities or cash collateral, if any, is recorded as a securities lending obligation in the consolidated balance sheets. See Note 3 - "Investments" and Note 12 - "Related-Party Transactions" for further details on the Company's securities lending and securities borrowing arrangements.

Affiliated Note Payable

The Company issued a note payable to an affiliated company in 2016. Refer to Note 12 - "Related-Party Transactions" for further details.

Other Liabilities

Other liabilities primarily include investments in transit, payables due to cash provided by derivative counterparties as collateral, derivative liabilities, and employee benefits.

Income Taxes

The Company provides for federal and foreign income taxes currently payable, as well as those deferred due to temporary differences between the financial reporting and tax bases of assets and liabilities and are recognized in net income or in certain cases in OCI. The Company's accounting for income taxes represents management's best estimate of various events and transactions considering the laws enacted as of the reporting date. The Tax Cuts and Jobs Act of 2017 ("U.S. Tax Reform") creates additional complexity due to various provisions that require management judgment and assumptions, which are subject to change.

Deferred tax assets and liabilities resulting from temporary differences between the financial reporting and tax bases of assets and liabilities are measured at the balance sheet date using enacted tax rates in the relevant jurisdictions expected to apply to taxable income in the years the temporary differences are expected to reverse.

The realization of deferred tax assets depends upon the existence of sufficient taxable income within the carryback or carryforward periods under the tax law in the applicable tax jurisdiction. The Company has a deferred tax asset related to net operating losses. The Company has projected its ability to utilize its U.S. and foreign net operating losses and has determined that all of the U.S. losses are expected to be utilized prior to their expiration and established a valuation allowance on the portion of the foreign deferred tax assets the Company believes more likely than not that deferred income tax assets will not be realized. The Company also has deferred tax assets related to foreign tax credit ("FTC") carryforwards. The Company established a valuation allowance on the FTC carryforwards as the Company no longer expects to realize these credits.

The Company will establish a valuation allowance if management determines, based on available information, that it is more likely than not that deferred income tax assets will not be realized. Significant judgment is required in determining whether valuation allowances should be established as well as the amount of such allowances. When making such determination, consideration is given to, among other things, the following:

- (i) future taxable income exclusive of reversing temporary differences and carryforwards;
- (ii) future reversals of existing taxable temporary differences;
- (iii) taxable income in prior carryback years; and
- (iv) tax planning strategies.

Any such changes could significantly affect the amounts reported in the consolidated financial statements in the year these changes occur. The Company reports its total liability for uncertain tax positions considering the recognition and measurement thresholds established in general accounting principles for income taxes. The tax effects of a position are recognized in the consolidated statements of income only if it is more likely than not to be sustained upon examination by the appropriate taxing authority. Unrecognized tax benefits due to tax uncertainties that do not meet the more likely than not criteria are included within other liabilities and are charged to earnings in the period that such determination is made. The Company classifies interest related to tax uncertainties as interest expense whereas penalties related to tax uncertainties are classified as a component of income tax.

Foreign Currency Translation

Assets, liabilities and results of foreign operations are recorded based on the functional currency of each foreign operation. The determination of the functional currency is based on economic facts and circumstances pertaining to each foreign operation. The Company's material functional currencies are the U.S. dollar, Canadian dollar, British pound, Australian dollar, Euro, and South African rand. The translation of the foreign currency into U.S. dollars is performed for balance sheet accounts using current exchange rates in effect at the balance sheet date and for revenue and expense accounts using weighted-average exchange rates during each year. Gains or losses, net of applicable deferred income taxes, resulting from such translation are included in accumulated currency translation adjustments, in AOCI on the consolidated balance sheets until the underlying functional currency operation is sold or substantially liquidated.

Recognition of Revenues and Related Expenses

Life and health premiums are recognized as revenue when due from the insured, and are reported net of amounts retroceded. Benefits and expenses are reported net of amounts retroceded and are associated with earned premiums so that profits are recognized over the life of the related contract. This association is accomplished through the provision for future policy benefits and the amortization of deferred policy acquisition costs. Other revenues includes items such as treaty recapture fees, fees associated with financial reinsurance and policy changes on interest-sensitive and investment-type products that the Company reinsures. Any fees that are collected in advance of the period benefited are deferred and recognized over the period benefited.

For certain reinsurance transactions involving in force blocks of business, the ceding company pays a premium equal to the initial required reserve (future policy benefit). In such transactions, for income statement presentation, the Company nets the expense associated with the establishment of the reserve on the consolidated balance sheets against the premiums from the transaction.

Revenues for interest-sensitive and investment-type products consist of investment income, policy charges for the cost of insurance, policy administration, and surrenders that have been assessed against policy account balances during the period. Interest-sensitive contract liabilities for these products represent policy account balances before applicable surrender charges. Policy benefits and claims that are charged to expenses include claims incurred in the period in excess of related policy account balances and interest credited to policy account balances. Interest is credited to policyholder account balances according to terms of the policies or contracts.

For each of its reinsurance contracts, the Company must determine if the contract provides indemnification against loss or liability relating to insurance risk, in accordance with GAAP. The Company must review all contractual features, particularly those that may limit the amount of insurance risk to which the Company is subject or features that delay the timely reimbursement of claims. If the Company determines that a contract does not expose it to a reasonable possibility of a significant loss from insurance risk, the Company records the contract on a deposit method of accounting with any net amount receivable reflected as an asset within other reinsurance balances, and any net amount payable reflected as a liability within other reinsurance balances on the consolidated balance sheets. Fees earned on the contracts are reflected as other revenues, rather than premiums, on the consolidated statements of income.

Equity Based Compensation

RGA issues stock awards included in its incentive compensation plans. As of the date stock awards are approved, the fair value of stock options is determined using a Black-Scholes options valuation methodology, and the fair value of other stock awards is based upon the market value of the stock on the grant date. The fair value of the awards is expensed over the performance or service period, which generally corresponds to the vesting period, and is recognized as an increase to additional paid-in-capital in shareholder's equity, and stock-based compensation expense is reflected in other operating expenses in the consolidated statements of income.

New Accounting Pronouncements

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 consolidated financial statements.

Adoption of New Accounting Standards

Stock Compensation

In March 2016, the FASB updated the general accounting principal for Stock Compensation which changes how companies account for certain aspects of share-based payment awards to employees. The updated guidance requires excess tax benefits and deficiencies from share-based payment awards be recorded in income tax expense in the statements of income. Previously, excess tax benefits and deficiencies were recognized in shareholder's 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. The new standard generally requires a modified retrospective transition through a cumulative-effect adjustment as of the beginning of the period of adoption, with certain provisions requiring either a prospective or retrospective transition. The Company adopted the new guidance on January 1, 2017. Upon adoption, the Company recognized no excess tax benefits in deferred tax assets that were previously not recognized in a cumulative-effect adjustment. The Company also recorded no excess tax benefits in the provision for income taxes for the year ended December 31, 2017. 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 financial statements.

Reporting Comprehensive Income

In February 2018, the FASB updated the general accounting principle for Reporting Comprehensive Income to require reclassification from AOCI 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% tax rate. The Company adopted the new guidance on December 31, 2017 by reclassifying certain income tax effects of items within AOCI to retained earnings as a result of U.S. Tax Reform. The impact of adopting this standard was an increase in AOCI and a reduction in retained earnings of approximately \$21.8 million.

Financial Services - Insurance

In May 2015, the FASB amended the general accounting principle for Financial Services - Insurance which expanded the breadth of disclosures that an insurance entity must provide about its short-duration insurance contracts. This update requires insurance entities to disclose for annual reporting periods information about the liability for unpaid claims and claim adjustment expenses. The update also requires insurance entities to disclose information about significant changes in methodologies and assumptions used to calculate the liability for unpaid claims and claim adjustment expenses, including reasons for the change and the effects on the financial statements. This amendment focuses only on disclosure; it does not change the accounting model for short-duration contracts. The Company adopted this standard as of December 31, 2017. Adoption of the guidance did not have a material impact on the Company's consolidated financial statements.

Future Adoption of New Accounting Standards

Financial Instruments

In January 2016, the FASB amended the general accounting principle for Financial Instruments, which 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. The new guidance is effective for non-public entities January 1, 2019, however the Company has elected to become an early adopter of the guidance, effective January 1, 2018. The new 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.

In June, 2016, the FASB amended the existing impairment guidance of Financial Instruments. The amendment adds to 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. This guidance is effective for the Company January 1, 2020, with early adoption permitted. The 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.

Leases

In February 2016, the FASB issued guidance which will replace most existing lease accounting guidance. The 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. Lessees and lessors will use a modified retrospective transition approach, which includes a number of practical expedients. This guidance is effective for the Company, a non-public entity, January 1, 2020, with early adoption permitted. 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 \$14.3 million as of December 31, 2017.

Income Taxes

In October 2016, the FASB amended the general accounting principal for Income Taxes, effective for the Company January 1, 2018. The amendment requires entities to recognize the tax consequences of intercompany asset transfers, except for inventory, at the transaction date. Current GAAP prohibits entities from recognizing the income tax consequences from intercompany asset transfers. The seller defers any net tax effect, and the buyer is prohibited from recognizing a deferred tax asset on the difference between the newly created tax basis of the asset in its tax jurisdiction and its financial statement carrying amount as reported in the consolidated financial statements. The amendment requires entities to recognize these tax consequences in the period in which the transfer occurred. There will be an immediate effect on earnings if the tax rates in the seller's and buyer's tax jurisdictions are different. This amendment will be applied using a modified retrospective transition method with a cumulative effect adjustment to retained earnings as of the beginning of the period of adoption. The adoption of this amendment is not expected to have a material impact on the Company's consolidated financial statements.

Derivative and Hedging

In August 2017, the FASB updated the general accounting principal for Derivatives and Hedging. The 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. The updated guidance is effective for the Company January 1, 2019, with early adoption permitted. The Company is currently evaluating the impact of this updated guidance on its consolidated financial statements.

Note 3 INVESTMENTS

Fixed Maturity and Equity Securities Available-for-Sale

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

December 31, 2017:

	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value	% of Total	Other-than- temporary Impairments in AOCI
Available-for-sale:						
Corporate	\$ 7,558,136	\$ 496,709	\$ 14,275	\$ 8,040,570	55.7%	\$ —
Canadian government	2,701,183	1,378,093	84	4,079,192	28.3	—
RMBS	114,695	1,684	537	115,842	0.8	—
ABS	76,818	830	150	77,498	0.5	—
CMBS	103,437	1,548	482	104,503	0.7	—
U.S. government	92,250	3,855	543	95,562	0.7	—
State and political subdivisions	45,031	1,538	238	46,331	0.3	—
Other foreign government	1,799,173	79,075	3,650	1,874,598	13.0	—
Total fixed maturity securities	<u>\$12,490,723</u>	<u>\$ 1,963,332</u>	<u>\$ 19,959</u>	<u>\$14,434,096</u>	<u>100.0%</u>	<u>\$ —</u>
Non-redeemable preferred stock	\$ 40,394	\$ 358	\$ 2,226	\$ 38,526	97.5%	—
Other equity securities	999	—	14	985	2.5	—
Total equity securities	<u>\$ 41,393</u>	<u>\$ 358</u>	<u>\$ 2,240</u>	<u>\$ 39,511</u>	<u>100.0%</u>	<u>—</u>

December 31, 2016:

	Amortized Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value	% of Total	Other-than- temporary Impairments in AOCI
Available-for-sale:						
Corporate	\$ 5,627,244	\$ 361,995	\$ 28,600	\$ 5,960,639	52.8%	\$ —
Canadian government	2,410,497	1,083,325	1,161	3,492,661	30.9	—
RMBS	124,585	2,022	1,201	125,406	1.1	—
ABS	106,135	96	1,486	104,745	0.9	—
CMBS	91,457	1,362	826	91,993	0.8	—
U.S. government	41,678	1,247	75	42,850	0.4	—
State and political subdivisions	39,243	420	1,872	37,791	0.3	—
Other foreign government	1,385,591	72,554	6,252	1,451,893	12.8	—
Total fixed maturity securities	<u>\$ 9,826,430</u>	<u>\$ 1,523,021</u>	<u>\$ 41,473</u>	<u>\$11,307,978</u>	<u>100.0%</u>	<u>\$ —</u>
Non-redeemable preferred stock	\$ 33,510	\$ 284	\$ 4,992	\$ 28,802	96.8%	—
Other equity securities	1,015	—	50	965	3.2	—
Total equity securities	<u>\$ 34,525</u>	<u>\$ 284</u>	<u>\$ 5,042</u>	<u>\$ 29,767</u>	<u>100.0%</u>	—

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

	2017		2016	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Fixed maturity securities pledged as collateral	\$ 27,559	\$ 30,441	\$ 34,718	\$ 35,573
Fixed maturity securities received as collateral	n/a	281,719	n/a	110,482
Assets held in trust held to satisfy collateral requirements	5,971,025	6,624,335	4,623,543	5,115,298

Of the assets held in trust shown above, the Company had \$1,352.6 million and \$1,245.1 million in estimated fair values held for the benefit of a related party at December 31, 2017 and 2016, respectively.

The Company monitors its concentration of financial instruments on an ongoing basis, and mitigates credit risk by maintaining a diversified investment portfolio which limits exposure to any one issuer. The Company's exposure to concentrations of credit risk from single issuers greater than 10% of the Company's shareholder's equity as of December 31, 2017 and 2016 is as follows (dollars in thousands):

	2017		2016	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Fixed maturity securities guaranteed or issued by:				
Canadian province of Quebec	\$ 1,071,891	\$ 1,871,328	\$ 955,529	\$ 1,566,305
Canadian province of Ontario	933,133	1,276,352	826,511	1,120,230

The amortized cost and estimated fair value of fixed maturity securities available-for-sale at December 31, 2017 are shown by contractual maturity in the table below (dollars in thousands). Actual maturities can differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties. Asset and mortgage-backed securities are shown separately in the table below, as they are not due at a single maturity date.

	Amortized Cost	Estimated Fair Value
Available-for-sale:		
Due in one year or less	\$ 315,215	\$ 317,198
Due after one year through five years	2,575,455	2,671,778
Due after five years through ten years	3,309,469	3,582,778
Due after ten years	5,995,634	7,564,499
Asset and mortgage-backed securities	294,950	297,843
Total	<u>\$ 12,490,723</u>	<u>\$ 14,434,096</u>

Corporate Fixed Maturity Securities

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

December 31, 2017:	Amortized Cost	Estimated Fair Value	% of Total
Finance	\$ 3,140,238	\$ 3,302,847	41.1%
Industrial	3,419,474	3,651,616	45.4
Utility	998,424	1,086,107	13.5
Total	<u>\$ 7,558,136</u>	<u>\$ 8,040,570</u>	<u>100.0%</u>

December 31, 2016:	Amortized Cost	Estimated Fair Value	% of Total
Finance	\$ 2,369,499	\$ 2,447,536	41.1%
Industrial	2,539,244	2,719,562	45.6
Utility	718,501	793,541	13.3
Total	<u>\$ 5,627,244</u>	<u>\$ 5,960,639</u>	<u>100.0%</u>

Other-Than-Temporary Impairments - Fixed Maturity and Equity Securities Available-for-Sale

As discussed in Note 2 - "Summary of Significant Accounting Policies," 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 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.

For the year ended December 31, 2017, the Company recognized credit-related losses of \$2.5 million. The Company did not recognize any credit-related losses for the year-end December 31, 2016.

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

The following table presents the total gross unrealized losses for the 384 and 443 fixed maturity and equity securities at December 31, 2017 and 2016, respectively, where the estimated fair value had declined and remained below amortized cost by the indicated amount (dollars in thousands):

	2017		2016	
	Gross Unrealized Losses	% of Total	Gross Unrealized Losses	% of Total
Less than 20%	\$ 21,510	96.9%	\$ 41,594	89.4%
20% or more for less than six months	689	3.1	3	—
20% or more for six months or greater	—	—	4,918	10.6
Total	<u>\$ 22,199</u>	<u>100.0%</u>	<u>\$ 46,515</u>	<u>100.0%</u>

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 the 384 and 443 fixed maturity and equity securities that have estimated fair values below amortized cost as of December 31, 2017 and 2016, respectively (dollars in thousands). These investments are presented by class and grade of security, as well as the length of time the related fair value has remained below amortized cost.

December 31, 2017:

	Less than 12 months		12 months or greater		Total	
	Gross		Gross		Gross	
	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses
Investment grade securities:						
Corporate	\$ 574,531	\$ 5,303	\$ 308,514	\$ 8,230	\$ 883,045	\$ 13,533
Canadian government	8,766	84	—	—	8,766	84
RMBS	10,989	88	47,418	449	58,407	537
ABS	20,147	88	9,236	62	29,383	150
CMBS	22,303	226	7,054	256	29,357	482
U.S. government	19,595	444	999	99	20,594	543
State and political subdivisions	—	—	12,974	238	12,974	238
Other foreign government	188,397	1,333	56,321	1,704	244,718	3,037
Total investment grade securities	<u>\$ 844,728</u>	<u>\$ 7,566</u>	<u>\$ 442,516</u>	<u>\$ 11,038</u>	<u>\$ 1,287,244</u>	<u>\$ 18,604</u>
Below investment grade securities:						
Corporate	\$ 17,990	\$ 646	\$ 771	\$ 96	\$ 18,761	\$ 742
Other foreign government	17,079	71	14,132	542	31,211	613
Total below investment grade securities	<u>\$ 35,069</u>	<u>\$ 717</u>	<u>\$ 14,903</u>	<u>\$ 638</u>	<u>\$ 49,972</u>	<u>\$ 1,355</u>
Total fixed maturity securities	<u>\$ 879,797</u>	<u>\$ 8,283</u>	<u>\$ 457,419</u>	<u>\$ 11,676</u>	<u>\$ 1,337,216</u>	<u>\$ 19,959</u>
Non-redeemable preferred stock	\$ 82	\$ 1	\$ 26,471	\$ 2,225	\$ 26,553	\$ 2,226
Other equity securities	—	—	985	14	985	14
Total equity securities	<u>\$ 82</u>	<u>\$ 1</u>	<u>\$ 27,456</u>	<u>\$ 2,239</u>	<u>\$ 27,538</u>	<u>\$ 2,240</u>

December 31, 2016:

	Less than 12 months		12 months or greater		Total	
	Gross		Gross		Gross	
	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses
Investment grade securities:						
Corporate	\$ 1,093,379	\$ 24,549	\$ 27,389	\$ 905	\$ 1,120,768	\$ 25,454
Canadian government	23,174	1,161	—	—	23,174	1,161
RMBS	39,159	766	40,671	435	79,830	1,201
ABS	77,269	1,355	3,776	131	81,045	1,486
CMBS	50,084	826	—	—	50,084	826
U.S. government	8,808	75	—	—	8,808	75
State and political subdivisions	19,376	1,290	5,098	582	24,474	1,872
Other foreign government	203,764	4,239	35,398	1,553	239,162	5,792
Total investment grade securities	<u>\$ 1,515,013</u>	<u>\$ 34,261</u>	<u>\$ 112,332</u>	<u>\$ 3,606</u>	<u>\$ 1,627,345</u>	<u>\$ 37,867</u>
Below investment grade securities:						
Corporate	\$ 36,594	\$ 1,123	\$ 6,284	\$ 2,023	\$ 42,878	\$ 3,146
Other foreign government	950	37	7,906	423	8,856	460
Total below investment grade securities	<u>\$ 37,544</u>	<u>\$ 1,160</u>	<u>\$ 14,190</u>	<u>\$ 2,446</u>	<u>\$ 51,734</u>	<u>\$ 3,606</u>
Total fixed maturity securities	<u>\$ 1,552,557</u>	<u>\$ 35,421</u>	<u>\$ 126,522</u>	<u>\$ 6,052</u>	<u>\$ 1,679,079</u>	<u>\$ 41,473</u>
Non-redeemable preferred stock	\$ 1,574	\$ 29	\$ 21,879	\$ 4,963	\$ 23,453	\$ 4,992
Other equity securities	949	50	—	—	949	50
Total equity securities	<u>\$ 2,523</u>	<u>\$ 79</u>	<u>\$ 21,879</u>	<u>\$ 4,963</u>	<u>\$ 24,402</u>	<u>\$ 5,042</u>

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.

Changes in unrealized losses are primarily driven by changes in credit spreads and interest rates.

Investment Income, Net of Related Expenses

Major categories of investment income, net of related expenses, for the years ended December 31, 2017 and 2016, consist of the following (dollars in thousands):

	2017	2016
Fixed maturity securities	\$ 441,951	\$ 402,526
Funds withheld at interest	106,645	80,324
Short-term investments	1,644	2,070
Other invested assets	25,394	19,256
Cash and cash equivalents	2,804	2,680
Investment income	\$ 578,438	\$ 506,856
Investment expense	(24,075)	(22,765)
Investment income, net of related expenses	\$ 554,363	\$ 484,091

Investment Related Gains, Net

Investment related gains, net for the years ended December 31, 2017 and 2016, consist of the following (dollars in thousands):

	2017	2016
Fixed maturity and equity securities:		
Other-than-temporary impairment losses on fixed maturities	\$ (2,481)	\$ —
Gain on investment activity	23,037	84,533
Loss on investment activity	(8,582)	(7,032)
Change in mortgage loan provision	(75)	(84)
Derivatives and other, net	(8,357)	(28,281)
Total investment related gains, net	\$ 3,542	\$ 49,136

The other-than-temporary impairment losses on fixed maturity securities for 2017 are due to emerging market exposures. The fluctuations in investment related gains (losses) for derivatives and other are primarily due to changes in the fair value of embedded derivatives related to modified coinsurance and funds withheld treaties, as a result of changes in interest rates, driven primarily by credit spreads.

At December 31, 2017, the Company held non-income producing securities with amortized costs of \$1.0 million and estimated fair values of \$1.0 million. The Company did not hold any non-income producing securities at December 31, 2016. Generally, securities are non-income producing when principal or interest is not paid primarily as a result of bankruptcies or credit defaults, but also include securities where amortization has been discontinued.

During 2017 and 2016, the Company sold fixed maturity and equity securities with fair values of \$855.2 million and \$229.6 million, respectively, which were below amortized cost, at gross realized losses of \$8.6 million and \$7.0 million, respectively. The Company generally does not engage in short-term buying and selling of securities. For the years ended December 31, 2017 and 2016, there were security purchases from affiliates with amortized costs and estimated fair values of \$26.5 million and \$0.7 million, respectively, at the time of transfer. For the years ended December 31, 2017 and 2016, there were no sales to affiliates.

Securities Lending and Other

The Company participates in securities lending programs whereby securities, reflected as investments on the Company's consolidated balance sheets, are loaned to an affiliated party. The Company receives cash and securities as collateral, in an amount equal to a minimum of 102% of the fair value of the securities lent. The securities received as collateral are not reflected on the Company's consolidated balance sheets. The cash received is reflected in the Company's consolidated balance sheets, offset by a payable, included in securities lending obligation on the consolidated balance sheets.

The Company participates in a repurchase/reverse repurchase program in which securities, reflected as investments on the Company's consolidated balance sheets, are pledged to a third party. In return, the Company received a security, which is not included on the Company's consolidated balance sheets. The Company is required to pledge securities with a minimum fair value that is 105% of the market value of the security received.

The Company participates in a repurchase program in which securities, reflected as investments on the Company's consolidated balance sheets, are pledged to a third party. In return, the Company receives cash from the third party, which is reflected in the

Company's consolidated balance sheets, offset by a payable, included in other liabilities on the consolidated balance sheets. The Company is required to maintain a minimum collateral balance with a fair value of 102% of the cash received.

The following table includes the amount of securities that have been lent and securities and cash collateral received as part of the securities lending programs and repurchased/reverse repurchased securities pledged and received and cash received as of December 31, 2017 and 2016 (dollars in thousands):

	2017		2016	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Securities lending:				
Securities loaned	\$ 87,857	\$ 89,866	\$ 86,918	\$ 87,365
Securities received	n/a	94,000	n/a	80,000
Cash received	—	—	—	14,511
Repurchase program/reverse repurchase program:				
Securities pledged	193,992	206,447	176,762	190,099
Securities received	n/a	150,000	n/a	150,000
Cash received	31,236	31,236	—	28,832

The following tables present information on the Company's securities lending and repurchase transactions as of December 31, 2017 and 2016, respectively (dollars in thousands):

	December 31, 2017				
	Remaining Contractual Maturity of the Agreements				
	Overnight and Continuous	Up to 30 Days	30-90 Days	Greater than 90 Days	Total
Securities lending transaction:					
Corporate	\$ —	\$ —	\$ —	\$ 89,866	\$ 89,866
Total	—	—	—	89,866	89,866
Repurchase transaction:					
Corporate	—	—	312	184,333	184,645
Foreign government	—	—	—	21,802	21,802
Total	—	—	312	206,135	206,447
Total transactions	\$ —	\$ —	\$ 312	\$ 296,001	\$ 296,313

Gross amount of recognized liabilities for securities lending and repurchase transactions in preceding table	\$ 275,236
Amounts related to agreements not included in offsetting disclosure	\$ (21,077)

	December 31, 2016				
	Remaining Contractual Maturity of the Agreements				
	Overnight and Continuous	Up to 30 Days	30-90 Days	Greater than 90 Days	Total
Securities lending transaction:					
Corporate	\$ —	\$ —	\$ 4,017	\$ 69,608	\$ 73,625
RMBS	—	—	—	13,740	13,740
Total	—	—	4,017	83,348	87,365
Repurchase transaction:					
Corporate	—	—	3,220	166,979	170,199
Foreign government	—	—	—	19,900	19,900
Total	—	—	3,220	186,879	190,099
Total transactions	\$ —	\$ —	\$ 7,237	\$ 270,227	\$ 277,464

Gross amount of recognized liabilities for securities lending transactions in preceding table	\$ 273,343
Amounts related to agreements not included in offsetting disclosure	\$ (4,121)

Funds Withheld at Interest

Funds withheld at interest comprised approximately 24.3% and 9.7% of the Company's total investments as of December 31, 2017 and 2016, respectively. 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, derivative contracts, FVO contractholder-directed unit-linked investments, mortgage loans, and equity release mortgages. Other invested assets also include cash pledged as collateral, limited partnerships, and purchase agreements, all of which are included in Other in the table below. Other invested assets represented approximately 3.6% and 3.9% of the Company's total investments as of December 31, 2017 and 2016, respectively. Carrying values of these assets as of December 31, 2017 and 2016 are as follows (dollars in thousands):

	2017	2016
Equity securities	\$ 39,511	\$ 29,767
Derivatives	94,541	130,730
FVO contractholder-directed unit-linked investments	218,541	190,120
Mortgage loans	99,831	54,901
Equity release mortgages	219,940	72,616
Other	50,708	40,592
Total other invested assets	<u>\$ 723,072</u>	<u>\$ 518,726</u>

Note 4 DERIVATIVE INSTRUMENTS

Derivatives, except for embedded derivatives and longevity swaps, are carried on the Company's consolidated balance sheets in other invested assets or other liabilities, at fair value. Longevity swaps are included on the consolidated balance sheets in other assets or other liabilities, at fair value. Embedded derivative liabilities on modified coinsurance or funds withheld arrangements are included on the consolidated balance sheets with the host contract in funds withheld at interest, at fair value. Embedded derivative liabilities on variable annuity products are included on the 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 arrangement as of December 31, 2017 and 2016 (dollars in thousands):

	December 31, 2017			December 31, 2016		
	Notional	Carrying Value/Fair Value		Notional	Carrying Value/Fair Value	
	Amount	Assets	Liabilities	Amount	Assets	Liabilities
Derivatives not designated as hedging instruments:						
Interest rate swaps	\$ 870,070	\$ 73,350	\$ 4,167	\$ 833,129	\$ 76,755	\$ 5,589
Financial futures	412,438	—	—	475,968	—	—
Consumer price index swaps	62,472	—	435	—	—	—
Credit default swaps	635,500	3,080	1,191	622,300	8,755	620
Equity options	632,251	23,201	—	525,894	33,317	—
Longevity swaps	420,175	7,751	—	368,095	4,519	—
Embedded derivatives in:						
Modified coinsurance or funds withheld arrangements	—	59,448	—	—	15,903	—
Variable annuity products	—	—	152,470	—	—	184,636
Total non-hedging derivatives	<u>3,032,906</u>	<u>166,830</u>	<u>158,263</u>	<u>2,825,386</u>	<u>139,249</u>	<u>190,845</u>
Derivatives designated as hedging instruments:						
Foreign currency swaps	271,222	2,302	8,295	405,656	13,139	734
Foreign currency forwards	553,175	1,265	7,720	—	—	—
Total hedging derivatives	<u>824,397</u>	<u>3,567</u>	<u>16,015</u>	<u>405,656</u>	<u>13,139</u>	<u>734</u>
Total derivatives	<u>\$ 3,857,303</u>	<u>\$ 170,397</u>	<u>\$ 174,278</u>	<u>\$ 3,231,042</u>	<u>\$ 152,388</u>	<u>\$ 191,579</u>

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 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 3 - "Investments" for information regarding the Company's securities lending, repurchase and repurchase/reverse repurchase programs. See "Embedded Derivatives" below for information regarding the Company's bifurcated embedded derivatives.

The following table provides information relating to the netting of the Company's financial instruments as of December 31, 2017 and 2016 (dollars in thousands):

	Gross Amounts Recognized	Gross Amounts Offset in the Consolidated Balance Sheet	Net Amounts Presented in the Consolidated Balance Sheet	Gross Amounts Not Offset in the Consolidated Balance Sheets		Net Amount
				Financial Instruments	Cash Collateral (Pledged)/ Received	
December 31, 2017:						
Derivative assets	\$ 110,949	\$ (8,657)	\$ 102,292	\$ —	\$ (19,166)	\$ 83,126
Derivative liabilities	21,808	(8,657)	13,151	—	(12,440)	711
Securities lending	275,236	—	275,236	(296,313)	—	(21,077)
December 31, 2016:						
Derivative assets	\$ 136,485	\$ (1,236)	\$ 135,249	\$ —	\$ (38,438)	\$ 96,811
Derivative liabilities	6,943	(1,236)	5,707	(10,289)	—	(4,582)
Securities lending	273,343	—	273,343	(277,464)	—	(4,121)

Accounting for Derivative Instruments and Hedging Activities

The Company does not enter into derivative instruments for speculative purposes. As discussed below under "Non-qualifying Derivatives and Derivatives for Purposes Other Than Hedging," the Company uses various derivative instruments for risk management purposes that either do not qualify or have not been qualified for hedge accounting treatment. As of December 31, 2017 and 2016, the Company held foreign currency swaps that were designated and qualified as hedges of a portion of its net investment in its foreign operations and derivative instruments that were not designated as hedging instruments. See Note 2 - "Summary of Significant Accounting Policies" 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.

Hedges of Net Investments in Foreign Operations

The Company uses foreign currency swaps and foreign currency forwards to hedge a portion of its net investment in certain foreign operations against adverse movements in exchange rates. The following table illustrates the Company's net investments in foreign operations ("NIFO") hedges for the years ended December 31, 2017 and 2016 (dollars in thousands):

Type of NIFO Hedge ⁽¹⁾⁽²⁾	Derivative Gains (Losses) Deferred in AOCI	
	For the years ended	
	2017	2016
Foreign currency swaps	\$ (22,473)	\$ 2,271
Foreign currency forwards	(10,386)	—

(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 AOCI into investment income, net of related expenses 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 (loss) recorded in AOCI related to these hedges was \$(16.5) million and \$16.3 million at December 31, 2017 and 2016, respectively. If a hedged foreign operation was sold or substantially liquidated, the amounts in AOCI would be reclassified to the consolidated statements of income. A pro rata portion would be reclassified upon partial sale of a hedged foreign operation.

Non-qualifying Derivatives and Derivatives for Purposes Other Than Hedging

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

A summary of the effect of non-hedging derivatives, including embedded derivatives, on the Company's consolidated statements of income for the years ended December 31, 2017 and 2016 is as follows (dollars in thousands):

Type of Non-hedging Derivative	Consolidated Statements of Income Location of Gains/Losses	Gains (Losses) for the Years	
		Ended December 31,	
		2017	2016
Interest rate swaps	Investment related gains, net	\$ 9,373	\$ 5,732
Financial futures	Investment related gains, net	(36,160)	(40,242)
Consumer price index swaps	Investment related gains, net	(419)	—
Credit default swaps	Investment related gains, net	10,918	10,547
Equity options	Investment related gains, net	(42,882)	(30,989)
Longevity swaps	Other revenues	2,487	3,379
Subtotal		(56,683)	(51,573)
Embedded derivatives in:			
Modified coinsurance or funds withheld arrangements	Change in value of funds withheld embedded derivatives	41,386	(809)
Variable annuity products	Investment related gains, net	32,166	7,834
Total non-hedging derivatives		<u>\$ 16,869</u>	<u>\$ (44,548)</u>

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) and to manage the risk of cash flows of liabilities that are variable based on a benchmark rate. With an interest rate swap, the Company has agreed with RGA Reinsurance Company ("RGA Re"), an affiliated entity, and external counterparties 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.

Interest Rate Options

Interest rate options, commonly referred to as swaptions, have been 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 to RGA Re for the right to exercise this option in the future.

Financial Futures

Exchange-traded equity futures are used primarily to economically hedge liabilities embedded in certain variable annuity products. With exchange-traded equity futures transactions, the Company agrees to purchase or sell a specified number of contracts, the value of which is determined by the relevant stock 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 equity futures with regulated futures commission merchants that are members of the exchange.

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.

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.

Equity Options

Equity index options are used by the Company primarily to hedge minimum guarantees embedded in certain variable annuity products. The Company purchases put options from RGA Re to hedge against adverse changes in equity indices volatility. The contracts are net settled in cash based on differentials in the indices at the time of exercise and the strike price.

Foreign Currency Swaps

Foreign currency swaps are used by the Company to reduce the risk from fluctuations in foreign currency exchange rates associated with its assets and liabilities denominated in foreign currencies. With a foreign currency swap transaction, the Company agrees with another party to exchange, at specified intervals, the difference between one currency and another at a forward exchange rate calculated by reference to an agreed-upon principal amount. The principal amount of each currency is exchanged at the termination of the currency swap by each party. The Company uses foreign currency swaps in hedges of net investments in foreign operations.

Foreign Currency Forwards

Foreign currency forwards are used by the Company to reduce the risk from fluctuations in foreign currency exchange rates associated with its assets and liabilities denominated in foreign currencies. With a foreign currency forward transaction, the Company agrees with another party to deliver a specified amount of an identified currency at a specified future date. The price is agreed upon at the time of the contract and payment for such a contract is made in a different currency at the specified future date. The Company uses foreign currency forwards in hedges of net investments in foreign operations and non-qualifying hedge relationships.

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 December 31, 2017 and 2016 (dollars in thousands):

Rating Agency Designation of Referenced Credit Obligations ⁽¹⁾	2017			2016		
	Estimated Fair Value of Credit Default Swaps	Maximum Amount of Future Payments under Credit Default Swaps ⁽²⁾	Weighted Average Years to Maturity ⁽³⁾	Estimated Fair Value of Credit Default Swaps	Maximum Amount of Future Payments under Credit Default Swaps ⁽²⁾	Weighted Average Years to Maturity ⁽³⁾
AAA/AA+/AA/AA-/A+/A/A-						
Single name credit default swaps	\$ 1,205	\$ 66,000	2.3	\$ 1,257	\$ 71,000	3.2
Subtotal	<u>1,205</u>	<u>66,000</u>	2.3	<u>1,257</u>	<u>71,000</u>	3.2
BBB+/BBB/BBB-						
Single name credit default swaps	1,642	137,000	2.2	412	132,000	3.3
Credit default swaps referencing indices	(55)	422,600	4.0	6,295	416,000	5.0
Subtotal	<u>1,587</u>	<u>559,600</u>	3.5	<u>6,707</u>	<u>548,000</u>	4.6
Total	<u>\$ 2,792</u>	<u>\$ 625,600</u>	3.4	<u>\$ 7,964</u>	<u>\$ 619,000</u>	4.4

(1) The rating agency designations are based on ratings from Standard and Poor's ("S&P").

(2) Assumes the value of the referenced credit obligation is zero.

(3) The weighted average years to maturity of the credit default swaps is calculated based on weighted average notional amounts.

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

Longevity Swaps

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

Embedded Derivatives

The Company has certain embedded derivatives which are required to be separated from their host contracts and reported as derivatives. Host contracts include reinsurance treaties structured on a modified coinsurance or funds withheld basis. Additionally, the Company reinsures variable annuity contracts with benefits that are considered embedded derivatives, including GMWB, GMAB, and GMIB. Under GAAP, the fair value of the embedded derivative liability in variable annuity contracts with guaranteed minimum benefits was \$152.5 million and \$184.6 million at December 31, 2017 and 2016, respectively. The amounts related to embedded derivatives in variable annuity contracts included in investment related gains, net, during the years ended December 31, 2017 and 2016, were gains of \$32.2 million and \$7.8 million, respectively. After the associated amortization of DAC and taxes, the related amounts included in net income during the years ended December 31, 2017 and 2016, were gains (losses) of \$53.6 million and \$(41.2) million, respectively.

Credit Risk

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

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

The Company enters into various collateral arrangements, which require both the posting and accepting of collateral in connection with its derivative instruments. Collateral agreements contain attachment thresholds that may vary depending on the posting party's ratings. Additionally, a decline in the Company's or the counterparty's credit ratings to specified levels could result in potential settlement of the derivative positions under the Company's agreements with its counterparties. The Company also has exchange-traded futures, which require the maintenance of a margin account. As exchange-traded futures are affected through regulated exchanges, and positions are marked to market on a daily basis, the Company has minimal exposure to credit-related losses in the event of nonperformance by counterparties.

The Company's credit exposure related to derivative contracts is generally limited to the fair value at the reporting date plus or minus any collateral posted or held by the Company. Information regarding the Company's credit exposure related to its OTC derivative contracts, centrally cleared derivative contracts and margin account for exchange-traded futures at December 31, 2017 and 2016 is reflected in the following table (dollars in thousands):

	2017	2016
Estimated fair value of derivatives in net asset position	\$ 89,141	\$ 129,542
Cash provided as collateral ⁽¹⁾	12,440	—
Securities pledged to counterparties as collateral ⁽²⁾	—	10,289
Cash pledged from counterparties as collateral ⁽³⁾	(19,166)	(38,438)
Initial margin for cleared derivatives	12,975	(10,289)
Net credit exposure	<u>\$ 95,390</u>	<u>\$ 91,104</u>
Margin account related to exchange-traded futures ⁽⁴⁾	<u>\$ 6,538</u>	<u>\$ 9,687</u>

(1) Consists of receivable from counterparty, included in other assets.

(2) Included in available-for-sale securities, consists of U.S. Treasury securities.

(3) Included in cash and cash equivalents, with obligation to return cash collateral recorded in other liabilities.

(4) Included in other assets.

Note 5 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. Active markets are defined as having the following characteristics for the measured asset/liability: (i) many transactions, (ii) current prices, (iii) price quotes not varying substantially among market makers, (iv) narrow bid/ask spreads and (v) most information publicly available. 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. Such observable inputs include benchmarking prices for similar assets in active, liquid markets, quoted prices in markets that are not active and observable yields

and spreads in the market. The Company's Level 2 assets and liabilities include investment securities with quoted prices that are traded less frequently than exchange-traded instruments and derivative contracts whose values are determined using market standard valuation techniques. Level 2 valuations are generally obtained from third party pricing services for identical or comparable assets or liabilities or through the use of valuation methodologies using observable market inputs. Prices from servicers are validated through analytical reviews and assessment of current market activity.

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. Level 3 assets and liabilities include those whose value is determined using market standard valuation techniques described above. When observable inputs are not available, the market standard techniques for determining the estimated fair value of certain securities that trade infrequently, and therefore have little transparency, rely on inputs that are significant to the estimated fair value and that are not observable in the market or cannot be derived principally from or corroborated by observable market data. These unobservable inputs can be based in large part on management judgment or estimation and cannot be supported by reference to market activity. Even though unobservable, management believes these inputs are based on assumptions deemed appropriate given the circumstances and consistent with what other market participants would use when pricing similar assets and liabilities. Prices are determined using valuation methodologies such as discounted cash flow models and other similar techniques that require management's judgment or estimation in developing inputs that are consistent with those other market participants would use when pricing similar assets and liabilities. Non-binding broker quotes, which are utilized when pricing service information is not available, are reviewed for reasonableness based on the Company's understanding of the market, and are generally considered Level 3. Under certain circumstances, based on its observations of transactions in active markets, the Company may conclude the prices received from independent third party pricing services or brokers are not reasonable or reflective of market activity. In those instances, the Company would apply internally developed valuation techniques to the related assets or liabilities. Additionally, the Company's embedded derivatives, all of which are associated with reinsurance treaties, and longevity swaps are classified in Level 3 since their values include significant unobservable inputs.

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

Assets and Liabilities by Hierarchy Level

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

December 31, 2017:

	Fair Value Measurements Using:			
	Total	Level 1	Level 2	Level 3
Assets:				
Fixed maturity securities - available-for-sale:				
Corporate	\$ 8,040,570	\$ —	\$ 7,881,161	\$ 159,409
Canadian government	4,079,192	—	3,485,250	593,942
RMBS	115,842	—	111,097	4,745
ABS	77,498	—	76,503	995
CMBS	104,503	—	104,503	—
U.S. government	95,562	89,379	6,183	—
State and political subdivisions	46,331	—	44,189	2,142
Other foreign government	1,874,598	—	1,874,598	—
Total fixed maturity securities - available-for-sale	14,434,096	89,379	13,583,484	761,233
Funds withheld at interest - embedded derivatives	59,448	—	—	59,448
Cash equivalents	95,756	93,039	2,717	—
Short-term investments	47,557	—	47,557	—
Other invested assets:				
Non-redeemable preferred stock	38,526	38,526	—	—
Other equity securities	985	985	—	—
Derivatives:				
Interest rate swaps	69,183	—	69,183	—
CPI swaps	(435)	—	(435)	—
Credit default swaps	1,862	—	1,862	—
Equity options	23,201	—	23,201	—
Foreign currency swaps	730	—	730	—
FVO contractholder-directed unit-linked investments	218,541	217,618	923	—
Total other invested assets	352,593	257,129	95,464	—
Other assets - longevity swaps	7,751	—	—	7,751
Total	\$ 14,997,201	\$ 439,547	\$ 13,729,222	\$ 828,432
Liabilities:				
Interest-sensitive contract liabilities - embedded derivatives	\$ 152,470	\$ —	\$ —	\$ 152,470
Other liabilities:				
Derivatives:				
Credit default swaps	27	—	27	—
Foreign currency swaps	(6,723)	—	(6,723)	—
Foreign currency forwards	(6,455)	—	(6,455)	—
Total	\$ 139,319	\$ —	\$ (13,151)	\$ 152,470

December 31, 2016:

	Total	Fair Value Measurements Using:		
		Level 1	Level 2	Level 3
Assets:				
Fixed maturity securities - available-for-sale:				
Corporate	\$ 5,960,639	\$ 133,221	\$ 5,688,188	\$ 139,230
Canadian government	3,492,661	—	3,016,696	475,965
RMBS	125,406	—	111,206	14,200
ABS	104,745	—	98,725	6,020
CMBS	91,993	—	91,993	—
U.S. government	42,850	38,937	3,913	—
State and political subdivisions	37,791	—	35,823	1,968
Other foreign government	1,451,893	—	1,451,893	—
Total fixed maturity securities - available-for-sale	11,307,978	172,158	10,498,437	637,383
Funds withheld at interest - embedded derivatives	15,903	—	—	15,903
Cash equivalents	91,195	91,195	—	—
Short-term investments	31,242	8,276	22,966	—
Other invested assets:				
Non-redeemable preferred stock	28,802	28,308	494	—
Other equity securities	965	965	—	—
Derivatives:				
Interest rate swaps	76,755	—	76,755	—
Credit default swaps	8,253	—	8,253	—
Equity options	33,317	—	33,317	—
Foreign currency swaps	12,405	—	12,405	—
FVO contractholder-directed unit-linked investments	190,120	188,891	1,229	—
Total other invested assets	350,617	218,164	132,453	—
Other assets - longevity swaps	4,519	—	—	4,519
Total	\$ 11,801,454	\$ 489,793	\$ 10,653,856	\$ 657,805
Liabilities:				
Interest-sensitive contract liabilities - embedded derivatives	\$ 184,636	\$ —	\$ —	\$ 184,636
Other liabilities:				
Derivatives:				
Interest rate swaps	5,589	—	5,589	—
Credit default swaps	118	—	118	—
Total	\$ 190,343	\$ —	\$ 5,707	\$ 184,636

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

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

For assets and liabilities reported at fair value, the Company utilizes, when available, fair values based on quoted prices in active markets that are regularly and readily obtainable. Generally, these are very liquid investments and the valuation does not require management judgment. When quoted prices in active markets are not available, fair value is based on market valuation techniques,

market comparable pricing and the income approach. The use of different techniques, assumptions and inputs may have a material effect on the estimated fair values of the Company's securities holdings. For the periods presented, the application of market standard valuation techniques applied to similar assets and liabilities has been consistent.

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

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

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

The inputs used in the valuation of corporate and government securities include, but are not limited to standard market observable inputs which are derived from, or corroborated by, market observable data including market yield curve, duration, call provisions, observable prices and spreads for similar publicly traded or privately traded issues that incorporate the credit quality and industry sector of the issuer. For structured securities, valuation is based primarily on matrix pricing or other similar techniques using standard market inputs including spreads for actively traded securities, spreads off benchmark yields, expected prepayment speeds and volumes, current and forecasted loss severity, rating, weighted average coupon, weighted average maturity, average delinquency rates, geographic region, debt-service coverage ratios and issuance-specific information including, but not limited to: collateral type, payment terms of the underlying assets, payment priority within the tranche, structure of the security, deal performance and vintage of loans.

When observable inputs are not available, the market standard valuation techniques for determining the estimated fair value of certain types of securities that trade infrequently, and therefore have little or no price transparency, rely on inputs that are significant to the estimated fair value that are not observable in the market or cannot be derived principally from or corroborated by observable market data. These unobservable inputs can be based in large part on management judgment or estimation, and cannot be supported by reference to market activity. Even though unobservable, these inputs are based on assumptions deemed appropriate given the circumstances and are believed to be consistent with what other market participants would use when pricing such securities.

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

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

For embedded derivative liabilities associated with the underlying products in reinsurance treaties, primarily variable annuity treaties, the Company utilizes a discounted cash flow model, which includes an adjustment for a CVA. The variable annuity embedded derivative calculations are performed by third parties based on methodology and input assumptions provided by the Company. To validate the reasonableness of the resulting fair value, the Company's internal actuaries perform reviews and analytical

procedures on the results. The capital market inputs to the model, such as equity indexes, short-term equity volatility and interest rates, are generally observable. The valuation also requires certain significant inputs, which are generally not observable and accordingly, the valuation is considered Level 3 in the fair value hierarchy, see "Level 3 Measurements and Transfers" below for a description.

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

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

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

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

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

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

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

Level 3 Measurements and Transfers

As of December 31, 2017 and 2016, respectively, the Company classified approximately 5.3% and 5.6% of its fixed maturity securities in the Level 3 category. These securities primarily consist of Canadian government securities priced using unobservable inputs and broker priced corporate securities. Additionally, the Company has included broker priced asset-backed securities and

mortgage-backed securities with below investment grade ratings in the Level 3 category due to market uncertainty associated with these securities and the Company's utilization of unobservable information from third parties for the valuation of these securities.

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

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

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

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

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

The actuarial assumptions used in the fair value of longevity swaps include assumptions related to the level and volatility of mortality. The assumptions are based on studies performed by the Company in combination with available industry information and are reviewed on a periodic basis, at least annually.

The following table presents quantitative information about significant unobservable inputs used in Level 3 fair value measurements that are developed internally by the Company as of December 31, 2017 and 2016 (dollars in thousands):

Assets:	Fair Value		Valuation Technique	Unobservable Input	Range (Weighted Average)	
	2017	2016			2017	2016
Corporate	\$ 1,976	\$ —	Market comparable securities	Liquidity premium	0-1% (1%)	
Funds withheld at interest - embedded derivatives	59,448	15,903	Total return swap	Mortality	0-100% (2%)	0-100% (2%)
				Lapse	0-35% (9%)	0-35% (8%)
				Withdrawal	0-5% (3%)	0-5% (3%)
				CVA	0-5% (1%)	0-5% (1%)
				Crediting rate	2-4% (2%)	2-4% (2%)
Other assets - longevity swaps	7,751	4,519	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 - variable annuities	\$152,470	\$184,636	Discounted cash flow	Mortality	0-100% (1%)	0-100% (2%)
				Lapse	0-25% (5%)	0-25% (6%)
				Withdrawal	0-7% (3%)	0-7% (3%)
				CVA	0-5% (1%)	0-5% (1%)
				Long-term volatility	0-27% (8%)	0-27% (14%)

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. 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 during the year ended December 31, 2016. The transfers from Level 1 to Level 2 during the year ended December 31, 2017 were due to the Company refining its process related to the observability of inputs and market activity. The following table presents the transfers between Level 1 and Level 2 during the year ended December 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	\$ 132,945	\$ —

Assets and liabilities transferred into Level 3 are due to a lack of observable market transactions and price information. Certain transfers into Level 3 were also due to ratings downgrades on mortgage-backed securities that previously had investment-grade ratings. 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, or 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 in to Level 3 were due to ratings downgrades on mortgage-backed securities that had below investment-grade ratings.

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

Fixed maturity securities - available-for-sale

For the year ended December 31, 2017:	Corporate	Canadian government	RMBS	ABS	State and political subdivisions	Funds withheld at interest - embedded derivatives	Other assets - longevity swaps	Interest-sensitive contract liabilities embedded derivatives
Fair value, beginning of period	\$ 139,230	\$ 475,965	\$ 14,200	\$ 6,020	\$ 1,968	\$ 15,903	\$ 4,519	\$ (184,636)
Total gains/losses (realized/unrealized)								
Included in earnings, net:								
Investment income, net of related expenses	51	13,069	6	—	—	—	—	—
Change in value of funds withheld embedded derivatives						41,386	—	—
Investment related gains, net	—	—	—	—	—	—	—	32,166
Included in other comprehensive income	3,173	104,908	84	(17)	192	2,159	745	—
Other revenue	—	—	—	—	—	—	2,487	—
Purchases ⁽¹⁾	48,566	—	—	—	—	—	—	—
Sales ⁽¹⁾	(31,611)	—	—	—	—	—	—	—
Settlements ⁽¹⁾	—	—	(844)	(6,000)	(18)	—	—	—
Transfers into Level 3	—	—	407	992	—	—	—	—
Transfers out of Level 3	—	—	(9,108)	—	—	—	—	—
Fair value, end of period	<u>\$ 159,409</u>	<u>\$ 593,942</u>	<u>\$ 4,745</u>	<u>\$ 995</u>	<u>\$ 2,142</u>	<u>\$ 59,448</u>	<u>\$ 7,751</u>	<u>\$ (152,470)</u>
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	\$ 50	\$ 13,069	\$ 4	\$ —	\$ —	\$ —	\$ —	\$ —
Change in value of funds withheld embedded derivatives	—	—	—	—	—	41,386	—	—
Investment related gains, net	—	—	—	—	—	—	—	32,166
Other revenue	—	—	—	—	—	—	2,487	—

(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.

Fixed maturity securities - available-for-sale

For the year ended December 31, 2016:	Corporate	Canadian government	RMBS	ABS	State and political subdivisions	Funds withheld at interest - embedded derivatives	Other assets - longevity swaps	Interest-sensitive contract liabilities embedded derivatives
Fair value, beginning of period	\$ 104,926	\$ 416,077	\$ 4,181	\$ 11,489	\$ 2,012	\$ 17,178	\$ 1,365	\$ (192,470)
Total gains/losses (realized/unrealized)								
Included in earnings, net:								
Investment income (loss), net of related expenses	54	12,196	(8)	7	—	—	—	—
Change in value of funds withheld embedded derivatives	—	—	—	—	—	(809)	—	—
Investment related gains, net	—	—	—	—	—	—	—	7,834
Included in other comprehensive income	(2,541)	47,692	50	(126)	(27)	(466)	(225)	—
Other revenue	—	—	—	—	—	—	3,379	—
Purchases ⁽¹⁾	46,184	—	17,698	—	—	—	—	—
Sales ⁽¹⁾	(6,893)	—	—	—	—	—	—	—
Settlements ⁽¹⁾	(2,500)	—	(1,736)	—	(17)	—	—	—
Transfers into Level 3	—	—	—	3,008	—	—	—	—
Transfers out of Level 3	—	—	(5,985)	(8,358)	—	—	—	—
Fair value, end of period	<u>\$ 139,230</u>	<u>\$ 475,965</u>	<u>\$ 14,200</u>	<u>\$ 6,020</u>	<u>\$ 1,968</u>	<u>\$ 15,903</u>	<u>\$ 4,519</u>	<u>\$ (184,636)</u>
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 (loss), net of related expenses	\$ 52	\$ 12,196	\$ (8)	\$ 7	\$ —	\$ —	\$ —	\$ —
Change in value of funds withheld embedded derivatives	—	—	—	—	—	(809)	—	—
Investment related gains, net	—	—	—	—	—	—	—	7,834
Other revenue	—	—	—	—	—	—	3,379	—

(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

The Company did not have any assets measured at estimated fair value on a nonrecurring basis at December 31, 2017 or 2016.

Fair Value of Financial Instruments

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

December 31, 2017:	Carrying Value ⁽¹⁾	Estimated Fair Value	Fair Value Measurement Using:			
			Level 1	Level 2	Level 3	NAV
Assets:						
Funds withheld at interest	\$ 4,828,419	\$ 4,828,419	\$ —	\$ —	\$ 4,828,419	\$ —
Cash and cash equivalents	412,469	412,469	412,469	—	—	—
Short-term investments	15,616	15,616	15,616	—	—	—
Other invested assets	370,479	365,804	28,553	—	323,183	14,068
Accrued investment income	150,873	150,873	—	150,873	—	—
Liabilities:						
Interest-sensitive contract liabilities	\$ 1,829,003	\$ 1,857,892	\$ —	\$ —	\$ 1,857,892	\$ —
December 31, 2016:						
Assets:						
Funds withheld at interest	\$ 1,258,483	\$ 1,258,483	\$ —	\$ —	\$ 1,258,483	\$ —
Cash and cash equivalents	324,279	324,279	324,279	—	—	—
Short-term investments	17,758	17,758	17,758	—	—	—
Other invested assets	168,109	172,264	25,945	—	139,138	7,181
Accrued investment income	124,599	124,599	—	124,599	—	—
Liabilities:						
Interest-sensitive contract liabilities	\$ 210,110	\$ 210,353	\$ —	\$ —	\$ 210,353	\$ —

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

Funds Withheld at Interest - The carrying value of funds withheld at interest approximates fair value. Ceding companies use a variety of sources and pricing methodologies, which are not transparent to the Company and may include significant unobservable inputs, to value the securities that are held in distinct portfolios, therefore the valuation of these funds withheld assets are considered Level 3 in the fair value hierarchy.

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

Other Invested Assets - This primarily includes limited partnership interests accounted for using the cost method, purchase agreements, cash collateral, equity release mortgages, and mortgage loans on real estate. The fair value of limited partnership interests and other investments accounted for using the cost method is determined using the NAV of the Company's ownership interest as provided in the financial statements of the investees. The fair value of the Company's purchase agreements is considered to be the carrying value and considered to be Level 3 in the fair value hierarchy. The fair value of the Company's cash collateral is considered to be the carrying value and considered to be Level 1 in the fair value hierarchy. The fair value of the Company's equity release mortgage loan portfolio, considered Level 3 in the fair value hierarchy, is estimated by discounting cash flows, both principal and interest, using a risk free rate plus an illiquidity premium. The cash flow analysis considers future expenses, changes in property prices, and actuarial analysis of borrower behavior, mortality and morbidity. The fair value of mortgage loans on real estate is estimated by discounting cash flows, both principal and interest, using current interest rates for mortgage loans with similar credit ratings and similar remaining maturities. As such, inputs include current treasury yields and spreads, which are based on the credit rating and average life of the loan, corresponding to the market spreads. The valuation of mortgage loans on real estate is considered Level 3 in the fair value hierarchy.

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

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

Note 6 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 December 31, 2017 and 2016, no allowances were deemed necessary. The Company regularly evaluates the financial condition of the insurance companies from which it assumes and to which it cedes reinsurance.

Retrocessions are arranged through the Company's retrocession pools for amounts in excess of the Company's retention limit. As of December 31, 2017 and 2016, all rated retrocession pool participants followed by the A.M. Best Company were rated "A-(excellent)" or better.

At December 31, 2017, the Company had \$1,762.1 million of reinsurance ceded receivables. Included in the December 31, 2017 total reinsurance ceded receivables balance were \$310.8 million of claims recoverable, of which \$181.4 million were with related parties. At December 31, 2016, the Company had \$1,761.4 million of reinsurance ceded receivables. Included in the December 31, 2016 total reinsurance ceded receivables balance were \$280.5 million of claims recoverable, of which \$155.0 million were with related parties.

For the years ended December 31, 2017 and 2016, the effect of reinsurance on net premiums is as follows (dollars in thousands):

	<u>2017</u>	<u>2016</u>
Reinsurance assumed:		
Affiliated	\$ 1,083,005	\$ 814,805
Non-affiliated	3,004,780	2,665,478
Total reinsurance assumed	<u>4,087,785</u>	<u>3,480,283</u>
Direct reinsurance issued:		
Non-affiliated	26,826	24,428
Total direct reinsurance issued	<u>26,826</u>	<u>24,428</u>
Reinsurance retroceded:		
Affiliated	(744,705)	(419,948)
Non-affiliated	(613,294)	(616,833)
Total reinsurance retroceded	<u>(1,357,999)</u>	<u>(1,036,781)</u>
Net premiums	<u>\$ 2,756,612</u>	<u>\$ 2,467,930</u>

For the years ended December 31, 2017 and 2016, the effect of reinsurance on claims and other policy benefits is as follows (dollars in thousands):

	<u>2017</u>	<u>2016</u>
Reinsurance assumed:		
Affiliated	\$ 167,980	\$ 693,518
Non-affiliated	2,580,905	2,354,230
Total reinsurance assumed	<u>2,748,885</u>	<u>3,047,748</u>
Direct reinsurance issued:		
Non-affiliated	20,255	18,261
Total direct reinsurance issued	<u>20,255</u>	<u>18,261</u>
Reinsurance retroceded:		
Affiliated	(83,574)	(401,632)
Non-affiliated	(531,674)	(493,294)
Total reinsurance retroceded	<u>(615,248)</u>	<u>(894,926)</u>
Claims and other policy benefits	<u>\$ 2,153,892</u>	<u>\$ 2,171,083</u>

As of December 31, 2017 and 2016, the effect of reinsurance on life insurance in force is shown in the following schedule (dollars in millions):

	2017	2016
Life insurance in force assumed:		
Affiliated	\$ 155,178	\$ 243,324
Non-affiliated	1,366,062	1,262,370
Total life insurance in force assumed	<u>1,521,240</u>	<u>1,505,694</u>
Direct life insurance in force:		
Non-affiliated	10,649	8,159
Total direct life insurance in force	<u>10,649</u>	<u>8,159</u>
Life insurance in force retroceded:		
Affiliated	(220,740)	(231,468)
Non-affiliated	(167,722)	(167,517)
Total life insurance in force retroceded	<u>(388,462)</u>	<u>(398,985)</u>
Life insurance in force net:		
Affiliated	(65,562)	11,856
Non-affiliated	1,208,989	1,103,012
Total life insurance in force net	<u>\$ 1,143,427</u>	<u>\$ 1,114,868</u>
Assumed/net percentage	133.04%	135.06%

At December 31, 2017 and 2016, respectively, the Company provided approximately \$1,430.5 million and \$1,336.9 million of financial reinsurance, as measured by pre-tax statutory surplus, risk based capital and other financial reinsurance structures, to other insurance companies under financial reinsurance transactions to assist ceding companies in meeting applicable regulatory requirements. Generally, such financial reinsurance is provided by the Company committing cash or assuming insurance liabilities, which are collateralized by future profits on the reinsured business. The Company earns a fee based on the amount of net outstanding financial reinsurance.

Note 7 DEFERRED POLICY ACQUISITION COSTS

The following reflects the amounts of policy acquisition costs deferred and amortized as of December 31, 2017 and 2016 (dollars in thousands):

	2017	2016
Balance, beginning of year	\$ 564,096	\$ 576,558
Capitalization	678,867	71,139
Amortization (including interest)	(117,167)	(61,614)
Foreign currency translation	42,657	(21,987)
Balance, end of year	<u>\$ 1,168,453</u>	<u>\$ 564,096</u>

Some reinsurance agreements involve reimbursing the ceding company for allowances and commissions in excess of first-year premiums. These amounts represent acquisition costs and are capitalized to the extent deemed recoverable from the future premiums and amortized against future profits of the business. This type of agreement presents a risk to the extent that the business lapses faster than originally anticipated, resulting in future profits being insufficient to recover the Company's investment.

Note 8 INCOME TAXES

U.S. Tax Reform was signed into law on December 22, 2017. 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% 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.

In connection with the Company's initial analysis of the impact of U.S. Tax Reform, the Company recorded a discrete provisional net tax benefit of \$287.8 million in the period ending December 31, 2017. The provisional net benefit primarily consists of the U.S. federal rate reduction from 35% to 21% applied to the net deferred tax liability. The Company provisionally estimates there

would be no one-time transition tax on unrepatriated earnings of foreign subsidiaries. However, this tax could change based on future clarification of U.S. Tax Reform, as well as due to the Company gathering additional information to more precisely compute the transition tax. Further, as a result of U.S. Tax Reform, the Company established a valuation allowance of \$1.1 million related to U.S. foreign tax credit carryforwards. The valuation allowance relates to the Company's interpretation of the changes in the ability to use existing foreign tax credit carryforwards against future foreign branch profits. The valuation allowance could change based on future interpretation and analysis of U.S. Tax Reform.

Because of the complexity of the new GILTI tax rules, the Company is continuing to evaluate this provision of U.S. Tax Reform and the application of Accounting Standards Codification 740 ("ASC 740"). Under GAAP, the Company is allowed to make an accounting policy choice of either (1) treating taxes due on future U.S. inclusions in taxable income related to the GILTI as a current-period expense when incurred (the "period cost method") or (2) factoring such amounts into a company's measurement of its deferred taxes ("the deferred method"). The Company's selection of an accounting policy with respect to new GILTI tax rules will depend, in part, on analyzing its global income to determine whether the Company expects to have future U.S. inclusions in taxable income related to GILTI and, if so, what the impact is expected to be. Whether the Company expects to have future U.S. inclusions in taxable income related to GILTI depends on not only its current corporate structure, its intercompany reinsurance business flows and estimated future results of global operations, but also its intent and ability to modify its structure and/or its business. The Company is not yet able to reasonably estimate the effect of this provision of U.S. Tax Reform. Therefore, the Company has not made any adjustments related to potential GILTI tax in its financial statements and has not made a policy decision regarding whether to record deferred taxes on GILTI.

The SEC issued Staff Accounting Bulletin 118 ("SAB 118"), which provides guidance on accounting for the tax effects of U.S. Tax Reform. SAB 118 provides a measurement period that should not extend beyond one year from U.S. Tax Reform enactment date for companies to complete the accounting under ASC 740. In accordance with SAB 118, a company must reflect the income tax effects of those aspects of U.S. Tax Reform for which the accounting under ASC 740 is complete. To the extent that a company's accounting for certain income tax effects of U.S. Tax Reform is incomplete but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. If a company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of U.S. Tax Reform.

The Company calculated a provisional estimate of the impact of U.S. Tax Reform. The actual adjustment may vary from this estimate due to a number of uncertainties and factors, including changes in interpretations and assumptions made by the Company, gathering additional information to more precisely compute the pretax deferred tax items upon which the change in rate was applied. Additionally, the actual adjustment may change due to future further clarification of the new law, regulatory guidance and accounting guidance. The Company is still analyzing U.S. Tax Reform and refining its calculations, which could potentially impact the measurement of recorded tax balances as of December 31, 2017. This provisional amount is based on the best information currently available and may be revised and is subject to change.

The U.S. consolidated tax return includes the operations of RGA and all eligible subsidiaries. The Company's foreign subsidiaries are taxed under applicable local statutes.

Under current Bermuda law, the Company is not required to pay taxes in Bermuda on either income or capital gains. The Company has received an undertaking from the Minister of Finance in Bermuda that in the event of income or capital gains taxes being imposed, the Company will be exempted from such taxes until March 31, 2035. RGA Americas has made the Internal Revenue Code Section 953(d) election to be taxed as a United States domestic corporation for purposes of United States corporation tax. RGA Atlantic is domiciled in Barbados and is subject to Barbadian income taxes at a rate of 0% for the first 15 years of its operations, and thereafter at a rate of 8% on the first \$125,000 of taxable income, and at the rate of 0% in respect of all taxable income in excess of \$125,000 as RGA Atlantic is licensed to conduct business as an Exempt Insurance Company. RGA Canada is domiciled in Canada and subject to the federal and provincial taxes at the local income tax rates. RGA South Africa is domiciled in South Africa and subject to federal taxes at the local income tax rates. RGA International was formed in Ireland and has branch offices in France, Germany, Italy, the Netherlands, Poland, Spain, the U.K., and Singapore. RGA International is subject to federal taxes at local income tax rates. Leidsche is domiciled in the Netherlands and subject to federal taxes at the local income tax rates. RGA Australia is domiciled in Australia and has a branch operation in New Zealand. RGA Australia and its New Zealand branch are subject to federal taxes at the local income tax rates. RGA Atlantic, RGA Canada, RGA South Africa, RGA International, Leidsche, and RGA Australia are Controlled Foreign Corporations ("CFC") for U.S. federal income tax purposes and file Form 5471 - Information Return of U.S. Persons With Respect to Certain Foreign Corporations. These CFCs are not subject to U.S. income taxes directly but are subject to tax as a CFC under subchapter N, Subpart F of the U.S. Internal Revenue Code. Any U.S. tax liability generated under Subpart F would be borne by its parent company, RGA Americas and therefore could be considered a current or deferred tax liability of RGA Americas.

The provision for income tax expense for the years ended December 31, 2017 and 2016, consists of the following (dollars in thousands):

	2017	2016
Current income tax expense	\$ 72,011	\$ 11,568
Deferred income tax expense (benefit)	(219,802)	111,692
Total provision for income taxes	<u>\$ (147,791)</u>	<u>\$ 123,260</u>

The Company's effective tax rate differed from the U.S. federal income tax statutory rate of 35% as a result of the following for the years ended December 31, 2017 and 2016 (dollars in thousands):

	2017	2016
Tax provision at U.S. statutory rate	\$ 166,724	\$ 141,921
Increase (decrease) in income taxes resulting from:		
U.S. Tax Reform provisional estimate	(286,679)	—
Subpart F, net of foreign tax credit	696	280
Foreign tax rate differing from U.S. tax rate	(11,791)	(13,878)
Equity compensation	856	1,412
Return to provision adjustments	(3,062)	348
Valuation allowance	20,298	10,962
Difference in tax basis in foreign jurisdictions	(23,325)	(17,763)
Amended returns	(5,428)	—
Amounted related to audit contingencies	(301)	—
Corporate rate changes	(6,091)	—
Other, net	312	(22)
Total provision for income taxes	<u>\$ (147,791)</u>	<u>\$ 123,260</u>
Effective tax rate	<u>(31.0)%</u>	<u>30.4%</u>

Total income taxes for the years ended December 31, 2017 and 2016, were as follows (dollars in thousands):

	2017	2016
Income tax attributed to continuing operations	\$ (147,791)	\$ 123,260
Income tax attributed to shareholder's equity:		
Net unrealized holding gains (losses) on fixed maturity and equity securities recognized for financial reporting purposes	119,658	52,154
Unrealized pension and post retirement	(16)	(227)
Foreign currency translation	(22,285)	19,923
Total income tax provided	<u>\$ (50,434)</u>	<u>\$ 195,110</u>

The tax effects of temporary differences that give rise to significant portions of the deferred income tax assets and liabilities at December 31, 2017 and 2016, are presented in the following tables (dollars in thousands):

	2017	2016
Deferred income tax assets:		
Deferred acquisition costs, capitalized for tax	\$ 21,543	\$ 30,810
Net operating loss	487,704	151,166
Capital loss and tax credit carryforward	32,464	28,189
Investment income differences	4,814	10,168
Differences in certain reinsurance transactions	45,885	38,042
Other	5,906	5,867
Subtotal	598,316	264,242
Valuation allowance	(120,723)	(92,038)
Total deferred income tax assets	477,593	172,204
Deferred income tax liabilities:		
Deferred acquisition costs, capitalized for financial reporting	73,806	84,518
Differences in foreign currency translation	15,728	36,789
Unrealized gain, net	477,064	379,482
Investment income differences	1,747	2,085
Differences in certain reinsurance transactions	903,426	778,505
Total deferred income tax liabilities	1,471,771	1,281,379
Net deferred income tax liabilities	\$ 994,178	\$ 1,109,175
Balance sheet presentation of net deferred income tax liabilities:		
Included in other assets	\$ 34,566	\$ 45,460
Included in deferred income taxes	1,028,744	1,154,635
Net deferred income tax liabilities	\$ 994,178	\$ 1,109,175

As of December 31, 2017, a valuation allowance against deferred tax assets was approximately \$120.7 million. During 2017, a valuation allowance was established on the U.S. Foreign tax credit carryforward of \$1.1 million, RGA Australia's net operating losses of \$20.1 million as well as on the deferred tax assets of other jurisdictions of \$0.6 million. Further movement in the valuation allowance includes foreign currency translation and reclassifications with other deferred tax assets of \$9.8 million and \$(2.5) million, respectively. The other significant components of the valuation allowance relate to a partial valuation allowance on the net operating loss carryforwards in RGA Australia and a full valuation allowance on the foreign tax credit carryforwards in RGA International. A valuation allowance also exists against the deferred tax assets of other branches and legal entities most of which there is no history of earnings in recent years.

As of December 31, 2016, a valuation allowance for deferred tax assets of approximately \$92.0 million was provided. There is a partial valuation allowance on RGA South Africa and RGA Australia's net operating losses. There is a full valuation allowance on the net deferred tax assets of RGA International's Germany, Netherlands, Poland, and Singapore Branches as well as RGA International's foreign tax credit. The Company utilizes valuation allowance when it believes, based on the weight of the available evidence, that it is more likely than not that the deferred income tax asset will not be utilized.

At December 31, 2017 and 2016, the Company has gross deferred tax assets associated with net operating losses of approximately \$2,170.3 million and \$482.0 million, respectively. The earliest expiration date for net operating losses that do not have a valuation allowance is 2029, during which \$181.0 million of net operating losses would expire if unutilized. The net operating losses, other than the net operating losses for which there is a valuation allowance, are expected to be utilized in the normal course of business during the period allowed for carryforwards and in any event, are not expected to be lost, due to the application of tax planning strategies that management would utilize. The Company has a tax credit carryforward of \$32.5 million and \$28.2 million, of which \$31.1 million and \$27.0 million has a valuation allowance as of December 31, 2017 and 2016, respectively. The Company does not have any Alternative Minimum Tax credit carryforwards available as of December 31, 2017.

The earnings of substantially all of the Company's foreign subsidiaries have been permanently reinvested in foreign operations. No provision has been made for U.S. tax or foreign withholding taxes that may be applicable upon any repatriation or sale. The determination of the unrecognized deferred tax liability for temporary differences related to investments in the Company's foreign subsidiaries is not practicable. At December 31, 2017 and 2016, the financial reporting basis in excess of the tax basis for which no deferred taxes have been recognized was approximately \$1,438.0 million and \$1,143.3 million, respectively. 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.

The Company files income tax returns in the U.S. federal jurisdiction and various provincial and foreign jurisdictions. The Company is under continuous examination by the Internal Revenue Service and is subject to audit by taxing authorities in other foreign jurisdictions in which the Company has significant business operations. The income tax years under examination vary by

jurisdiction. The Company is no longer subject to U.S. federal income tax examinations by tax authorities for years prior to 2014, Canadian authorities for years prior to 2013 and with a few exceptions, the Company is no longer subject to state and foreign income tax examinations by tax authorities for years prior to 2012.

A reconciliation of the beginning and ending amount of unrecognized tax benefits for the years ended December 31, 2017 and 2016 is as follows (dollars in thousands):

	Total Unrecognized Tax Benefits	
	2017	2016
Beginning balance, January 1	\$ 2,989	\$ 3,276
Additions for tax positions of prior years	158	—
Reduction for tax positions of prior years	—	(287)
Settlements with tax authorities	(550)	—
Ending balance, December 31	<u>\$ 2,597</u>	<u>\$ 2,989</u>

The Company recognized interest expense associated with uncertain tax provisions in 2017 and 2016 of \$0.3 million and \$0.3 million, respectively. As of December 31, 2017 and 2016, the Company had \$2.1 million and \$1.7 million, respectively, of accrued interest related to unrecognized tax benefits. The Company recognized no penalties for 2017 or 2016.

Note 9 EMPLOYEE BENEFIT PLANS

RGA Canada sponsors an unfunded non-contributory defined benefit pension plan ("Pension Plan") for certain eligible employees. The benefits under the Pension Plan, which is a non-qualified plan, are generally based on years of service and compensation levels. For non-qualified plans, there are no required funding levels.

A December 31 measurement date is used for the Pension Plan. The status of the Pension Plan as of December 31, 2017 and 2016 is summarized below (dollars in thousands):

	Pension Benefits	
	2017	2016
Change in benefit obligation:		
Benefit obligation at beginning of year	\$ 10,997	\$ 8,983
Service cost	802	688
Interest cost	442	375
Actuarial losses	294	1,140
Benefits paid	(521)	(428)
Foreign currency rate change effect	792	239
Benefit obligation at end of year	<u>\$ 12,806</u>	<u>\$ 10,997</u>

	Pension Benefits	
	2017	2016
Change in plan assets:		
Fair value of plan assets at beginning of year	\$ —	\$ —
Employer contributions	521	428
Benefits paid and expenses	(521)	(428)
Fair value of plan assets at end of year	<u>\$ —</u>	<u>\$ —</u>
Funded status at end of year	<u>\$ (12,806)</u>	<u>\$ (10,997)</u>

	Pension Benefits	
	2017	2016
Aggregate fair value of plan assets	\$ —	\$ —
Aggregate projected benefit obligations	12,806	10,997
Under funded	<u>\$ (12,806)</u>	<u>\$ (10,997)</u>

	Pension Benefits	
	2017	2016
Amounts recognized in accumulated other comprehensive income:		
Net actuarial loss	\$ 4,343	\$ 4,198
Net prior service cost	85	159
Total	<u>\$ 4,428</u>	<u>\$ 4,357</u>

The following table presents information for the Pension Plan with a projected benefit obligation in excess of plan assets as of December 31, 2017 and 2016 (dollars in thousands):

	2017	2016
Projected benefit obligation	\$ 12,806	\$ 10,997
Fair value of plan assets	—	—

The following table presents information for the Pension Plan with an accumulated benefit obligation in excess of plan assets as of December 31, 2017 and 2016 (dollars in thousands):

	2017	2016
Accumulated benefit obligation	\$ 12,806	\$ 10,997
Fair value of plan assets	—	—

The components of net periodic benefit cost, included in other operating expenses on the consolidated statements of income, and other changes in plan assets and benefit obligations recognized in other comprehensive income were as follows (dollars in thousands):

	Pension Benefits	
	2017	2016
Net periodic benefit cost:		
Service cost	\$ 802	\$ 688
Interest cost	442	375
Amortization of prior actuarial losses	435	312
Amortization of prior service cost	82	81
Net periodic benefit cost	<u>1,761</u>	<u>1,456</u>
Other changes in plan assets and benefit obligations recognized in other comprehensive income:		
Net actuarial losses	294	1,140
Amortization of prior actuarial gains	(435)	(312)
Amortization of prior service credit	(82)	(81)
Foreign exchange translations and other adjustments	294	93
Total recognized in other comprehensive income	<u>71</u>	<u>840</u>
Total recognized in net periodic benefit cost and other comprehensive income	<u>\$ 1,832</u>	<u>\$ 2,296</u>

During 2018, RGA Canada expects to contribute \$0.5 million to the Pension Plan.

The following benefit payments, which reflect expected future service as appropriate, are expected to be paid (dollars in thousands):

	Pension Benefits
2018	\$ 542
2019	624
2020	596
2021	524
2022	521
2023-2027	3,144

The estimated net loss and prior service cost for the Pension Plan that will be amortized from AOCI into net periodic benefit cost over the next fiscal year are \$0.4 million and \$0.1 million, respectively.

Assumptions

Weighted average assumptions used to determine the accumulated benefit obligation and net benefit cost or income for the years ended December 31, 2017 and 2016 were as follows:

	Pension Benefits	
	2017	2016
Discount rate used to determine benefit obligation	3.40%	3.80%
Discount rate used to determine net benefit cost or income	3.70%	3.70%
Rate of compensation increases	3.75%	3.75%

Savings and Investment Plans

Certain subsidiaries of RGA Americas also sponsor savings and investment plans under which a portion of employee contributions are matched. Subsidiary contributions to these plans were \$3.5 million and \$1.2 million in 2017 and 2016, respectively.

Note 10 FINANCIAL CONDITION AND NET INCOME ON A STATUTORY BASIS

The foreign insurance subsidiaries of the Company prepare their statutory financial statements in conformity with statutory accounting practices prescribed or permitted by the local regulatory authority, which vary materially from statements prepared in accordance with GAAP. The differences between statutory financial statements and financial statements prepared in accordance with GAAP vary between jurisdictions.

Statutory net income (loss) and capital and surplus of the Company's insurance subsidiaries, determined in accordance with statutory accounting practices prescribed by the local regulatory authority are as follows (dollars in thousands):

	Statutory Capital & Surplus		Statutory Net Income (Loss)	
	2017	2016	2017	2016
RGA Atlantic	\$ 812,307	\$ 596,016	\$ 213,511	\$ 110,172
RGA Canada	1,006,190	915,134	25,971	13,947
RGA South Africa	17,270	17,599	(4,174)	(504)
RGA International	826,874	652,712	22,650	8,965
Leidsche	38,083	33,162	218	(1,493)
RGA Australia	476,528	370,039	78,497	(7,694)

The Company's foreign insurance subsidiaries prepare financial statements in accordance with the local regulatory requirements of the foreign jurisdiction. The regulatory authorities in these foreign jurisdictions establish some form of minimum regulatory capital and surplus requirements. All of the Company's foreign insurance subsidiaries have regulatory capital and surplus that exceed the local minimum requirements. These requirements do not represent a significant constraint for the payment of dividends by the Company's foreign insurance companies.

Note 11 SHAREHOLDER'S EQUITY

The Company is authorized to issue an unlimited number of \$1.00 par value common shares. The Company had issued 75.5 million common shares with a stated value of \$75.5 million as of December 31, 2017 and 2016.

The Company is registered under the Bermuda Insurance Act 1978 (the "Act") and amendments thereto and related regulations, which require that the Company maintain a minimum solvency margin. The minimum solvency margin required at December 31, 2017 and 2016 is the greater of \$8.0 million or 2% of the first \$500 million of statutory assets of the Company plus 1.5% of statutory assets of the Company above \$500 million. The Company is required to calculate an enhanced capital requirement ("ECR") and target capital level ("TCL") as prescribed by or under rules made under Section 6A of the Act, which are additional capital and surplus requirements to the minimum solvency margin. The Company's ECR is the higher of the Bermuda Solvency Capital Requirement ("BSCR") model and the minimum margin of solvency. The TCL is calculated as 120% of the ECR. As of December 31, 2017 and 2016, the Company has met the requirements. As of December 31, 2017 and 2016, statutory capital and surplus of the Company was \$4,833.9 million and \$3,753.0 million, respectively.

The Bermuda Monetary Authority considers prepaid and fixed assets non-admitted assets. As non-admitted assets, such balances were reflected as a reduction of statutory surplus, and reinsurance assets and liabilities were presented net of reinsurance.

In 2016, the Company paid a \$200 million dividend to RGA. The Company did not pay any dividends in 2017.

Note 12 RELATED-PARTY TRANSACTIONS

The Company transacts business with affiliated companies on a regular basis. These transactions primarily consist of reinsurance agreements, notes to affiliates, securities lending agreements, administrative service agreements, and investment management agreements. In addition, the Company may purchase or sell securities with affiliated companies. The Company had the following activity with affiliated companies under reinsurance agreements, notes to affiliates, securities lending agreements, administrative service agreements, and investment management agreements as of and for the years ended December 31, 2017 and 2016 (dollars in thousands):

	2017	2016
Consolidated Balance Sheets		
Funds withheld at interest	\$ 4,157,394	\$ 613,079
Premiums receivable	(2,605)	23,943
Reinsurance ceded receivables	1,356,572	1,382,837
Deferred policy acquisition costs	638,469	15,380
Receivable from parent and affiliates	13,151	1,904
Future policy benefits	3,340,754	1,159,321
Interest-sensitive contract liabilities	1,932,416	389,747
Other policy claims and benefits	268,067	235,746
Securities lending obligation	94,757	94,600
Affiliated note payable	46,854	43,248
Payable to parent and affiliates	168,118	8,170
Consolidated Statements of Income		
Net premiums	\$ 338,300	\$ 394,857
Change in value of funds withheld embedded derivatives	41,386	(809)
Other revenues	426,057	69,184
Claims and other policy benefits	84,406	291,886
Interest credited	17,952	595
Policy acquisition costs and other insurance expenses	514,671	82,341

The Company incurred expenses of \$99.3 million and \$123.4 million, and received income of \$16.6 million and \$14.4 million in 2017 and 2016, respectively, relating to administrative service agreements, securities lending agreements and investment management agreements.

The Company issued a note payable to RGA Capital LLC on June 22, 2016 for AUD\$60 million. For the years ended December 31, 2017 and 2016, the Company accrued an insignificant amount of interest. Interest is calculated at a rate equal to 3.07% per annum. The affiliated note is payable on the maturity date of June 30, 2019. The outstanding note balances at December 31, 2017 and 2016 were \$46.9 million and \$43.2 million, respectively.

See Note 3 - "Investments" for information on security purchases and sales with affiliated companies.

Since the Company is a member of a controlled group of affiliated companies, its results may not be indicative of those of a stand-alone entity.

Note 13 COMMITMENTS AND CONTINGENT LIABILITIES

Commitments

Funding of Investments

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

	2017	2016
Limited partnership interests and joint ventures	\$ 159,300	\$ 9,461
Equity release mortgages	153,937	130,324

The Company anticipates that the majority of its current commitments will be invested over the next five years; however, these commitments could become due at any time at the request of the counterparties.

Leases

The Company leases office space and furniture and equipment under non-cancelable operating lease agreements, which expire at various dates. Future minimum office space annual rentals under non-cancelable operating leases at December 31, 2017 are as follows (dollars in thousands):

2018	\$	3,151
2019		1,787
2020		1,484
2021		1,206
2022		1,114
Thereafter		5,562

Rent expenses amounted to approximately \$4.5 million and \$4.0 million for the years ended December 31, 2017 and 2016, respectively.

Letters of Credit

In the ordinary course of business, the Company provides letters of credit as security to cover liabilities relating to reinsurance agreements. The total amount of letters of credit outstanding at December 31, 2017 and 2016, was \$95.0 million and \$132.3 million, respectively, of which \$6.2 million and \$6.2 million, respectively, was for the benefit of RGA Re and Reinsurance Company of Missouri. RGA is the guarantor to these letters of credit as of December 31, 2017 and 2016.

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.

Note 14 EQUITY BASED COMPENSATION

Certain eligible employees of the Company participate in the RGA Flexible Stock Plan (the "Plan") of the parent company, RGA. Equity-based compensation expense of \$3.4 million and \$4.0 million related to grants or awards under the Plan was recognized in 2017 and 2016, respectively. Equity-based compensation expense is principally related to the issuance of performance contingent restricted units, restricted stock and stock appreciation rights.

Performance Shares

Performance shares, also referred to as performance contingent units ("PCUs"), are units that, if they vest, are multiplied by a performance factor to produce a number of final PCUs which are payable in RGA's common stock. Each PCU represents the right to receive up to two shares of RGA common stock, depending on the results of certain performance measures over a three-year period. The compensation expense related to the PCUs is recognized ratably over the requisite performance period. Performance shares are accounted for as equity awards, but are not credited with dividend-equivalents for actual dividends paid on RGA's common stock during the performance period.

As of December 31, 2017, the total compensation cost of non-vested awards not yet recognized in the financial statements was \$6.3 million. It is estimated that these costs will vest over a weighted average period of 1.9 years.

Restricted Stock Units

In general, restricted stock units ("RSUs") become payable at the end of a three- or ten-year vesting period. Each RSU, if they vest, represents the right to receive one share of Company common stock. RSUs awarded under the plan generally have no strike price and are included in the Company's shares outstanding.

Stock Options

In general, options granted under the Plan become exercisable over vesting periods ranging from one to five years. Options are generally granted with an exercise price equal to the stock's fair value at the date of the grant and expire 10 years after the date of grant.

The Black-Scholes model was used to determine the fair value recognized in the financial statements of stock options that have been granted. The Company used daily historical volatility when calculating stock option values. The benchmark rate is based on observed interest rates for instruments with maturities similar to the expected term of the stock options. Dividend yield is determined based on historical dividend distributions compared to the price of the underlying common stock as of the valuation date and held constant over the life of the stock options. The Company estimated expected life using the historical average years to exercise or cancellation.

Note 15 COMPREHENSIVE INCOME

The following tables present the components of the Company's other comprehensive income for the years ended December 31, 2017 and 2016 (dollars in thousands):

For the year ended December 31, 2017:

	Before-Tax Amount	Tax (Expense) Benefit	After-Tax Amount
Foreign currency translation adjustments, change arising during year	\$ 85,701	\$ 22,285	\$ 107,986
Unrealized gains on investments:			
Unrealized net holding gains arising during the year	476,672	(121,593)	355,079
Less: Reclassification adjustment for net gains realized in net income	11,978	(1,935)	10,043
Net unrealized gains	<u>464,694</u>	<u>(119,658)</u>	<u>345,036</u>
Unrealized pension and postretirement benefits:			
Net prior service credit arising during the year	74	(21)	53
Net loss arising during the period	(144)	37	(107)
Unrealized pension and postretirement benefits, net	<u>(70)</u>	<u>16</u>	<u>(54)</u>
Other comprehensive income	<u>\$ 550,325</u>	<u>\$ (97,357)</u>	<u>\$ 452,968</u>

For the year ended December 31, 2016:

	Before-Tax Amount	Tax (Expense) Benefit	After-Tax Amount
Foreign currency translation adjustments, change arising during year	\$ 24,154	\$ (19,923)	\$ 4,231
Unrealized gains on investments:			
Unrealized net holding gains arising during the year	325,719	(71,633)	254,086
Less: Reclassification adjustment for net gains realized in net income	77,523	(19,479)	58,044
Net unrealized gains	<u>248,196</u>	<u>(52,154)</u>	<u>196,042</u>
Unrealized pension and postretirement benefits:			
Net prior service credit arising during the year	72	(19)	53
Net loss arising during the period	(912)	246	(666)
Unrealized pension and postretirement benefits, net	<u>(840)</u>	<u>227</u>	<u>(613)</u>
Other comprehensive income	<u>\$ 271,510</u>	<u>\$ (71,850)</u>	<u>\$ 199,660</u>

The balances of and changes in each component of AOCI for the years ended December 31, 2017 and 2016 were as follows (dollars in thousands):

	Accumulated Currency Translation Adjustments	Unrealized Appreciation of Investments	Pension and Postretirement Benefits	Accumulated Other Comprehensive Income
Balance, January 1, 2016	\$ (323,120)	\$ 898,417	\$ (2,575)	\$ 572,722
Changes in foreign currency translation adjustments	4,231	—	—	4,231
Unrealized gains on investments	—	254,086	—	254,086
Changes in pension and other postretirement plan adjustments	—	—	(901)	(901)
Amounts reclassified from AOCI	—	(58,044)	288	(57,756)
Balance, December 31, 2016	<u>(318,889)</u>	<u>1,094,459</u>	<u>(3,188)</u>	<u>772,382</u>
Changes in foreign currency translation adjustments	107,986	—	—	107,986
Unrealized gains on investments	—	355,079	—	355,079
Changes in pension and other postretirement plan adjustments	—	—	(434)	(434)
Amounts reclassified from AOCI	—	(10,043)	380	(9,663)
Adoption of new accounting standard	5,683	16,161	—	21,844
Balance, December 31, 2017	<u>\$ (205,220)</u>	<u>\$ 1,455,656</u>	<u>\$ (3,242)</u>	<u>\$ 1,247,194</u>

The following table presents the amounts of AOCI reclassifications for the years ended December 31, 2017 and 2016 (dollars in thousands):

Details about AOCI Components	Amount Reclassified from AOCI		Affected Line Item in Statement of Operations
	2017	2016	
Net unrealized investment gains:			
Net unrealized gains on available-for-sale securities	\$ 11,978	\$ 77,523	Investment related gains, net
Provision for income taxes	(1,935)	(19,479)	
Net unrealized gains, net of tax	<u>\$ 10,043</u>	<u>\$ 58,044</u>	
Amortization of defined benefit plan items:			
Prior service credit ⁽¹⁾	\$ (82)	\$ (81)	
Actuarial gains ⁽¹⁾	(435)	(312)	
Total	<u>(517)</u>	<u>(393)</u>	
Provision for income taxes	137	105	
Amortization of defined benefit plans, net of tax	<u>\$ (380)</u>	<u>\$ (288)</u>	
Total reclassifications for the period	<u>\$ 9,663</u>	<u>\$ 57,756</u>	

(1) See Note 9 for information on employee benefit plans.