UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
FORM 10-K

x Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2017

☐ Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Commission file number 1-11848

REINSURANCE GROUP OF AMERICA, INCORPORATED

(Exact name of registrant as specified in its charter)

Missouri	**43-1627032**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
16600 Swingley Ridge Road, Chesterfield, Missouri	**63017**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(636) 736-7000**

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value $0.01	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes x No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No x

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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

Large accelerated filer x Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

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

Indicate by check mark whether the registrant is a shell company. Yes ☐ No x

The aggregate market value of the stock held by non-affiliates of the registrant, based upon the closing sale price of the common stock on June 30, 2017, as reported on the New York Stock Exchange was approximately $8.3 billion.

As of January 31, 2018, 64,481,393 shares of the registrant's common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Part III of this Form 10-K incorporates by reference certain information from the Registrant's Definitive Proxy Statement for the Annual Meeting of Shareholders ("the Proxy Statement") to be held May 23, 2018, to be filed by the Registrant with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the year ended December 31, 2017.

REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES

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Item 1. BUSINESS

A. Overview

Reinsurance Group of America, Incorporated ("RGA") is an insurance holding company that was formed on December 31, 1992. The consolidated financial statements herein include the assets, liabilities, and results of operations of RGA and its subsidiaries, all of which are wholly owned (collectively, the "Company").

The Company is a leading global provider of traditional life and health reinsurance and financial solutions with operations in the U.S., Latin America, Canada, Europe, Africa, Asia and Australia. 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 and/or investment risks underwritten by the ceding company. Reinsurance is designed to (i) reduce the net amount at risk 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 risk; (ii) stabilize operating results by leveling fluctuations in the ceding company's loss experience; (iii) assist the ceding company in meeting applicable regulatory requirements; and (iv) enhance the ceding company's financial strength and surplus position.

The Company has geographic-based and business-based operational segments: U.S. and Latin America; Canada; Europe, Middle East and Africa; Asia Pacific; and Corporate and Other. Geographic-based operations are further segmented into traditional and financial solutions businesses. The Company's segments primarily write reinsurance business that is wholly or partially retained in one or more of RGA's reinsurance subsidiaries. See "Segments" for more information concerning the Company's operating segments.

Traditional Reinsurance

Traditional reinsurance includes individual and group life and health, disability, and critical illness reinsurance. Life reinsurance primarily refers to reinsurance of individual or group-issued term, whole life, universal life, and joint and last survivor insurance policies. Health and disability reinsurance primarily refers to reinsurance of individual or group health policies. Critical illness reinsurance provides a benefit in the event of the diagnosis of a pre-defined critical illness.

Traditional reinsurance is written on a facultative or automatic treaty basis. Facultative reinsurance is individually underwritten by the reinsurer for each policy to be reinsured, with the pricing and other terms established based upon rates negotiated in advance. Facultative reinsurance is normally purchased by ceding companies for medically impaired lives, unusual risks, or liabilities in excess of the binding limits specified in their automatic reinsurance treaties.

An automatic reinsurance treaty provides that the ceding company will cede risks to a reinsurer on specified blocks of policies where the underlying policies meet the ceding company's underwriting criteria. In contrast to facultative reinsurance, the reinsurer does not approve each individual policy being reinsured. Automatic reinsurance treaties generally provide that the reinsurer will be liable for a portion of the risk associated with the specified policies written by the ceding company. Automatic reinsurance treaties specify the ceding company's binding limit, which is the maximum amount of risk on a given life that can be ceded automatically to the reinsurer and that the reinsurer must accept. The binding limit may be stated either as a multiple of the ceding company's retention or as a stated dollar amount.

Facultative and automatic reinsurance may be written as yearly renewable term, coinsurance, modified coinsurance or coinsurance with funds withheld. Under a yearly renewable term treaty, the reinsurer assumes primarily the mortality or morbidity risk. Under a coinsurance arrangement, depending upon the terms of the contract, the reinsurer may share in the risk of loss due to mortality or morbidity, lapses, and the investment risk, if any, inherent in the underlying policy. Modified coinsurance and coinsurance with funds withheld differ from coinsurance in that the assets supporting the reserves are retained by the ceding company.

Generally, the amount of life and health reinsurance ceded is stated on an excess or a quota share basis. Reinsurance on an excess basis covers amounts in excess of an agreed-upon retention limit. Retention limits vary by ceding company and also may vary by the age or underwriting classification of the insured, the product, and other factors. Under quota share reinsurance, the ceding company states its retention in terms of a fixed percentage of the risk with the remainder to be ceded to one or more reinsurers up to the maximum binding limit.

Reinsurance agreements, whether facultative or automatic, may include recapture rights, which permit the ceding company to reassume all or a portion of the risk formerly ceded to the reinsurer after an agreed-upon period of time (generally 10 years) or in some cases due to changes in the financial condition or ratings of the reinsurer. Recapture of business previously ceded does not affect premiums ceded prior to the recapture of such business, but would reduce premiums in subsequent periods. The potential adverse effects of recapture rights are mitigated by the following factors: (i) recapture rights vary by treaty and the risk of recapture is a factor that is considered when pricing a reinsurance agreement; (ii) ceding companies generally may exercise their recapture rights only to the extent they have increased their retention limits for the reinsured policies; and (iii) ceding companies generally must recapture all of the policies eligible for recapture under the agreement in a particular year if any are recaptured (which prevents

a ceding company from recapturing only the most profitable policies). In addition, when a ceding company recaptures reinsured policies, the reinsurer releases the reserves it maintained to support the recaptured portion of the policies.

Financial Solutions

Financial solutions include longevity reinsurance, asset-intensive reinsurance, and financial reinsurance.

Longevity Reinsurance

In many countries, companies are increasingly interested in reducing their exposure to longevity risk related to employee retirement benefits. This concern comes from both the absolute size of the risk and also through the volatility that changes in life expectancy can have on their reported earnings. In addition, insurance companies that offer lifetime annuities are seeking ways to manage their current exposure, while also recognizing the potential to take on more risk from employers and individuals.

The Company has entered into transactions on existing longevity business for clients in Europe and Canada. These have been arrangements with traditional insurance companies, as well as customized arrangements for banks dealing with pension schemes.

Asset-Intensive Reinsurance

Asset-intensive reinsurance refers to the full-risk coinsurance of annuities or reinsurance that has a significant investment component. Asset-intensive reinsurance allows the Company's clients to take advantage of growth opportunities that might otherwise not be available due to restrictions on available capital or concerns about the size of the investment risk on their balance sheets.

An ongoing partnership with clients is important with asset-intensive reinsurance because of the active management involved in this type of reinsurance. This active management includes investment decisions, investment and claims management, and the determination of non-guaranteed elements. Some examples of asset-intensive reinsurance are: fixed deferred annuities, indexed annuities, unit-linked variable annuities, universal life corporate-owned life insurance and bank-owned life insurance, unit-linked variable life, immediate/payout annuities, whole life, disabled life reserves, and extended term insurance.

Financial Reinsurance

Financial reinsurance primarily involves assisting ceding companies in meeting applicable regulatory requirements by enhancing the ceding companies' financial strength and regulatory surplus position. Financial reinsurance transactions do not qualify as reinsurance under U.S. generally accepted accounting principles ("GAAP"), due to the low-risk nature of the transactions. These transactions are reported in accordance with deposit accounting guidelines.

B. Corporate Structure

As a holding company, RGA is separate and distinct from its subsidiaries and has no significant business operations of its own. Therefore, it relies on the dividends from its insurance companies and other subsidiaries as the principal source of cash flow to meet its obligations, pay dividends and repurchase common stock. Information regarding the cash flow and liquidity needs of RGA may be found in Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources.

Regulation

The following table provides the jurisdiction of the regulatory authority for RGA's primary operating and captive subsidiaries:

Subsidiary	Regulatory Authority Jurisdiction
RGA Reinsurance Company ("RGA Reinsurance")	Missouri
Parkway Reinsurance Company ("Parkway Re")	Missouri
Rockwood Reinsurance Company ("Rockwood Re")	Missouri
Castlewood Reinsurance Company ("Castlewood Re")	Missouri
Chesterfield Reinsurance Company ("Chesterfield Re")	Missouri
Reinsurance Company of Missouri, Incorporated ("RCM")	Missouri
Timberlake Reinsurance Company II ("Timberlake Re")	South Carolina
RGA Life Reinsurance Company of Canada ("RGA Canada")	Canada
RGA Reinsurance Company (Barbados) Ltd. ("RGA Barbados")	Barbados
RGA Americas Reinsurance Company, Ltd. ("RGA Americas")	Bermuda
Manor Reinsurance, Ltd. ("Manor Re")	Barbados
RGA Atlantic Reinsurance Company Ltd. ("RGA Atlantic")	Barbados
RGA Worldwide Reinsurance Company, Ltd. ("RGA Worldwide")	Barbados
RGA Global Reinsurance Company, Ltd. ("RGA Global")	Bermuda
RGA Reinsurance Company of Australia Limited ("RGA Australia")	Australia
RGA International Reinsurance Company dac ("RGA International")	Ireland
RGA Reinsurance Company of South Africa, Limited ("RGA South Africa")	South Africa
Aurora National Life Assurance Company ("Aurora National")	California

Certain of the Company's subsidiaries are subject to regulations in the other jurisdictions in which they are licensed or authorized to do business. Insurance laws and regulations, among other things, establish minimum capital requirements and limit the amount of dividends, distributions, and intercompany payments that affiliates can make without regulatory approval. Additionally, insurance laws and regulations impose restrictions on the amounts and types of investments that insurance companies may hold. New standards imposed upon European insurers by Solvency II, revisions to the insurance laws of Bermuda similar to Solvency II, changes to regulations in Canada and revisions to the insurance holding company laws in the U.S. and other jurisdictions could, in the near future, affect certain subsidiaries, and the clients of each, to varying degrees.

U.S. Regulation

Insurance Regulation

The insurance laws and regulations, as well as the level of supervisory authority that may be exercised by the various state insurance departments, vary by jurisdiction. These laws and regulations generally grant broad powers to supervisory agencies or regulators to examine and supervise insurance companies and insurance holding companies with respect to every significant aspect of the conduct of the insurance business. This includes the power to pre-approve the execution or modification of contractual arrangements. These laws and regulations generally require insurance companies to meet certain solvency standards and asset tests, to maintain minimum standards of financial strength and to file certain reports with regulatory authorities (including information concerning their capital structure, ownership and financial condition). These laws and regulations subject insurers to potential assessments for amounts paid by guarantee funds. RGA Reinsurance, Chesterfield Re and RCM are subject to the state of Missouri's adoption of the National Association of Insurance Commissioners ("NAIC") Model Audit Rule which requires an insurer to have an annual audit by an independent certified public accountant, provide an annual management report of internal control over financial reporting, file the resulting reports with the Director of Insurance and maintain an audit committee. Aurora National is subject to similar regulation by the State of California. Moreover, Insurance Holding Company System Regulatory Acts in the U.S. permit the Missouri regulator to request and consider, in its regulation of the solvency of and capital standards for RGA Reinsurance, Chesterfield Re and RCM and the California regulator to request and consider, in its regulation of the solvency of and capital standards for Aurora National, information about the operations of other subsidiaries of RGA and the extent to which there may be deemed to exist contagion risk posed by those operations. In addition, RGA is subject to a supervisory college which involves regular meetings of the insurance regulators of the reinsurance entities of RGA. These regular meetings bring about additional questions and perhaps even limitations on some of the activities of the reinsurance company subsidiaries of RGA.

RGA's reinsurance subsidiaries are required to file statutory financial statements in each jurisdiction in which they are licensed and may be subject to onsite, periodic examinations by the insurance regulators of the jurisdictions in which each is licensed, authorized, or accredited. To date, none of the regulators' reports related to the Company's periodic examinations have contained material adverse findings.

Although some of the rates and policy terms of U.S. direct insurance agreements are regulated by state insurance departments, the rates, policy terms, and conditions of reinsurance agreements generally are not subject to regulation by any regulatory authority. The same is true outside of the U.S. In the U.S., however, the NAIC Model Law on Credit for Reinsurance, which has been adopted in most states, imposes certain requirements for an insurer to take reserve credit for risk ceded to a reinsurer. Generally, the reinsurer is required to be licensed or accredited in the insurer's state of domicile, or post security for reserves transferred to the reinsurer in the form of letters of credit or assets placed in trust. The NAIC Life and Health Reinsurance Agreements Model Regulation, which has been passed in most states, imposes additional requirements for insurers to claim reserve credit for reinsurance ceded (excluding yearly renewable term reinsurance and non-proportional reinsurance). These requirements include bona fide risk transfer, an insolvency clause, written agreements, and filing of reinsurance agreements involving in force business, among other things. Outside of the U.S., rules for reinsurance and requirements for minimum risk transfer are less specific and are less likely to be published as rules, but nevertheless standards can be imposed to varying extents.

U.S. Valuation of Life Policies Model Regulation (commonly referred to as Regulation XXX), implemented in the U.S. for various types of life insurance business, significantly increased the level of reserves that U.S. life insurance and life reinsurance companies must hold on their statutory financial statements for various types of life insurance business, primarily certain level premium term life products. The reserve levels required under Regulation XXX are normally in excess of reserves required under GAAP. In situations where primary insurers have reinsured business to reinsurers that are unlicensed and unaccredited in the U.S., the reinsurer must provide collateral equal to its reinsurance reserves in order for the ceding company to receive statutory financial statement credit. Reinsurers have historically utilized letters of credit for the benefit of the ceding company, or have placed assets in trust for the benefit of the ceding company, or have used other structures as the primary forms of collateral.

RGA Reinsurance is the primary subsidiary of the Company subject to Regulation XXX. In order to manage the effect of Regulation XXX on its statutory financial statements, RGA Reinsurance has retroceded a majority of Regulation XXX reserves to unaffiliated and affiliated unlicensed reinsurers and special purpose reinsurers, or captives. RGA Reinsurance's statutory capital may be significantly reduced if the unaffiliated or affiliated reinsurer is unable to provide the required collateral to support RGA Reinsurance's statutory reserve credits and RGA Reinsurance cannot find an alternative source for the collateral. New NAIC requirements for life insurers using special purpose reinsures are now in place. While RGA Reinsurance's current reserve financing arrangements using special purpose reinsurers or "captive reinsurers" are permitted to remain in place, the new rules place limitations on RGA Reinsurance's ability to utilize captive reinsurers to finance reserve growth related to future business. Such limitations have caused the Company to utilize alternative retrocession strategies, primarily involving the use of a certified reinsurer as discussed below.

RGA Reinsurance, Chesterfield Re, Parkway Re, Rockwood Re, Castlewood Re and RCM prepare statutory financial statements in conformity with accounting practices prescribed or permitted by the State of Missouri. Timberlake Re prepares statutory financial statements in conformity with accounting practices prescribed or permitted by the State of South Carolina. Aurora National prepares its statutory financial statements in conformity with accounting practices prescribed or permitted by the State of California. Each of these states require domestic insurance companies to prepare their statutory financial statements in accordance with the NAIC Accounting Practices and Procedures manual subject to any deviations permitted by each state's insurance commissioner. The Company's non-U.S. subsidiaries are subject to the regulations and reporting requirements of their respective countries of domicile.

Based on the growth of the Company's business and the pattern of reserve levels under Regulation XXX associated with term life business and other statutory reserve requirements, the amount of ceded reserve credits is expected to grow, albeit at slower rates than in the immediate past. This growth will require the Company to obtain additional letters of credit, put additional assets in trust, or utilize other funding mechanisms to support reserve credits. If the Company is unable to support the reserve credits, the regulatory capital levels of several of its subsidiaries may be significantly reduced, while the regulatory capital requirements for these subsidiaries would not change. The reduction in regulatory capital could affect the Company's ability to write new business and retain existing business.

Affiliated captives are commonly used in the insurance industry to help manage statutory reserve and collateral requirements and are often domiciled in the same state as the insurance company that sponsors the captive. The NAIC has analyzed the insurance industry's use of affiliated captive reinsurers to satisfy certain reserve requirements and has adopted measures to promote uniformity in both the approval and supervision of such reinsurers. New standards to address the use of captive reinsurers were implemented, allowing current captives to continue in accordance with their currently approved plans. State insurance regulators that regulate the Company's domestic insurance companies have placed additional restrictions on the use of newly established captive reinsurers which may increase costs and add complexity. As a result, the Company may need to alter the type and volume of business it reinsures, increase prices on those products, raise additional capital to support higher regulatory reserves or implement higher cost strategies.

In the U.S., the introduction of the certified reinsurer has provided an alternative way to manage collateral requirements. In 2014, RGA Americas was designated as a certified reinsurer by the Missouri Department of Insurance, Financial Institutions and Professional Registration ("MDOI"). This designation allows the Company to retrocede business to RGA Americas in lieu of

using captives for collateral requirements. Effective in 2017, principles-based reserves are permitted in the U.S. During 2016, the NAIC amended the standard valuation law to adopt life principles-based reserving that was effective January 1, 2017, allowing a three-year adoption period. The Company is currently evaluating the impact of the new requirements and expects to defer implementation until 2019. The Company has chosen not to establish captives subject to the new regulations as it evaluates the impact of the regulations on new captives, and how these new captives fit into the Company's overall risk management and financing programs.

Reinsurers may place assets in trust to satisfy collateral requirements for certain treaties. In addition, the Company holds securities in trust to satisfy collateral requirements under certain third-party reinsurance treaties. Under certain conditions, the Company may be obligated to move reinsurance from one subsidiary of RGA to another subsidiary or make payments under a given treaty. These conditions include change in control or ratings of the subsidiary, insolvency, nonperformance under a treaty, or loss of the subsidiary's reinsurance license. If the Company is ever required to perform under these obligations, the risk to the consolidated company under the reinsurance treaties would not change; however, additional capital may be required due to the change in jurisdiction of the subsidiary reinsuring the business and may create a strain on liquidity, possibly causing a reduction in dividend payments or hampering the Company's ability to write new business or retain existing business.

Capital Requirements

Risk-Based Capital ("RBC") guidelines promulgated by the NAIC are applicable to RGA Reinsurance, RCM, Aurora National and Chesterfield Re, and identify minimum capital requirements based upon business levels and asset mix. These subsidiaries maintain capital levels in excess of the amounts required by the applicable guidelines. Timberlake Re, Parkway Re, Rockwood Re and Castlewood Re's capital requirements are determined solely by their licensing orders issued by their states of domicile. Pursuant to its licensing order issued by the South Carolina Department of Insurance, Timberlake Re only calculates RBC as a means of demonstrating its ability to pay principal and interest on its surplus note issued to Timberlake Financial, L.L.C. ("Timberlake Financial"). It is not otherwise subject to the RBC guidelines. Similarly, Parkway Re, Rockwood Re and Castlewood Re are not subject to the requirements of the NAIC's RBC guidelines. As a result of the Tax Cuts and Jobs Act of 2017 the U.S. federal statutory tax rate will decline from 35% to 21% starting in 2018. Under the current RBC formula and guidelines the lowering of the federal statutory tax rate alone would cause a decline in the RBC of U.S. insurers and reinsurers assuming other inputs remain constant. The extent of such a decline is not yet known nor is it known whether, or the extent to which, the NAIC will adjust its RBC formula and guidelines to compensate for the use of a lower federal statutory tax rate in the U.S. A decline in the RBC of one or more of the Company's U.S. insurers can cause the appearance of less capitalization in its U.S. insurers, individually, or when considered as a group.

The development of a group capital calculation by the NAIC will also have relevance to RGA Reinsurance, RCM, Aurora National and Chesterfield Re along with captive reinsurers Timberlake Re, Parkway Re, Rockwood Re and Castlewood Re. While the NAIC is still working on its calculation and has not yet articulated the ways in which it intends U.S. states to use the calculation, the calculation is expected to be used to assess the adequacy of capital within an insurance group domiciled in the U.S., particularly where the group is designated an IAIG by the group supervisor. The Company cannot currently predict the effect that any proposed or future group capital standard will have on its financial condition or operations or the financial condition or operations of its subsidiaries.

Regulations in international jurisdictions also require certain minimum capital levels, and subject the companies operating in such jurisdictions, to oversight by the applicable regulatory bodies. RGA's subsidiaries meet the minimum capital requirements in their respective jurisdictions. The Company cannot predict the effect that any proposed or future legislation or rulemaking in the countries in which it operates may have on the financial condition or operations of the Company or its subsidiaries.

Insurance Holding Company Regulations

RGA Reinsurance, Chesterfield Re, Parkway Re, Rockwood Re, Castlewood Re and RCM are subject to regulation under the insurance and insurance holding company statutes of Missouri. Aurora National is subject to regulation under the insurance and insurance holding company statutes of California. These insurance holding company laws and regulations generally require insurance and reinsurance subsidiaries of insurance holding companies to register and file with the home state regulator certain reports describing, among other information, capital structure, ownership, financial condition, certain intercompany transactions, and general business operations. The insurance holding company statutes and regulations also require prior approval of, or in certain circumstances, prior notice to the home state regulator of, certain material intercompany transfers of assets, as well as certain transactions between insurance companies, their parent companies and affiliates.

Under current Missouri and California insurance laws and regulations, unless (i) certain filings are made with the home state regulator, (ii) certain requirements are met, including a public hearing, and (iii) approval or exemption is granted by the home state regulator, no person may acquire any voting security or security convertible into a voting security of an insurance holding company, such as RGA, which controls a domestic insurance company, or merge with such an insurance holding company, if as a result of such transaction such person would "control" the insurance holding company. "Control" is presumed to exist under Missouri law if a person directly or indirectly owns or controls 10% or more of the voting securities of another person. Revisions

to the insurance holding company regulations of Missouri and California require increased disclosure to regulators of matters within the RGA group of companies.

Restrictions on Dividends and Distributions

Current Missouri law, applicable to RCM and its subsidiaries, RGA Reinsurance and Chesterfield Re, permits the payment of dividends or distributions which, together with dividends or distributions paid during the preceding twelve months, do not exceed the greater of (i) 10% of statutory capital and surplus as of the preceding December 31, or (ii) statutory net gain from operations for the preceding calendar year. Any proposed dividend in excess of this amount is considered an “extraordinary dividend” and may not be paid until it has been approved, or a 30-day waiting period has passed during which it has not been disapproved, by the Director of the MDOI. Additionally, dividends may be paid only to the extent the insurer has unassigned surplus (as opposed to contributed surplus). Historically, RGA has not relied upon dividends from its subsidiaries to fund its obligations. However, the regulatory limitations and other restrictions described herein could limit the Company’s financial flexibility in the future should it choose to or need to use subsidiary dividends as a funding source for its obligations. See Note 11 - “Financial Condition and Net Income on a Statutory Basis - Significant Subsidiaries” in the Notes to Consolidated Financial Statements for additional information on the Company’s dividend restrictions.

The California Insurance Holding Company Act defines an extraordinary dividend consistent with the definition found in the Missouri Insurance Holding Company Act and imposes an identical restriction upon the ability of Aurora National to pay dividends to RGA Reinsurance. In contrast to both the Missouri and the California Insurance Holding Company Acts, the NAIC Model Insurance Holding Company System Regulatory Act defines an extraordinary dividend as a dividend or distribution which, together with dividends or distributions paid during the preceding twelve months, exceeds the lesser of (i) 10% of statutory capital and surplus as of the preceding December 31, or (ii) statutory net gain from operations for the preceding calendar year. The Company is unable to predict whether, when, or if, Missouri will enact a new regulation for extraordinary dividends.

Missouri insurance laws and regulations also require that the statutory surplus of Chesterfield Re, RCM and RGA Reinsurance following any dividend or distribution be reasonable in relation to their outstanding liabilities and adequate to meet their financial needs. The Director of the MDOI may call for a rescission of the payment of a dividend or distribution by these entities that would cause their statutory surplus to be inadequate under the standards of the Missouri insurance regulations. California insurance laws and regulations impose the same restrictions on Aurora National as to the dividends or distributions that are made.

Pursuant to the South Carolina Director of Insurance, Timberlake Re may declare dividends subject to a minimum Total Adjusted Capital threshold, as defined by the NAIC’s RBC regulation. As of December 31, 2017, Timberlake Re met the minimum required threshold. Any dividends paid by Timberlake Re would be paid to Timberlake Financial, which in turn is subject to contractual limitations on the amount of dividends it can pay to RCM.

Dividend payments from non-U.S. operations are subject to similar restrictions established by local regulators. The non-U.S. regulatory regimes also commonly limit the dividend payments to the parent to a portion of the prior year’s statutory income, as determined by the local accounting principles. The regulators of the Company’s non-U.S. operations may also limit or prohibit profit repatriations or other transfers of funds to the U.S. if such transfers are deemed to be detrimental to the solvency or financial strength of the non-U.S. operations, or for other reasons. Most of the non-U.S. operating subsidiaries are second tier subsidiaries which are owned by various non-U.S. holding companies. The capital and rating considerations applicable to the first tier subsidiaries may also impact the dividend flow to RGA.

Default or Liquidation

In the event that RGA defaults on any of its debt or other obligations, or becomes the subject of bankruptcy, liquidation, or reorganization proceedings, the creditors and stockholders of RGA will have no right to proceed against the assets of any of the subsidiaries of RGA. If any of RGA’s reinsurance subsidiaries were to be liquidated or dissolved, the liquidation or dissolution would be conducted in accordance with the rules and regulations of the appropriate governing body in the state or country of the subsidiary’s domicile. The creditors of any such reinsurance company, including, without limitation, holders of its reinsurance agreements and state guaranty associations (if applicable), would be entitled to payment in full from such assets before RGA, as a direct or indirect stockholder, would be entitled to receive any distributions or other payments from the remaining assets of the liquidated or dissolved subsidiary.

Federal Regulation

Since the 2010 enactment of the Dodd-Frank Wall Street Reform and Consumer Protection Act, there has been renewed interest in the U.S. federal government becoming a regulator of insurance and reinsurance. Under the Dodd-Frank Act, recent activity by the Federal Insurance Office within the U.S. Treasury Department has resulted in the negotiation of a “covered agreement” with the European Union. The covered agreement, while promoting the recognition of U.S. state insurance regulators as group supervisors of U.S.-based global reinsurers such as RGA, also provides for an elimination of the collateral that reinsurers based in the European Union must currently post in favor of U.S. ceding insurers. This agreement, coupled with new state credit

for reinsurance laws, has the potential to lower the cost at which RGA Reinsurance's competitors are able to provide reinsurance to U.S. insurers. Additionally under the Dodd-Frank Act, a few of RGA's client ceding insurers domiciled in the U.S. have been designated for solvency supervision by the Federal Reserve. These entities have been designated systemically important so as to warrant the imposition of an additional layer of regulation over already existing state regulation. While it is not expected that any RGA entity would be deemed to be systemically important and become subject to this additional scrutiny, the reinsurance programs RGA maintains with the insurers so designated as systemically important are subject to scrutiny by the Federal Reserve. It is possible that more of RGA's clients will be given this designation leading to additional scrutiny of those clients' reinsurance programs by the Federal Reserve. With the regulation of some U.S. domiciled insurers by the U.S. government, it is possible that the scope of the federal government's ability to regulate insurers and reinsurers will be expanded. It is not possible to predict the effect of such decisions or changes in law on the operation of the Company, but the Dodd-Frank Act makes it more likely than in the past that insurance or reinsurance may be regulated at the federal level. A shift in regulation from the state to the federal level may bring into question the continued validity of the McCarran-Ferguson Act, which exempts the "business of insurance" from most federal laws, including anti-trust laws. With the McCarran-Ferguson Act exemption for the business of insurance, a reinsurer may set rate, underwriting and claims handling standards for its ceding company clients to follow.

Environmental Considerations

Federal, state and local environmental laws and regulations apply to the Company's ownership and operation of real property. Inherent in owning and operating real property are the risks of hidden environmental liabilities and the costs of any required clean-up. Under the laws of certain states, contamination of a property may give rise to a lien on the property to secure recovery of the costs of clean-up. In several states, this lien has priority over the lien of an existing mortgage against such property. In addition, in some states and under the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), the Company may be liable, in certain circumstances, as an "owner" or "operator," for costs of cleaning-up releases or threatened releases of hazardous substances at a property mortgaged to it. The Company also risks environmental liability when it forecloses on a property mortgaged to it, although federal legislation provides for a safe harbor from CERCLA liability for secured lenders that foreclose and sell the mortgaged real estate, provided that certain requirements are met. However, there are circumstances in which actions taken could still expose the Company to CERCLA liability. Application of various other federal and state environmental laws could also result in the imposition of liability on the Company for costs associated with environmental hazards.

The Company routinely conducts environmental assessments prior to taking title to real estate through foreclosure on real estate collateralizing mortgages that it holds. Although unexpected environmental liabilities can always arise, the Company seeks to minimize this risk by undertaking these environmental assessments and complying with its internal procedures, and as a result, the Company believes that any costs associated with compliance with environmental laws and regulations or any clean-up of properties would not have a material adverse effect on the Company's results of operations.

International Regulation

RGA's international insurance operations are principally regulated by insurance regulatory authorities in the jurisdictions in which they are located or operate branch offices. The regulation includes minimum capital, solvency and governance requirements. The authority of RGA's international operations to conduct business is subject to licensing requirements, inspections and approvals and these authorizations are subject to modification and revocation. Periodic examinations of the insurance company books and records, financial reporting requirements, risk management processes and governance procedures are among the techniques used by regulators to supervise RGA's non-U.S. insurance businesses. The regulators of RGA's non-U.S. insurance companies and the California Department of Insurance are also invited to be part of the supervisory college held by the Missouri Department of Insurance, RGA's group supervisor.

Much like the adoption of Dodd-Frank in the U.S., regulators around the world are reviewing the causes of the 2008 - 2009 financial crisis and considering ways to avoid similar problems in the future. A group leading this effort is the Financial Stability Board ("FSB"). The FSB consists of representatives of national financial authorities of the G20 nations. The G20 and the FSB and related governmental bodies have developed proposals to address issues such as group supervision, capital and solvency standards, systemic economic risk and corporate governance, including executive compensation and many other related issues associated with the financial crisis. At the direction of the FSB, the International Association of Insurance Supervisors ("IAIS") is developing a model framework for the supervision of internationally active insurance groups ("IAIG's") that contemplates "group-wide supervision" across national boundaries. RGA anticipates that it may, in future years, be designated an IAIG bringing about requirements for RGA to conduct a group-wide risk and solvency assessment to monitor and manage its overall solvency. At this time RGA cannot predict what additional capital requirements, compliance costs or other burdens these requirements would impose on it, if adopted. There is also the potential for inconsistent or conflicting regulation of the RGA group of companies as lawmakers and regulators in multiple jurisdictions simultaneously pursue these initiatives.

Additionally, RGA International, operating in the European Economic Area ("EEA"), is subject to the Solvency II measures developed by the European Insurance and Occupational Pensions Authority and will be required to abide by the evolving risk management practices, capital standards and disclosure requirements of the Solvency II framework. Additionally, the

Company's clients located in the EEA will need to abide by these standards in operating their insurance businesses, including the management of their ceded reinsurance. Currently, insurers and reinsurers located in the EEA are operating under Solvency II. The Company expects Solvency II to have a significant influence on not only the regulation of solvency measures applied to insurers and reinsurers operating within the EEA, but the Company also expects the solvency regulation measures to influence future regulatory structures of countries outside of the EEA, including Japan. Influences of the Solvency II - type framework are already present in the insurance regulation of Bermuda and China and currently influence the solvency measures imposed upon RGA Global and RGA Americas.

As a result of the 2016 Brexit referendum, under which the United Kingdom ("UK") will exit the European Union, the regulatory approval of RGA International as a reinsurer of insurance business written by UK domiciled insurers is expected to terminate in or around March of 2019. While it currently appears that post Brexit insurance regulation in the UK will permit the separate registration of RGA International as a branch in the UK, there exists questions as to what requirements will be imposed upon reinsurers domiciled outside of the UK after implementation of the Brexit initiative.

New and proposed restrictions in many European and Asian countries on RGA's ability to transfer data from one country to another also threaten to make its operations less efficient. Many of these restrictions either do not anticipate the processing of data for reinsurance purposes at all or place costly restrictions on the ability of a reinsurer to service its business by requiring processing to be done within the borders of the country in which the insured consumer resides.

Additionally, requirements effective in Indonesia and India limit the amount of insurance business that can be ceded to reinsurers not domiciled in those countries. These forced localization requirements have the impact of limiting the amount of reinsurance business RGA can conduct in those countries without the participation of a local reinsurer.

RGA expects the scope and extent of regulation outside of the U.S., as well as group regulatory oversight generally, to continue to increase.

Ratings

Insurer financial strength ratings, sometimes referred to as claims paying ratings, represent the opinions of rating agencies regarding the financial ability of an insurance company to meet its obligations under an insurance policy. The Company's insurer financial strength ratings as of the date of this filing are listed in the table below for each rating agency that meets with the Company's management on a regular basis. As of the date of this filing, all ratings listed below are on stable outlook.

Insurer Financial Strength Ratings	A.M. Best Company (1)	Moody's Investors Service (2)	Standard & Poor's (3)
RGA Reinsurance Company	A+	A1	AA-
RGA Life Reinsurance Company of Canada	A+	Not Rated	AA-
RGA International Reinsurance Company dac	Not Rated	Not Rated	AA-
RGA Global Reinsurance Company, Ltd.	Not Rated	Not Rated	AA-
RGA Reinsurance Company of Australia Limited	Not Rated	Not Rated	AA-
RGA Americas Reinsurance Company, Ltd.	A+	Not Rated	AA-
RGA Atlantic Reinsurance Company Ltd.	A+	Not Rated	Not Rated

(1) An A.M. Best Company ("A.M. Best") insurer financial strength rating of "A+" (superior) is the second highest out of sixteen possible ratings and is assigned to companies that have, in A.M. Best's opinion, a superior ability to meet their ongoing insurance obligations.

(2) A Moody's Investors Service ("Moody's") insurer financial strength rating of "A1" (good) is the fifth highest rating out of twenty-one possible ratings and indicates that Moody's believes the insurance company offers good financial security; however, elements may be present which suggest a susceptibility to impairment sometime in the future.

(3) A Standard & Poor's ("S&P") insurer financial strength rating of "AA-" (very strong) is the fourth highest rating out of twenty-three possible ratings. According to S&P's rating scale, a rating of "AA-" means that, in S&P's opinion, the insurer has very strong financial security characteristics.

The ability to write reinsurance partially depends on a reinsurer's financial condition and its financial strength ratings. These ratings are based on a company's ability to pay policyholder obligations and are not directed toward the protection of investors. A ratings downgrade could adversely affect the Company's ability to compete. See Item 1A – "Risk Factors" for more on the potential effects of a ratings downgrade.

Underwriting

Automatic. The Company's management determines whether to write automatic reinsurance business by considering many factors, including the types of risks to be covered; the ceding company's retention limit and binding authority, product, and pricing assumptions; and the ceding company's underwriting standards, financial strength and distribution systems. For automatic business, the Company ensures that the underwriting standards, procedures and guidelines of its ceding companies are priced appropriately and consistent with the Company's expectations. To this end, the Company conducts periodic reviews of the ceding companies' underwriting and claims personnel and procedures.

Facultative. The Company has developed underwriting policies, procedures and standards with the objective of controlling the quality of business written as well as its pricing. The Company's underwriting process emphasizes close collaboration between its underwriting, actuarial, and administration departments. Management periodically updates these underwriting policies, procedures, and standards to account for changing industry conditions, market developments, and changes occurring in the field of medical technology. These policies, procedures, and standards are documented in electronic underwriting manuals made available to all the Company's underwriters. The Company regularly performs internal reviews of both its underwriters and underwriting process.

The Company's management determines whether to accept facultative reinsurance business on a prospective insured by reviewing the application, medical information and other underwriting information appropriate to the age of the prospective insured and the face amount of the application. An assessment of medical and financial history follows with decisions based on underwriting knowledge, manual review and consultation with the Company's medical directors as necessary. Many facultative applications involve individuals with multiple medical impairments, such as heart disease, high blood pressure, and diabetes, which require a complex underwriting/mortality assessment. The Company employs medical directors and medical consultants to assist its underwriters in making these assessments.

Pricing

Automatic and Facultative. The Company has pricing actuaries dedicated in every geographic market and in every product category who develop reinsurance treaty rates following the Company's policies, procedures and standards. Biometric assumptions are based primarily on the Company's own mortality, morbidity and persistency experience, reflecting industry and client-specific experience. Economic and asset-related pricing assumptions are based on current and long-term market conditions and are developed by actuarial and investment personnel with appropriate experience and expertise. Management has established a high-level oversight of the processes and results of these activities, which includes peer reviews in every market as well as centralized procedures and processes for reviewing and auditing pricing activities.

Operations

The Company's business has been primarily obtained directly, rather than through brokers. The Company has an experienced sales and marketing staff that works to provide responsive service and maintain existing relationships.

The Company's administration, auditing, valuation and finance departments are responsible for treaty compliance auditing, financial analysis of results, generation of internal management reports, and periodic audits of administrative and underwriting practices. A significant effort is focused on periodic audits of administrative and underwriting practices, and treaty compliance of clients.

The Company's claims departments review and verify reinsurance claims, obtain the information necessary to evaluate claims, and arrange for timely claims payments. Claims are subjected to a detailed review process to ensure that the risk was properly ceded, the claim complies with the contract provisions, and the ceding company is current in the payment of reinsurance premiums to the Company. In addition, the claims departments monitor both specific claims and the overall claims handling procedures of ceding companies.

Customer Base

The Company provides reinsurance products primarily to the largest life insurance companies in the world. In 2017, the Company's five largest clients generated approximately $2.0 billion or 18.4% of the Company's gross premiums. In addition, 24 other clients each generated annual gross premiums of $100.0 million or more, and the aggregate gross premiums from these clients represented approximately 39.9% of the Company's gross premiums. No individual client generated 10% or more of the Company's total gross premiums. For the purpose of this disclosure, companies that are within the same insurance holding company structure are combined.

Competition

New reinsurance opportunities continue to be highly price competitive; however, winning this business also requires companies to be financially strong, provide flexible terms and conditions, have a positive reputation, deliver excellent service, and demonstrate experience in the types of business underwritten. The Company's competition includes other reinsurance companies, other providers of financial services, and more recently, private equity firms. The Company believes that its primary global reinsurance competitors are the following, or their affiliates: Munich Re, Swiss Re, Hannover Re and SCOR Global Re. In addition, the Company may compete with Pacific Life, Prudential Financial, and Canada Life in select risk acquisition. Within the reinsurance industry, the competitors can change from year to year and by region.

Employees

As of December 31, 2017, the Company had 2,640 employees located throughout the world. None of these employees are represented by a labor union.

C. Segments

The Company obtains substantially all of its revenues through reinsurance agreements that cover a portfolio of life and health insurance products, including term life, credit life, universal life, whole life, group life and health, joint and last survivor insurance, critical illness, disability, longevity as well as asset-intensive (e.g., annuities) and financial reinsurance. Generally, the Company, through various subsidiaries, has provided reinsurance for mortality, morbidity, and lapse risks associated with such products. With respect to asset-intensive products, the Company has also provided reinsurance for investment-related risks.

The following table sets forth the Company's premiums attributable to each of its segments for the periods indicated on both a gross assumed basis and net of premiums ceded to third parties:

Gross and Net Premiums by Segment
(in millions)

	Year Ended December 31,					
	2017		2016		2015	
	Gross	Net	Gross	Net	Gross	Net
U.S. and Latin America:						
Traditional	$ 5,966.7	$ 5,356.3	$ 5,865.6	$ 5,249.6	$ 5,413.7	$ 4,806.7
Financial Solutions	23.7	23.7	64.6	24.4	61.0	22.2
Total U.S. and Latin America	5,990.4	5,380.0	5,930.2	5,274.0	5,474.7	4,828.9
Canada:						
Traditional	940.1	902.0	965.1	928.6	881.2	838.9
Financial Solutions	38.2	38.2	38.7	38.7	38.0	38.0
Total Canada	978.3	940.2	1,003.8	967.3	919.2	876.9
Europe, Middle East and Africa:						
Traditional	1,336.6	1,301.7	1,171.0	1,140.1	1,147.0	1,121.5
Financial Solutions	288.7	163.7	264.7	180.3	260.9	171.8
Total Europe, Middle East and Africa	1,625.3	1,465.4	1,435.7	1,320.4	1,407.9	1,293.3
Asia Pacific:						
Traditional	2,107.5	2,053.0	1,731.8	1,681.5	1,592.6	1,551.6
Financial Solutions	2.4	2.4	5.4	5.4	19.5	19.5
Total Asia Pacific	2,109.9	2,055.4	1,737.2	1,686.9	1,612.1	1,571.1
Corporate and Other	0.1	0.1	0.3	0.3	0.5	0.5
Total	$ 10,704.0	$ 9,841.1	$ 10,107.2	$ 9,248.9	$ 9,414.4	$ 8,570.7

The following table sets forth selected information concerning assumed life reinsurance business in force and assumed new business volume by segment for the periods indicated. The terms “in force” and “new business” refer to insurance policy face amounts or net amounts at risk.

Reinsurance Business In Force and New Business by Segment
(in billions)

	As of December 31,					
	2017		2016		2015	
	In Force	New Business	In Force	New Business	In Force	New Business
U.S. and Latin America:						
Traditional	$ 1,609.8	$ 99.4	$ 1,609.3	$ 126.4	$ 1,594.3	$ 203.9
Financial Solutions	2.1	—	2.1	—	2.1	—
Total U.S. and Latin America	1,611.9	99.4	1,611.4	126.4	1,596.4	203.9
Canada:						
Traditional	393.9	35.6	355.7	34.9	333.0	38.6
Financial Solutions	—	—	—	—	—	—
Total Canada	393.9	35.6	355.7	34.9	333.0	38.6
Europe, Middle East and Africa:						
Traditional	739.0	181.5	603.0	169.8	602.7	171.6
Financial Solutions	—	—	—	—	—	—
Total Europe, Middle East and Africa	739.0	181.5	603.0	169.8	602.7	171.6
Asia Pacific:						
Traditional	552.3	78.9	492.2	73.7	462.7	76.9
Financial Solutions	0.2	—	0.2	—	0.3	—
Total Asia Pacific	552.5	78.9	492.4	73.7	463.0	76.9
Total	$ 3,297.3	$ 395.4	$ 3,062.5	$ 404.8	$ 2,995.1	$ 491.0

Reinsurance business in force reflects the addition or acquisition of new life reinsurance business, offset by terminations (e.g., life and group contract terminations, lapses of underlying policies, deaths of insureds, and recapture), changes in foreign currency exchange, and any other changes in the amount of insurance in force. As a result of terminations and other changes, assumed in force amounts at risk of $160.6 billion, $337.4 billion, and $439.4 billion were released in 2017, 2016 and 2015, respectively.

Additional information regarding the operations of the Company’s segments and geographic operations is contained in Note 15 – “Segment Information” in the Notes to Consolidated Financial Statements.

U.S. and Latin America Operations

The U.S. and Latin America operations represented 54.7%, 57.0% and 56.3% of the Company’s net premiums in 2017, 2016 and 2015, respectively. The U.S. and Latin America operations market traditional life and health reinsurance, reinsurance of asset-intensive products, and financial reinsurance, primarily to large U.S. life insurance companies. The U.S. and Latin America operations include business generated by its offices in the U.S., Mexico and Brazil. The offices in Mexico and Brazil provide services to clients in other Latin American countries.

Traditional Reinsurance

The U.S. and Latin America Traditional segment provides individual and group life and health reinsurance to domestic clients for a variety of products through yearly renewable term agreements, coinsurance, and modified coinsurance. This business has been accepted under many different rate scales, with rates often tailored to suit the underlying product and the needs of the ceding company. Premiums typically vary for smokers and non-smokers, males and females, and may include a preferred underwriting class discount. Reinsurance premiums are paid in accordance with the treaty, regardless of the premium mode for the underlying primary insurance. This business is made up of facultative and automatic treaty business.

Automatic business is generated pursuant to treaties which generally require that the underlying policies meet the ceding company’s underwriting criteria, although in certain cases such policies may be rated substandard. In contrast to facultative reinsurance, reinsurers do not engage in underwriting assessments of each risk assumed through an automatic treaty.

As the Company does not apply its underwriting standards to each policy ceded to it under automatic treaties, the U.S. and Latin America operations generally require ceding companies to retain a portion of the business written on an automatic basis,

thereby increasing the ceding companies' incentives to underwrite risks with due care and, when appropriate, to contest claims diligently.

The U.S. and Latin America facultative reinsurance operation involves the assessment of the risks inherent in (i) multiple impairments, such as heart disease, high blood pressure, and diabetes; (ii) cases involving large policy face amounts; and (iii) financial risk cases (i.e. cases involving policies disproportionately large in relation to the financial characteristics of the proposed insured). The U.S. and Latin America operations' marketing efforts have focused on developing facultative relationships with client companies because management believes facultative reinsurance represents a substantial segment of the reinsurance activity of many large insurance companies and also serves as an effective means of expanding the U.S. and Latin America operations' automatic business. In 2017, 2016 and 2015, approximately 18.3%, 18.5%, and 19.9%, respectively, of the U.S. and Latin America gross premiums were written on a facultative basis.

Only a portion of approved facultative applications ultimately result in reinsurance, as applicants for impaired risk policies often submit applications to several primary insurers, which in turn seek facultative reinsurance from several reinsurers. Ultimately, only one insurance company and one reinsurer are likely to obtain the business. The Company tracks the percentage of declined and placed facultative applications on a client-by-client basis and generally works with clients to seek to maintain such percentages at levels deemed acceptable. As the Company applies its underwriting standards to each application submitted to it facultatively, it generally does not require ceding companies to retain a portion of the underlying risk when business is written on a facultative basis.

In addition, several of the Company's U.S. and Latin America clients have purchased life insurance policies insuring the lives of their executives. These policies have generally been issued to fund deferred compensation plans and have been reinsured with the Company. The Company's consolidated balance sheets included interest-sensitive contract liabilities of $2.0 billion and $2.1 billion and policy loans of $1.3 billion and $1.4 billion as of December 31, 2017 and 2016, respectively, associated with this business.

Financial Solutions - Asset-Intensive Reinsurance

The Company's U.S. and Latin America Asset-Intensive operations primarily concentrate on the investment risk within underlying annuities and corporate-owned life insurance policies. These reinsurance agreements are mostly structured as coinsurance, coinsurance with funds withheld, or modified coinsurance of primarily investment risk such that the Company recognizes profits or losses primarily from the spread between the investment earnings and the interest credited on the underlying annuity contract liabilities. Reinsurance of such business was reflected in interest-sensitive contract liabilities and future policy benefits of approximately $15.1 billion and $13.1 billion as of December 31, 2017 and 2016, respectively.

Annuities are normally limited by the size of the deposit from any single depositor. The Company also reinsures certain indexed annuities, variable annuity products that contain guaranteed minimum death or living benefits and corporate-owned life insurance products. Corporate-owned life insurance normally involves a large number of insureds associated with each deposit, and the Company's underwriting guidelines limit the size of any single deposit. The individual policies associated with any single deposit are typically issued within pre-set guaranteed issue parameters.

The Company primarily targets highly rated, financially secure companies as clients for asset-intensive business. These companies may wish to limit their own exposure to certain products. Ongoing asset/liability analysis is required for the management of asset-intensive business. The Company performs this analysis internally, in conjunction with asset/liability analysis performed by the ceding companies.

Financial Solutions - Financial Reinsurance

The Company's U.S. and Latin America Financial Reinsurance operations assist ceding companies in meeting applicable regulatory requirements while enhancing their financial strength and regulatory surplus position. The Company commits cash or assumes regulatory insurance liabilities from the ceding companies. In addition, the Company has committed to provide statutory reserve support to third-parties by funding loans if certain defined events occur. Generally, such amounts are offset by receivables from ceding companies that are repaid by the future profits from the reinsured block of business. The Company structures its financial reinsurance transactions so that the projected future profits of the underlying reinsured business significantly exceed the amount of regulatory surplus provided to the ceding company.

The Company primarily targets highly rated insurance companies for financial reinsurance due to the credit risk associated with this business. A careful analysis is performed before providing any regulatory surplus enhancement to the ceding company. This analysis is intended to ensure that the Company understands the risks of the underlying insurance product and that the transaction has a high likelihood of being repaid through the future profits of the underlying business. If the future profits of the business are not sufficient to repay the Company or if the ceding company becomes financially distressed and is unable to make payments under the treaty, the Company may incur losses. A staff of actuaries and accountants track experience for each treaty on a quarterly basis in comparison to models of expected results.

Customer Base

The U.S. and Latin America operations market life reinsurance primarily to the largest U.S. life insurance companies. The treaties underlying this business generally are terminable by either party on 90 days written notice, but only with respect to future new business. Existing business generally is not terminable, unless the underlying policies terminate or are recaptured. In 2017, the five largest clients generated approximately $1.7 billion or 28.7% of U.S. and Latin America operation's gross premiums. In addition, 45 other clients each generated annual gross premiums of $20.0 million or more, and the aggregate gross premiums from these clients represented approximately 61.1% of U.S. and Latin America operation's gross premiums. For the purpose of this disclosure, companies that are within the same insurance holding company structure are combined.

Canada Operations

The Canada operations represented 9.6%, 10.5%, and 10.2% of the Company's net premiums in 2017, 2016 and 2015, respectively. The Company operates in Canada primarily through RGA Canada. RGA Canada employs its own underwriting, actuarial, claims, pricing, accounting, systems, marketing and administrative staff in offices located in Montreal and Toronto.

Traditional Reinsurance

In 2017, the Canada Traditional Reinsurance segment assumed $35.6 billion in new business, predominately representing recurring new business, as opposed to in force transactions. Approximately 79.1% of the 2017 recurring new business was written on an automatic basis.

RGA Canada is a leading life reinsurer in Canada, based on new individual life insurance production. It assists clients with capital management and mortality and morbidity risk management and is primarily engaged in individual life reinsurance, as well as creditor, group life and health, critical illness and disability reinsurance, through yearly renewable term and coinsurance agreements. Creditor insurance covers the outstanding balance on personal, mortgage or commercial loans in the event of death, disability or critical illness and is generally shorter in duration than individual life insurance.

The business is generally composed of facultative and automatic treaty business. Automatic business is generated pursuant to treaties which generally require that the underlying policies meet the ceding company's underwriting criteria, although in certain cases such policies may be rated substandard. In contrast to facultative reinsurance, reinsurers do not engage in underwriting assessments of each risk assumed through an automatic treaty.

RGA Canada generally requires ceding companies to retain a portion of the business written on an automatic basis, thereby increasing the ceding companies' incentives to underwrite risks with due care and, when appropriate, to contest claims diligently.

Facultative reinsurance involves the assessment of the risks from a medical and financial perspective. RGA Canada is recognized as a leader in facultative reinsurance, and this has served to maintain a strong market share on automatic business.

RGA Canada supports over half the companies active in the living benefits and in the group insurance markets. Solid claims management expertise and innovative product development capabilities support a growing share of these markets.

Financial Solutions

The Canada Financial Solutions segment concentrates on assisting clients with longevity risk transfer structures within underlying annuities and pension benefit obligations, and on assisting clients in meeting applicable regulatory requirements while enhancing their financial strength and regulatory surplus position through financial reinsurance structures.

Customer Base

Clients include most of the life insurers in Canada, although the number of life insurers is much smaller compared to the U.S. In 2017, the five largest clients generated approximately $519.4 million or 53.1% of Canada operation's gross premiums. In addition, 10 other clients each generated annual gross premiums of $20.0 million or more, and the aggregate gross premiums from these clients represented approximately 38.7% of Canada operation's gross premiums. For the purpose of this disclosure, companies that are within the same insurance holding company structure are combined.

Europe, Middle East and Africa Operations

The Europe, Middle East and Africa ("EMEA") operations represented 14.9%, 14.3%, and 15.1% of the Company's net premiums in 2017, 2016 and 2015, respectively. This segment serves clients from subsidiaries, licensed branch offices and/or representative offices primarily located in France, Germany, Ireland, Italy, the Netherlands, Poland, South Africa, Spain, the Middle East region and the UK.

EMEA's operations in the UK, Continental Europe, South Africa and the Middle East employ their own underwriting, actuarial, claims, pricing, accounting, marketing and administration staffs with additional support services provided by the Company's staff in the U.S. and Canada.

Traditional Reinsurance

The principal types of reinsurance for this segment include individual and group life and health, critical illness, disability and underwritten annuities. Revenues earned from the traditional reinsurance accounted for 81.4% of the total revenues for the EMEA operations in 2017. Traditional reinsurance in the UK, South Africa, Italy and Germany consists predominantly of long term contracts, which are not terminable for existing risk without recapture or natural expiry, whereas in other markets within the region contracts are predominantly short term, renewing annually. The reinsurance agreements of critical illness coverage occurs primarily in the UK and South Africa and may be either facultative or automatic agreements. Premiums earned from critical illness coverage represented 14.7% of the total net premiums for this segment in 2017.

Financial Solutions

The principal types of reinsurance for this segment include longevity, asset-intensive and financial reinsurance. Longevity reinsurance takes the form of closed block annuity reinsurance and longevity swap structures. Revenues earned from financial solutions accounted for 18.6% of the total revenues for the EMEA operations in 2017. Asset-intensive business for this segment consists of coinsurance of payout annuities. Future policy benefits and interest-sensitive contracts liabilities of approximately $4.7 billion and $3.5 billion as of December 31, 2017 and 2016, respectively, are associated with this business. Financial reinsurance assists ceding companies in meeting applicable regulatory requirements while enhancing their financial strength. These transactions do not qualify as reinsurance under U.S. GAAP, due to low risk nature of transactions and are reported in accordance with deposit accounting guidelines.

Customer Base

In 2017, the UK operations generated approximately $1,004.7 million, or 61.8% of the segment's gross premiums. In 2017, the five largest clients generated approximately $758.2 million or 46.7% of EMEA operation's gross premiums. In addition, 18 other clients each generated annual gross premiums of $20.0 million or more, and the aggregate gross premiums from these clients represented approximately 34.3% of EMEA operation's gross premiums. For the purpose of this disclosure, companies that are within the same insurance holding company structure are combined.

Asia Pacific Operations

The Asia Pacific operations represented 20.9%, 18.2%, and 18.3% of the Company's net premiums in 2017, 2016 and 2015, respectively. The Company has a presence in the Asia Pacific region with licensed branch offices and/or representative offices in China, Hong Kong, India, Japan, Malaysia, New Zealand, Singapore, South Korea and Taiwan. The Company has also established a reinsurance subsidiary in Australia in January 1996.

The Asian offices provide full reinsurance services with additional support services provided by the Company's staff in the U.S. and Canada. In addition, a regional team based in Hong Kong has been established in recent years to provide support to the Asian offices to accommodate business growth in the region. RGA Australia employs its own underwriting, actuarial, claims, pricing, accounting, systems, marketing, and administration service with additional support provided by the Company's U.S. and International Division Sydney offices.

Traditional Reinsurance

The principal types of reinsurance for the Traditional Reinsurance segment include individual and group life and health, critical illness, disability and superannuation through yearly renewable term and coinsurance agreements. The reinsurance of critical illness coverage provides a benefit in the event of the diagnosis of pre-defined critical illness. Disability reinsurance provides income replacement benefits in the event the policyholder becomes disabled due to accident or illness. Superannuation is the Australian government mandated compulsory retirement savings program. Superannuation funds accumulate retirement funds for employees, and, in addition, typically offer life and disability insurance coverage. Reinsurance agreements may be either facultative or automatic agreements covering primarily individual risks and, in some markets, group risks. Revenues earned from traditional reinsurance accounted for 96.8% of the total revenues for the Asia Pacific operations in 2017. The reinsurance of critical illness coverage occurs primarily in South Korea, Australia, China and Hong Kong. Premiums earned from critical illness coverage represented 29.8% of the total net premiums for this segment in 2017.

Financial Solutions

The Financial Solutions segment includes financial reinsurance, asset-intensive and certain disability and life blocks. Financial reinsurance assists ceding companies in meeting applicable regulatory requirements while enhancing their financial strength. These transactions do not qualify as reinsurance under U.S. GAAP, due to low risk nature of transactions and are reported in accordance with deposit accounting guidelines. Asset-intensive business for this segment primarily concentrates on the investment risk within underlying annuities and life insurance policies. These reinsurance agreements are mostly structured to take on investment risk such that the Company recognizes profits or losses primarily from the spread between the investment

earnings and the interest credited on the underlying annuity contract liabilities. The Financial Solutions business occurs primarily in Australia, Hong Kong and Japan.

Customer Base

In 2017, the five largest clients generated approximately $892.5 million or 42.3% of Asia Pacific operation's gross premiums. In addition, 17 other clients each generated annual gross premiums of $20.0 million or more, and the aggregate gross premiums from these clients represented approximately 37.9% of Asia Pacific operation's gross premiums. The Australian operations generated approximately $599.8 million, or 28.4% of the total gross premiums for the Asia Pacific operations in 2017. For the purpose of this disclosure, companies that are within the same insurance holding company structure are combined.

Corporate and Other

Corporate and Other operations include investment income from invested assets not allocated to support segment operations, proceeds from the Company's capital-raising efforts that have not been deployed and investment related gains or losses. Corporate expenses consist of the offset to capital charges allocated to the operating segments within the policy acquisition costs and other insurance income line item, unallocated overhead and executive costs, and interest expense related to debt. Additionally, Corporate and Other includes results associated with the Company's collateral finance and securitization notes and results from certain wholly-owned subsidiaries and joint ventures that, among other activities, develop and market technology solutions for the insurance industry.

D. Financial Information About Foreign Operations

The Company's foreign operations are primarily in Canada, the Asia Pacific region, Europe, and South Africa. Revenue, income (loss) before income taxes, which include investment related gains (losses), interest expense, depreciation and amortization, and identifiable assets attributable to these geographic regions are identified in Note 15 – "Segment Information" in the Notes to Consolidated Financial Statements. Although there are risks inherent to foreign operations, such as currency fluctuations and restrictions on the movement of funds, as described in Item 1A – "Risk Factors", the Company's financial position and results of operations have not been materially adversely affected thereby to date.

E. Available Information

Copies of the Company's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports are available free of charge through the Company's website (www.rgare.com) as soon as reasonably practicable after the Company electronically files such reports with the Securities and Exchange Commission (www.sec.gov). Information provided on such websites does not constitute part of this Annual Report on Form 10-K.

Item 1A. RISK FACTORS

In the Risk Factors below, we refer to the Company as "we," "us," or "our." Investing in our securities involves certain risks. Any of the following risks could materially adversely affect our business, financial condition or results of operations. These risks are not exclusive, and additional risks to which we are subject include, but are not limited to, the factors mentioned under "Cautionary Note Regarding Forward-Looking Statements" in Item 7 below and the risks of our businesses described elsewhere in this Annual Report on Form 10-K. Many of these risks are interrelated and occur under similar business and economic conditions, and the occurrence of certain of them may in turn cause the emergence, or exacerbate the effect, of others. Such a combination could materially increase the severity of the impact on our business, liquidity, financial condition and results of operations.

Risks Related to Our Business

We make assumptions when pricing our products relating to mortality, morbidity, lapsation, investment returns and expenses, and significant deviations in experience could negatively affect our financial condition and results of operations.

Our life reinsurance contracts expose us to mortality risk, which is the risk that the level of death claims may differ from that which we assumed in pricing our reinsurance contracts. Some of our reinsurance contracts expose us to morbidity risk, which is the risk that the claims we pay in the event an insured person becomes critically ill or disabled differ from that which we assumed in pricing our reinsurance contracts. Our risk analysis and underwriting processes are designed with the objective of controlling the quality of the business and establishing appropriate pricing for the risks we assume. Among other things, these processes rely heavily on our underwriting, our analysis of mortality and morbidity trends, lapse rates, expenses and our understanding of medical impairments and their effect on mortality or morbidity.

We expect mortality, morbidity and lapse experience to fluctuate somewhat from period to period, but believe they should remain reasonably predictable over a period of many years. Mortality, morbidity or lapse experience that is less favorable than the rates that we used in pricing a reinsurance agreement may cause our net income to be less than otherwise expected because the premiums we receive for the risks we assume may not be sufficient to cover the claims and profit margin. Furthermore, even if the total benefits paid over the life of the contract do not exceed the expected amount, unexpected increases in the incidence of deaths or illness can cause us to pay more benefits in a given reporting period than expected, adversely affecting our net income in any particular reporting period. Likewise, adverse experience could impair our ability to offset certain unamortized deferred acquisition costs and adversely affect our net income in any particular reporting period. We perform annual tests to establish that deferred policy acquisition costs remain recoverable at all times. These tests require us to make a significant number of assumptions. If our financial performance significantly deteriorates to the point where a premium deficiency exists, a cumulative charge to current operations will be recorded which may adversely affect our net income in a particular reporting period.

We regularly review our reserves and associated assumptions as part of our ongoing assessment of our business performance and risks. If we conclude that our reserves are insufficient to cover actual or expected policy and contract benefits and claim payments as a result of changes in experience, assumptions or otherwise, we would be required to increase our reserves and incur charges in the period in which we make the determination. The amounts of such increases may be significant and this could materially adversely affect our financial condition and results of operations and may require us to generate or fund additional capital in our businesses.

Our financial condition and results of operations may also be adversely affected if our actual investment returns and expenses differ from our pricing and reserve assumptions. Changes in economic conditions may lead to changes in market interest rates or changes in our investment strategies, either of which could cause our actual investment returns and expenses to differ from our pricing and reserve assumptions.

Our reinsurance subsidiaries are highly regulated, and changes in these regulations could negatively affect our business.

Our reinsurance subsidiaries are subject to government regulation in each of the jurisdictions in which they are licensed or authorized to do business. Governmental agencies have broad administrative power to regulate many aspects of the reinsurance business, which may include reinsurance terms and capital adequacy. These agencies are concerned primarily with the protection of policyholders and their direct insurers rather than shareholders or holders of debt securities of reinsurance companies. Moreover, insurance laws and regulations, among other things, establish minimum capital requirements and limit the amount of dividends, tax distributions and other payments our reinsurance subsidiaries can make without prior regulatory approval, and impose restrictions on the amount and type of investments we may hold. The State of Missouri also regulates our reinsurance subsidiaries as members of an insurance holding company system. The regulation of our reinsurance subsidiaries in this way necessitates restrictions upon RGA as the ultimate parent of these entities.

Recently, insurance regulators have increased their scrutiny of insurance holding company systems in the U.S. Much of the additional scrutiny is on activities of the insurance company’s entire group which includes the group’s parent company and any non-insurance subsidiaries. While the laws have not extended regulation to RGA and its non-insurance subsidiaries, the manner in which the insurance regulators regulate our reinsurance subsidiaries is now influencing the activities of all other entities within the Company. Insurance Holding Company System Regulatory Acts in the U.S. now provide for an expanded supervision of insurance groups operating in the U.S. The scope includes a review of enterprise risk management programs as well as expanded review of agreements between licensed insurers and their group members. Missouri and California have each adopted these new standards as law.

At the U.S. federal level, the Dodd-Frank Wall Street Reform and Consumer Protection Act established a Financial Stability Oversight Council to identify financial institutions, including insurers and reinsurers that are systemically important to the U.S. financial system. A finding that RGA or one of our U.S. subsidiaries is systemically important could ultimately subject the identified entity to additional capital requirements based on business levels and asset mix and other supervision. Such additional scrutiny might also impact our ability to pay dividends. While we do not currently anticipate that the Financial Stability Oversight Council will find RGA or any of our U.S. subsidiaries to be systemically important, a few of our client insurance companies have been designated systemically important and we anticipate that more could receive such designation. Designation of our client insurance companies as systemically important could impact us through additional scrutiny of the client’s reinsurance programs with us, including a consideration of the volume of business ceded by the insurer to us. Moreover, more stringent restrictions may be adopted from time to time in other jurisdictions in which our reinsurance subsidiaries are domiciled, which could, under certain circumstances, significantly reduce or restrict dividends or other amounts payable to us by our subsidiaries unless they obtain approval from insurance regulatory authorities. We cannot predict the effect that any recommendations of the NAIC or proposed or future legislation or rule-making in the U.S. or elsewhere may have on our business, financial condition or results of operations.

We operate in many jurisdictions around the world and a substantial portion of our operations occur outside of the United States. These international businesses are subject to the insurance, tax and other laws and regulations in the countries in which they are organized and in which they operate. These laws and regulations may apply heightened scrutiny to non-domestic companies,

which can adversely affect our operations, liquidity, profitability and regulatory capital. Foreign governments and regulatory bodies from time to time consider legislation and regulations that could subject us to new or different requirements and such changes could negatively impact our operations in the relevant jurisdictions. Certain of our subsidiaries are subject to the Solvency II measures developed by the European Insurance and Occupational Pensions Authority and are required to abide by the evolving risk management practices, capital standards and disclosure requirements of the Solvency II framework. We may also be subject to similar solvency regulations in other regions, such as Bermuda and China, where influences of the Solvency II - type framework are already present in the insurance regulation, and Japan. See "Regulation - International Regulation" in Item 1, Business. As a result, there can be no assurance at this time that Solvency II and such similar solvency regulations will not result in broader consequences to the Company.

A downgrade in our ratings or in the ratings of our reinsurance subsidiaries could adversely affect our ability to compete.

Our financial strength and credit ratings are important factors in our competitive position. Rating organizations periodically review the financial performance and condition of insurers, including our reinsurance subsidiaries. These ratings are based on an insurance company's ability to pay its obligations and are not directed toward the protection of investors. Rating organizations assign ratings based upon several factors. While most of the factors considered relate to the rated company, some of the factors relate to general economic conditions and circumstances outside the rated company's control. The various rating agencies periodically review and evaluate our capital adequacy in accordance with their established guidelines and capital models. In order to maintain our existing ratings, we may commit from time to time to manage our capital at levels commensurate with such guidelines and models. If our capital levels are insufficient to fulfill any such commitments, we could be required to reduce our risk profile by, for example, retroceding some of our business or by raising additional capital by issuing debt, hybrid or equity securities. Any such actions could have a material adverse impact on our earnings or materially dilute our shareholders' equity ownership interests.

Any downgrade in the ratings of our reinsurance subsidiaries could adversely affect their ability to sell products, retain existing business, and compete for attractive acquisition opportunities. The ability of our subsidiaries to write reinsurance partially depends on their financial condition and is influenced by their ratings. Ratings are subject to revision or withdrawal at any time by the assigning rating organization. A rating is not a recommendation to buy, sell or hold securities, and each rating should be evaluated independently of any other rating.

We believe that the rating agencies consider the financial strength and flexibility of a parent company and its consolidated operations when assigning a rating to a particular subsidiary of that company. A downgrade in the rating or outlook of RGA, among other factors, could adversely affect our ability to raise and then contribute capital to our subsidiaries for the purpose of facilitating their operations and growth. A downgrade could also increase our own cost of capital. For example, the facility fee and interest rate for our syndicated revolving credit facility are based on our senior long-term debt ratings. A decrease in those ratings could result in an increase in costs for that credit facility and others. Also, if there is a downgrade in the rating of RGA, or any of our rated subsidiaries, some of our reinsurance contracts would either permit our client ceding insurers to terminate such reinsurance contracts or require us to post collateral to secure our obligations under these reinsurance contracts. Accordingly, we believe a ratings downgrade of RGA, or any of our rated subsidiaries, could have a negative effect on our ability to conduct business.

We cannot assure you that actions taken by ratings agencies would not result in a material adverse effect on our business, financial condition or results of operations. In addition, it is unclear what effect, if any, a ratings change would have on the price of our securities in the secondary market.

The availability and cost of collateral, including letters of credit, asset trusts and other credit facilities, as well as regulatory changes relating to the use of captive insurance companies, could adversely affect our business, financial condition or results of operations.

Regulatory reserve requirements in various jurisdictions in which we operate may be significantly higher than the reserves required under GAAP. Accordingly, we reinsure, or retrocede, business to affiliated and unaffiliated reinsurers to reduce the amount of regulatory reserves and capital we are required to hold in certain jurisdictions, including the U.S. and the UK.

A regulation in the U.S., commonly referred to as Regulation XXX, requires a relatively high level of regulatory, or statutory, reserves that U.S. life insurance and life reinsurance companies must hold on their statutory financial statements for various types of life insurance business, primarily certain level term life products. The reserve levels required under Regulation XXX increase over time and are normally in excess of reserves required under GAAP. The degree to which these reserves will increase and the ultimate level of reserves will depend upon the mix of our business and future production levels in the U.S. Based on the assumed rate of growth in our current business plan, and the increasing level of regulatory reserves associated with some of this business, we expect the amount of our required regulatory reserves to grow significantly.

In order to reduce the effect of Regulation XXX, our principal U.S. operating subsidiary, RGA Reinsurance Company, has retroceded Regulation XXX-related reserves to affiliated and unaffiliated reinsurers, including affiliated insurers governed by captive insurance laws. Additionally, some of our reinsurance subsidiaries in foreign jurisdictions enter into various reinsurance arrangements with affiliated and unaffiliated reinsurers from time to time in order to reduce statutory capital and reserve requirements.

During 2013 and 2014, U.S. state insurance regulators reviewed the life insurance industries' use of affiliated captive reinsurers to satisfy certain reserve requirements. As a result of this review, measures were adopted and implemented in 2015 to promote uniformity in both the approval and supervision of such reinsurers. These standards allow current captives to continue in accordance with their previously approved plans, but place restrictions on the use of such captive reinsurers for new programs making them less effective than previous captive programs. As a result captive reinsurance has become less a part of our reserve growth financing than earlier. It is also possible that additional restrictions could be introduced and this could further limit our ability to reinsure certain products, maintain risk based capital ratios and deploy excess capital. As a result, we may need to alter the type and volume of business we reinsure, increase prices on those products, raise additional capital to support higher regulatory reserves or implement higher cost strategies, all of which could adversely impact our competitive position and our financial condition and results of operations. We cannot estimate the impact of discontinuing or altering our captive strategy in response to potential regulatory changes due to many unknown variables such as the cost and availability of alternative capital, potential changes in regulatory reserve requirements under a principle-based reserving approach, changes in acceptable collateral for statutory reserves, the potential introduction of the concept of a “certified reinsurer” in the laws and regulations of certain jurisdictions where we operate, the potential for increased pricing of products offered by us and the potential change in the mix of products sold or offered by us or our clients.

Recently, the U.S. and the European Union negotiated a covered agreement under the authority provided in the Dodd-Frank Wall Street Reform and Consumer Protection Act. The covered agreement is a bilateral trade agreement under which both the U.S. and the member countries of the European Union agreed to eliminate collateral for reinsurance cessions from insurers domiciled in their home jurisdiction to reinsurers domiciled in the foreign jurisdiction, accept each other's regulators as the group supervisor and rely on the group capital calculation at use in the insurer's/reinsurer's home jurisdiction. It is unclear as to how the U.S. regulators will implement the terms of the covered agreement, but it is possible that the certified reinsurer concept could be altered or eliminated in U.S. reinsurance reserve credit regulation. Such alteration or elimination may impact the cost or the availability of alternative capital, which may or may not be offset by the reduction in collateral that may ultimately result from the covered agreement.

As a general matter, for us to reduce regulatory reserves on business that we retrocede, the affiliated or unaffiliated reinsurer must provide an equal amount of regulatory-compliant collateral. Such collateral may be provided in the form of a letter of credit from a commercial bank, through the placement of assets in trust for our benefit, or through a capital markets securitization.

In connection with these reserve requirements, we face the following risks:

- The availability of collateral and the related cost of such collateral in the future could affect the type and volume of business we reinsure and could increase our costs.
- We may need to raise additional capital to support higher regulatory reserves, which could increase our overall cost of capital.
- If we, or our retrocessionaires, are unable to obtain or provide sufficient collateral to support our statutory ceded reserves, we may be required to increase regulatory reserves. In turn, this reserve increase could significantly reduce our statutory capital levels and adversely affect our ability to satisfy required regulatory capital levels, unless we are able to raise additional capital to contribute to our operating subsidiaries.
- Because term life insurance is a particularly price-sensitive product, any increase in insurance premiums charged on these products by life insurance companies, in order to compensate them for the increased statutory reserve requirements or higher costs of insurance they face, may result in a significant loss of volume in their life insurance operations, which could, in turn, adversely affect our life reinsurance operations.

We cannot assure you that we will be able to implement actions to mitigate the effect of increasing regulatory reserve requirements.

In addition, we maintain credit and letter of credit facilities with various financial institutions as a potential source of collateral and excess liquidity. Our ability to utilize these facilities is conditioned on our satisfaction of covenants and other requirements contained in the facilities. Our ability to utilize these facilities is also subject to the continued willingness and ability of the lenders to provide funds or issue letters of credit. Our failure to comply with the covenants in these facilities, or the failure of the lenders to meet their commitments, would restrict our ability to access these facilities when needed, adversely affecting our liquidity, financial condition and results of operations.

Changes in the equity markets, interest rates and volatility affect the profitability of variable annuities with guaranteed living benefits that we reinsure; therefore, such changes may have a material adverse effect on our business and profitability.

We reinsure variable annuity products that include guaranteed minimum living benefits. These include guaranteed minimum withdrawal benefits (“GMWB”), guaranteed minimum accumulation benefits (“GMAB”) and guaranteed minimum income benefits (“GMIB”). The amount of reserves related to these benefits is based on their fair value and is affected by changes in equity markets, interest rates and volatility. Accordingly, strong equity markets, increases in interest rates and decreases in volatility will generally decrease the fair value of the liabilities underlying the benefits.

Conversely, a decrease in the equity markets along with a decrease in interest rates and an increase in volatility will generally result in an increase in the fair value of the liabilities underlying the benefits, which increases the amount of reserves that we must carry. Such an increase in reserves would result in a charge to our earnings in the quarter in which we increase our reserves. We maintain a customized dynamic hedge program that is designed to mitigate the risks associated with income volatility around the change in reserves on guaranteed benefits. However, the hedge positions may not be effective to fully offset the changes in the carrying value of the guarantees due to, among other things, the time lag between changes in such values and corresponding changes in the hedge positions, high levels of volatility in the equity and derivatives markets, extreme swings in interest rates, contract holder behavior different than expected, and divergence between the performance of the underlying funds and hedging indices. These factors, individually or collectively, may have a material adverse effect on our liquidity, capital levels, financial condition or results of operations.

RGA is an insurance holding company, and our ability to pay principal, interest and dividends on securities is limited.

RGA is an insurance holding company, with our principal assets consisting of the stock of our reinsurance company subsidiaries, and substantially all of our income is derived from those subsidiaries. Our ability to pay principal and interest on any debt securities or dividends on any preferred or common stock depends, in part, on the ability of our reinsurance company subsidiaries, our principal sources of cash flow, to declare and distribute dividends or advance money to RGA. We are not permitted to pay common stock dividends or make payments of interest or principal on securities which rank equal or junior to our subordinated debentures and junior subordinated debentures, until we pay any accrued and unpaid interest on such debentures. Our reinsurance company subsidiaries are subject to various statutory and regulatory restrictions, applicable to insurance companies generally, that limit the amount of cash dividends, loans and advances that those subsidiaries may pay to us. Covenants contained in certain of our debt agreements also restrict the ability of certain subsidiaries to pay dividends and make other distributions or loans to us. In addition, we cannot assure you that more stringent dividend restrictions will not be adopted, as discussed above under “Our reinsurance subsidiaries are highly regulated, and changes in these regulations could negatively affect our business.”

As a result of our insurance holding company structure, in the event of the insolvency, liquidation, reorganization, dissolution or other winding-up of one of our reinsurance subsidiaries, all creditors of that subsidiary would be entitled to payment in full out of the assets of such subsidiary before we, as shareholder, would be entitled to any payment. Our subsidiaries would have to pay their direct creditors in full before our creditors, including holders of common stock, preferred stock or debt securities of RGA, could receive any payment from the assets of such subsidiaries.

We are exposed to foreign currency risk.

We are a multi-national company with operations in numerous countries and, as a result, are exposed to foreign currency risk to the extent that exchange rates of foreign currencies are subject to adverse change over time. The U.S. dollar value of our net investments in foreign operations, our foreign currency transaction settlements and the periodic conversion of the foreign-denominated earnings to U.S. dollars (our reporting currency) are each subject to adverse foreign exchange rate movements. A significant portion of our revenues and our fixed maturity securities available for sale are denominated in currencies other than the U.S. dollar. We use foreign-denominated revenues and investments to fund foreign-denominated expenses and liabilities when possible to mitigate exposure to foreign currency fluctuations.

Our international operations involve inherent risks.

A significant portion of our net premiums come from our operations outside of the U.S. One of our strategies is to grow these international operations. International operations subject us to various inherent risks. In addition to the regulatory and foreign currency risks identified above, other risks include the following:

- managing the growth of these operations effectively, particularly given the recent rates of growth;
- changes in mortality and morbidity experience and the supply and demand for our products that are specific to these markets and that may be difficult to anticipate;
- political and economic instability in the regions of the world where we operate;
- uncertainty arising out of foreign government sovereignty over our international operations;

- potentially uncertain or adverse tax consequences, including the repatriation of earnings from our non-U.S. subsidiaries; and
- potential reduction in opportunities resulting from market access restrictions.

Some of our international operations are in emerging markets where these risks are heightened and we anticipate that we will continue to do business in such markets. Our pricing assumptions may be less predictable in emerging markets, and deviations in actual experience from these assumptions could impact our profitability in these markets. Additionally, lack of legal certainty and stability in the emerging markets exposes us to increased risk of disruption and adverse or unpredictable actions by regulators and may make it more difficult for us to enforce our contracts, which may negatively impact our business.

On June 23, 2016, the UK held a referendum in which voters approved an exit from the European Union ("EU"), commonly referred to as "Brexit". As a result of this referendum, in 2017 the British government formally commenced the process to leave the EU and began negotiating the terms of treaties that will govern the future relationship between the UK and the EU. Although it is unknown what those terms might be, it is possible that there will be greater restrictions, requirements and regulatory complexities on reinsurance provided in the UK by entities located outside of the UK. These changes may adversely affect our business, financial condition or results of operations.

We cannot assure you that we will be able to manage the risks associated with our international operations effectively or that they will not have an adverse effect on our business, financial condition or results of operations.

We depend on the performance of others, and their failure to perform in a satisfactory manner would negatively affect us.

In the normal course of business, we seek to limit our exposure to losses from our reinsurance contracts by ceding a portion of the reinsurance to other insurance enterprises or retrocessionaires. We cannot assure you that these insurance enterprises or retrocessionaires will be able to fulfill their obligations to us. As of December 31, 2017, the retrocession pool members participating in our excess retention pool that have been reviewed by A.M. Best Company, were rated "A-", the fourth highest rating out of sixteen possible ratings, or better. We are also subject to the risk that our clients will be unable to fulfill their obligations to us under our reinsurance agreements with them.

We rely upon our insurance company clients to provide timely, accurate information. We may experience volatility in our earnings as a result of erroneous or untimely reporting from our clients. We work closely with our clients and monitor their reporting to minimize this risk. We also rely on original underwriting decisions made by our clients. We cannot assure you that these processes or those of our clients will adequately control business quality or establish appropriate pricing.

For some reinsurance agreements, the ceding company withholds and legally owns and manages assets equal to the net statutory reserves, and we reflect these assets as funds withheld at interest on our balance sheet. In the event that a ceding company was to become insolvent, we would need to assert a claim on the assets supporting our reserve liabilities. We attempt to mitigate our risk of loss by offsetting amounts for claims or allowances that we owe the ceding company with amounts that the ceding company owes to us. We are subject to the investment performance on the withheld assets, although we do not directly control them. We help to set, and monitor compliance with, the investment guidelines followed by these ceding companies. However, to the extent that such investment guidelines are not appropriate, or to the extent that the ceding companies do not adhere to such guidelines, our risk of loss could increase, which could materially adversely affect our financial condition and results of operations. For additional information on funds withheld at interest, see "Investments-Funds Withheld at Interest" in Management's Discussion and Analysis of Financial Condition and Results of Operations.

We use the services of third-parties such as asset managers, software vendors and administrators to perform various functions that are important to our business. For instance, we have engaged third party investment managers to manage certain assets where our investment management expertise is limited, who we rely on to provide investment advice and execute investment transactions that are within our investment policy guidelines. Poor performance on the part of these outside vendors could negatively affect our operations and financial performance.

As with all financial services companies, our ability to conduct business depends on consumer confidence in the industry and our financial strength. Actions of competitors, and financial difficulties of other companies in the industry, and related adverse publicity, could undermine consumer confidence and harm our reputation and business.

Natural and man-made disasters, catastrophes and events, including terrorist attacks, epidemics and pandemics, could adversely affect our business, financial condition and results of operations.

Natural disasters and terrorist attacks, as well as epidemics and pandemics, can adversely affect our business, financial condition and results of operations because they exacerbate mortality and morbidity risk. The likelihood, timing, and severity of these events cannot be predicted. A pandemic or other disaster could have a major impact on the global economy or the economies of particular countries or regions, including travel, trade, tourism, the health system, food supply, consumption, overall economic output, as well as on the financial markets. In addition, a pandemic or other disaster that affected our employees or the employees

of companies with which we do business could disrupt our business operations. The effectiveness of external parties, including governmental and non-governmental organizations, in combating the spread and severity of such an event could have a material impact on the losses we experience. These events could cause a material adverse effect on our results of operations in any period and, depending on their severity, could also materially and adversely affect our financial condition.

We believe our reinsurance programs are sufficient to reasonably limit our net losses for individual life claims relating to potential future natural disasters and terrorist attacks. However, the consequences of natural disasters, terrorist attacks, armed conflicts, epidemics and pandemics are unpredictable, and we may not be able to foresee events that could have an adverse effect on our business.

We operate in a competitive, dynamic industry and we face intense competition.

The reinsurance industry is highly competitive, and we encounter significant competition in all lines of business from other reinsurance companies, as well as competition from other providers of financial services. Our competitors vary by geographic market, and many of our competitors have greater financial resources than we do. Our ability to compete depends on, among other things, pricing and other terms and conditions of reinsurance agreements, our ability to maintain strong financial strength ratings from rating agencies, and our service and experience in the types of business that we underwrite. Competition from other reinsurers could adversely affect our competitive position.

We compete based on the strength of our underwriting operations, insights on mortality trends based on our large book of business, and responsive service. We believe our quick response time to client requests for individual underwriting quotes and our underwriting expertise are important elements to our strategy and lead to other business opportunities with our clients. Our business will be adversely affected if we are unable to maintain these competitive advantages.

The insurance and reinsurance industries are subject to ongoing changes from market pressures brought about by customer demands, changes in law, technological innovation, marketing practices and new providers of insurance and reinsurance solutions. Because of these and other factors, we are required to anticipate market trends and make changes to differentiate our products and services from those of our competitors. Failure to anticipate these market trends or to differentiate our products and services may affect our ability to grow or to maintain our current position in the industry. A failure to meet evolving consumer demands by the insurance industry and us through innovative product development, effective distribution channels and investments in technology could adversely affect the insurance industry and our operating results. Similarly, our failure to meet the changing demands of our insurance company clients could negatively impact our financial performance.

Tax law changes or a prolonged economic downturn could reduce the demand for insurance products, which could adversely affect our business.

Under the U.S. Internal Revenue Code, income tax payable by policyholders on investment earnings is deferred during the accumulation period of some life insurance and annuity products. To the extent that the U.S. Internal Revenue Code is revised to reduce benefits associated with the tax-deferred status of life insurance and annuity products, or to increase the tax-deferred status of competing products, all life insurance companies would be adversely affected with respect to their ability to sell such products, and, depending on grandfathering provisions, by the surrenders of existing annuity contracts and life insurance policies. In addition, life insurance products are often used to fund estate tax obligations. The estate tax provisions of the U.S. Internal Revenue Code have been revised frequently in the past. If Congress adopts legislation in the future to reduce or eliminate the estate tax, our U.S. life insurance company customers could face reduced demand for some of their life insurance products, which in turn could negatively affect our reinsurance business. We cannot predict whether any tax legislation impacting corporate taxes or insurance products will be enacted, what the specific terms of any such legislation will be or whether any such legislation would have a material adverse effect on our business, financial condition and results of operations.

A general economic downturn or a downturn in the capital markets could adversely affect the market for many life insurance and annuity products. Factors such as consumer spending, business investment, government spending, the volatility and strength of the capital markets, deflation and inflation affect the economic environment and thus the profitability of our business. An economic downturn may yield higher unemployment and lower family income, corporate earnings, business investment and consumer spending, and could result in decreased demand for life insurance and annuity products. Because we obtain substantially all of our revenues through reinsurance arrangements that cover a portfolio of life insurance products and annuities, our business would be harmed if the market for annuities or life insurance was adversely affected. Therefore, adverse changes in the economy could adversely affect our business, financial condition and results of operations.

Acquisitions and significant transactions involve varying degrees of risk that could affect our profitability.

We have made, and may in the future make, strategic acquisitions, either of selected blocks of business or other companies. The success of these acquisitions depends on, among other factors, our ability to appropriately price the acquired business. Additionally, acquisitions may expose us to operational challenges and various risks, including:

- the ability to integrate the acquired business operations and data with our systems;
- the availability of funding sufficient to meet increased capital needs;
- the ability to fund cash flow shortages that may occur if anticipated revenues are not realized or are delayed, whether by general economic or market conditions or unforeseen internal difficulties; and
- the possibility that the value of investments acquired in an acquisition may be lower than expected or may diminish due to credit defaults or changes in interest rates and that liabilities assumed may be greater than expected (due to, among other factors, less favorable than expected mortality or morbidity experience).

A failure to successfully manage the operational challenges and risks associated with or resulting from significant transactions, including acquisitions, could adversely affect our business, financial condition or results of operations.

Our risk management policies and procedures could leave us exposed to unidentified or unanticipated risk, which could negatively affect our business, financial condition or results of operations.

Our risk management policies and procedures, designed to identify, monitor and manage both internal and external risks, may not adequately predict future exposures, which could be significantly greater than expected. In addition, these identified risks may not be the only risks facing us. Additional risks and uncertainties not currently known to us, or that we currently deem to be immaterial, may adversely affect our business, financial condition or results of operations.

There are inherent limitations to risk management strategies because there may exist, or develop in the future, risks that we have not appropriately anticipated or identified. If our risk management framework proves ineffective, we may suffer unexpected losses and could be materially adversely affected. As our businesses change and the markets in which we operate evolve, our risk management framework may not evolve at the same pace as those changes. As a result, there is a risk that new business strategies may present risks that are not appropriately identified, monitored or managed. In times of market stress, unanticipated market movements or unanticipated claims experience resulting from adverse mortality, morbidity or policyholder behavior, the effectiveness of our risk management strategies may be limited, resulting in losses. In addition, under difficult or less liquid market conditions, our risk management strategies may not be effective because other market participants may be using the same or similar strategies to manage risk under the same challenging market conditions. In such circumstances, it may be difficult or more expensive for us to mitigate risk due to the activity of such other market participants.

Past or future misconduct by our employees or employees of our vendors could result in violations of law by us, regulatory sanctions and serious reputational or financial harm and the precautions we take to prevent and detect this activity may not be effective in all cases. There can be no assurance that controls and procedures that we employ, which are designed to monitor associates' business decisions and prevent us from taking excessive or inappropriate risks, will be effective. We review our compensation policies and practices as part of our overall risk management program, but it is possible that our compensation policies and practices could inadvertently incentivize excessive or inappropriate risk taking. If our associates take excessive or inappropriate risks, those risks could harm our reputation and have a material adverse effect on our results of operations or financial condition.

The failure in cyber or other information security systems, as well as the occurrence of unanticipated events affecting our disaster recovery systems and business continuity planning, could impair our ability to conduct business effectively.

Our business is highly dependent upon the effective operation of our computer systems. We rely on these systems for a variety of business functions across our global operations, including for the administration of our business, underwriting, claims, performing actuarial analysis and maintaining financial records. While we maintain liability insurance for cybersecurity and network interruption losses, our insurance may not be sufficient to protect us against all losses.

We depend heavily upon computer systems to provide reliable service, data and reports. In the event of a disaster such as a natural catastrophe, epidemic, industrial accident, blackout, computer virus, terrorist attack or war, unanticipated problems with our disaster recovery systems could have a material adverse impact on our ability to conduct business and on our financial condition and results of operations, particularly if those problems affect our computer-based data processing, transmission, storage and retrieval systems and destroy valuable data. In addition, if a significant number of our managers were unavailable in the event of a disaster, our ability to effectively conduct business could be severely compromised. These interruptions also may interfere with our clients' ability to provide data and other information to us, and our employees' ability to perform their job responsibilities.

The failure of our computer systems or disaster recovery capabilities for any reason could cause significant interruptions in our operations and result in a failure to maintain security, confidentiality or privacy of sensitive or personal data, related to our

customers, insured individuals or our employees. Like other global companies, we have experienced threats to our data and systems from time to time. However, we have not detected or identified any evidence to indicate we have experienced a material breach of cyber security. Administrative and technical controls, security measures and other preventative actions we take to reduce the risk of such incidents and protect our information technology may not be sufficient to prevent physical and electronic break-ins, and similar disruptions from unauthorized tampering with our computer systems. Such a failure could harm our reputation, subject us to regulatory sanctions and legal claims, lead to loss of customers and revenues and otherwise adversely affect our business, financial condition or results of operations.

Failure to protect the confidentiality of information could adversely affect our reputation and have a material adverse effect on our business, financial condition and results of operations.

Many jurisdictions in which we operate have enacted laws to safeguard the privacy and security of personal information. Additionally, various government agencies have established rules protecting the privacy and security of such information. These laws and rules vary greatly by jurisdiction. Some of our employees have access to personal information of policy holders. We rely on internal controls to protect the confidentiality of this information. It is possible that an employee could, intentionally or unintentionally, disclose or misappropriate confidential information or our data could be the subject of a cybersecurity attack. If we fail to maintain adequate internal controls or if our employees fail to comply with our policies, misappropriation or intentional or unintentional inappropriate disclosure or misuse of client information could occur. Such internal control inadequacies or non-compliance could materially damage our reputation or lead to civil or criminal penalties, which, in turn, could have a material adverse effect on our business, financial condition and results of operations. In addition, we analyze customer data to better manage our business. There has been increased scrutiny, including from U.S. state regulators, regarding the use of “big data” techniques. We cannot predict what, if any, actions may be taken with regard to “big data,” but any inquiries could cause reputational harm and any limitations could have a material impact on our business, financial condition and results of operations.

Managing key employee retention and succession is critical to our success.

Our success depends in large part upon our ability to identify, hire, retain and motivate highly skilled employees. We would be adversely affected if we fail to adequately plan for the succession of our senior management and other key employees. While we have succession plans and long-term compensation plans designed to retain our employees, our succession plans may not operate effectively and our compensation plans cannot guarantee that the services of these employees will continue to be available to us.

Risks Related to Our Investments

Adverse capital and credit market conditions and access to credit facilities may significantly affect our ability to meet liquidity needs, access to capital and cost of capital.

The capital and credit markets experience varying degrees of volatility and disruption. In some periods, the markets have exerted downward pressure on availability of liquidity and credit capacity for certain issuers.

We need liquidity to pay our operating expenses, interest on our debt and dividends on our capital stock and to replace certain maturing liabilities. Without sufficient liquidity, we will be forced to curtail our operations, and our business will be adversely affected. The principal sources of our liquidity are reinsurance premiums under reinsurance treaties and cash flows from our investment portfolio and other assets. Sources of liquidity in normal markets also include proceeds from the issuance of a variety of short- and long-term instruments, including medium- and long-term debt, subordinated and junior subordinated debt securities, capital securities and common stock.

In the event current resources do not satisfy our needs, we may have to seek additional financing. The availability of additional financing will depend on a variety of factors such as market conditions, the general availability of equity and credit, the volume of trading activities, the overall availability of credit to the financial services industry, our credit ratings and credit capacity, as well as the possibility that customers or lenders could develop a negative perception of our long- or short-term financial prospects. Similarly, our access to funds may be impaired if regulatory authorities or rating agencies take negative actions against us. Our internal sources of liquidity may prove to be insufficient, and in such case, we may not be able to successfully obtain additional financing on favorable terms, or at all.

Disruptions, uncertainty or volatility in the capital and credit markets may also limit our access to capital required to operate our business, most significantly our reinsurance operations. Such market conditions may limit our ability to replace maturing liabilities in a timely manner, satisfy statutory capital requirements, generate fee income and market-related revenue to meet liquidity needs and access the capital necessary to grow our business. As such, we may be forced to delay raising capital, issue shorter tenor securities than we prefer, or bear an unattractive cost of capital which could decrease our profitability and significantly reduce our financial flexibility. Further, our ability to finance our statutory reserve requirements depends on market conditions.

If market capacity is limited for a prolonged period of time, our ability to obtain new funding for such purposes may be hindered and, as a result, our ability to write additional business in a cost-effective manner may be limited or otherwise adversely affected.

We also rely on our unsecured credit facilities, including our $850 million syndicated credit facility, as potential sources of liquidity. Our credit facilities contain administrative, reporting, legal and financial covenants, and our syndicated credit facility includes requirements to maintain a specified minimum consolidated net worth and a minimum ratio of consolidated indebtedness to total capitalization. If we were unable to access our credit facilities it could materially impact our capital position. The availability of these facilities could be critical to our credit and financial strength ratings and our ability to meet our obligations as they come due in a market when alternative sources of credit are unavailable.

Difficult conditions in the global capital markets and the economy generally may materially adversely affect our business, financial condition and results of operations.

Our results of operations, financial condition, cash flows and statutory capital position are materially affected by conditions in the global capital markets and the economy generally, both in the U.S. and elsewhere around the world. Poor economic conditions, volatility and disruptions in capital markets or financial asset classes can have an adverse effect on our business because our investment portfolio and some of our liabilities are sensitive to changing market factors. Additionally, disruptions in one market or asset class can also spread to other markets or asset classes.

Concerns over U.S. fiscal policy and the trajectory of the U.S. national debt could have severe repercussions to the U.S. and global credit and financial markets, further exacerbate concerns over sovereign debt and disrupt economic activity in the U.S. and elsewhere. As a result, our access to, or cost of, liquidity may deteriorate. As a result of uncertainty regarding U.S. national debt, the market value of some of our investments may decrease, and our capital adequacy could be adversely affected. Further downgrades, together with the sustained current trajectory of the U.S. national debt, could have adverse effects on our business, financial condition and results of operations.

Past economic uncertainties and weakness and disruption of the financial markets around the world, such as the solvency of certain European Union member states and of financial institutions that have significant direct or indirect exposure to debt issued by such countries, have led to concerns over capital markets access. In addition, there has been recent volatility within certain emerging market countries spurred by concerns over the potential for rising U.S. interest rates, slowing global growth, lower prices for oil and other commodities and the devaluation of certain currencies. These events and continuing market upheavals may have an adverse effect on us, in part because we have a large investment portfolio and are also dependent upon customer behavior. Our revenues may decline in such circumstances and our profit margins may erode. In addition, in the event of extreme prolonged market events, such as the global credit crisis, we could incur significant investment-related losses. Even in the absence of a market downturn, we are exposed to substantial risk of loss due to market volatility.

If our investment strategy is unsuccessful, we could suffer losses.

The success of our investment strategy is crucial to the success of our business. In particular, we structure our investments to match our anticipated liabilities under reinsurance treaties to the extent we believe necessary. If our calculations with respect to these reinsurance liabilities are incorrect, or if we improperly structure our investments to match such liabilities, we could be forced to liquidate investments prior to maturity at a significant loss.

Our investment guidelines permit us to invest up to 10% of our investment portfolio in non-investment grade fixed maturity securities. Those guidelines also permit us to make and invest in commercial mortgage loans. While any investment carries some risk, the risks associated with lower-rated securities are greater than the risks associated with investment grade securities. The risk of loss of principal or interest through default is greater because lower-rated securities are usually unsecured and are often subordinated to an issuer’s other obligations. Additionally, the issuers of these securities frequently have relatively high debt levels and are thus more sensitive to difficult economic conditions, specific corporate developments and rising interest rates, which could impair an issuer’s capacity or willingness to meet its financial commitment on such lower-rated securities. As a result, the market price of these securities may be quite volatile, and the risk of loss is greater.

The success of any investment activity is affected by general economic conditions, including the level and volatility of interest rates and the extent and timing of investor participation in such markets, which may adversely affect the markets for interest rate sensitive securities, mortgages and equity securities. Unexpected volatility or illiquidity in the markets in which we directly or indirectly hold positions could adversely affect us.

Interest rate fluctuations could negatively affect the income we derive from the difference between the interest rates we earn on our investments and interest we pay under our reinsurance contracts.

Significant changes in interest rates expose reinsurance companies to the risk of reduced investment income or actual losses based on the difference between the interest rates earned on investments and the credited interest rates paid on outstanding reinsurance contracts. Both rising and declining interest rates can negatively affect the income we derive from these interest rate

spreads. During periods of rising interest rates, we may be contractually obligated to reimburse our clients for the greater amounts they credit on certain interest-sensitive products. However, we may not have the ability to immediately acquire investments with interest rates sufficient to offset the increased crediting rates on our reinsurance contracts. During periods of falling interest rates, our investment earnings will be lower because new investments in fixed maturity securities will likely bear lower interest rates. We may not be able to fully offset the decline in investment earnings with lower crediting rates on underlying annuity products related to certain of our reinsurance contracts. Our asset/liability management programs and procedures may not reduce the volatility of our income when interest rates are rising or falling, and thus we cannot assure you that changes in interest rates will not affect our interest rate spreads.

Changes in interest rates may also affect our business in other ways. Higher interest rates may result in increased surrenders on interest-based products of our clients, which may affect our fees and earnings on those products. Lower interest rates may result in lower sales of certain insurance and investment products of our clients, which would reduce the demand for our reinsurance of these products. If interest rates remain low for an extended period of time, it may adversely affect our cash flows, financial condition and results of operations.

Uncertainty relating to the LIBOR calculation process and potential phasing out of LIBOR after 2021 may adversely affect the value of certain of our LIBOR-based assets and liabilities.

Regulators and law enforcement agencies in the United Kingdom and elsewhere are conducting civil and criminal investigations into whether the banks that contribute to the British Bankers' Association (the "BBA") in connection with the calculation of daily LIBOR may have been under-reporting or otherwise manipulating or attempting to manipulate LIBOR. A number of BBA member banks have entered into settlements with their regulators and law enforcement agencies with respect to this alleged manipulation of LIBOR. Actions by the BBA, regulators or law enforcement agencies may result in changes to the manner in which LIBOR is determined or the establishment of alternative reference rates. For example, on July 27, 2017, the U.K. Financial Conduct Authority announced that it intends to stop persuading or compelling banks to submit LIBOR rates after 2021. At this time, it is not possible to predict the effect of any such changes, any establishment of alternative reference rates or any other reforms to LIBOR that may be enacted in the United Kingdom or elsewhere. Uncertainty as to the nature of such potential changes, alternative reference rates or other reforms may adversely affect the trading market for LIBOR-based securities, including certain of our LIBOR-based assets and liabilities. More generally, any of the above changes or any other consequential changes to LIBOR or any other "benchmark" as a result of international, national or other proposals for reform or other initiatives or investigations, or any further uncertainty in relation to the timing and manner of implementation of such changes, could have a material adverse effect on the value of and return on any securities based on or linked to a "benchmark," such as certain of our LIBOR-based assets and liabilities. We are not able to predict what the impact of such changes may be on our cash flows, financial condition and results of operations.

The liquidity and value of some of our investments may become significantly diminished.

We hold certain investments that may lack liquidity, such as privately placed fixed maturity securities, mortgage loans, policy loans and real estate equity. If we require significant amounts of cash on short notice in excess of normal cash requirements or are required to post or return collateral in connection with our investment portfolio, derivatives transactions or securities lending activities, we may have difficulty selling these investments in a timely manner, be forced to sell them for less than we otherwise would have been able to realize, or both.

We could be forced to sell investments at a loss to cover policyholder withdrawals, recaptures of reinsurance treaties or other events.

Some of the products offered by our insurance company customers allow policyholders and contract holders to withdraw their funds under defined circumstances. Our reinsurance subsidiaries manage their liabilities and configure their investment portfolios so as to provide and maintain sufficient liquidity to support anticipated withdrawal demands and contract benefits and maturities under reinsurance treaties with these customers. While our reinsurance subsidiaries own a significant amount of liquid assets, a portion of their assets are relatively illiquid. Unanticipated withdrawal or surrender activity could, under some circumstances, require our reinsurance subsidiaries to dispose of assets on unfavorable terms, which could have an adverse effect on us. Reinsurance agreements may provide for recapture rights on the part of our insurance company customers. Recapture rights permit these customers to reassume all or a portion of the risk formerly ceded to us after an agreed-upon time, usually ten years, subject to various conditions.

Recapture of business previously ceded does not affect premiums ceded prior to the recapture, but may result in immediate payments to our insurance company customers and a charge to income for costs that we deferred when we acquired the business but are unable to recover upon recapture. Under some circumstances, payments to our insurance company customers could require our reinsurance subsidiaries to dispose of assets on unfavorable terms.

The defaults or deteriorating credit of other financial institutions could adversely affect us.

We have exposure to many different industries and counterparties, and routinely execute transactions with counterparties in the financial services industry, including brokers and dealers, insurance companies, commercial banks, investment banks, investment funds and other institutions. Many of these transactions expose us to credit risk in the event of default of our counterparty. In addition, with respect to secured and other transactions that provide for us to hold collateral posted by the counterparty, our credit risk may be exacerbated when the collateral we hold cannot be liquidated at prices sufficient to recover the full amount of our exposure. We also have exposure to these financial institutions in the form of unsecured debt instruments, derivative transactions and equity investments. There can be no assurance that losses or impairments to the carrying value of these assets would not materially and adversely affect our business, financial condition or results of operations.

Defaults on our mortgage loans and volatility in performance may adversely affect our profitability.

Our mortgage loans face default risk and are principally collateralized by commercial properties. Mortgage loans are stated on our balance sheet at unpaid principal balance, adjusted for any unamortized premium or discount, deferred fees or expenses, and are net of valuation allowances. We establish valuation allowances for estimated impairments 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. The performance of our mortgage loan investments, however, may fluctuate in the future. An increase in the default rate of our mortgage loan investments could have a material adverse effect on our financial condition or results of operations.

Further, any geographic or sector concentration of our mortgage loans may have adverse effects on our investment portfolios and consequently on our consolidated results of operations or financial condition. While we seek to mitigate this risk by having a broadly diversified portfolio, events or developments that have a negative effect on any particular geographic region or sector may have a greater adverse effect on the investment portfolios to the extent that the portfolios are concentrated. Moreover, our ability to sell assets relating to such particular groups of related assets may be limited if other market participants are seeking to sell at the same time.

Our valuation of fixed maturity and equity securities and derivatives include methodologies, estimations and assumptions that are subject to differing interpretations and could result in changes to investment valuations that may have a material adverse effect on our financial condition or results of operations.

Fixed maturity, equity securities and short-term investments, which are primarily reported at fair value on the consolidated balance sheets, represent the majority of our total cash and invested assets. We have categorized these securities into a three-level hierarchy, based on the priority of the inputs to the respective valuation technique. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). An asset or liability's classification within the fair value hierarchy is based on the lowest level of significant input to its valuation. 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 market inputs (Levels 1 and 2) and unobservable market inputs (Level 3).

The determination of fair values in the absence of quoted market prices is based on: (i) valuation methodologies; (ii) securities we deem to be comparable; and (iii) assumptions deemed appropriate based on market conditions specific to the security. The fair value estimates are made at a specific point in time, based on available market information and judgments about assets and liabilities, including estimates of the timing and amounts of expected future cash flows and the credit standing of the issuer or counterparty. Factors considered in estimating fair value include: coupon rate, maturity, estimated duration, call provisions, sinking fund requirements, credit rating, industry sector of the issuer, and quoted market prices of comparable securities. The use of different methodologies and assumptions may have a material effect on the estimated fair value amounts.

During periods of market disruption, including periods of significantly rising or high interest rates, rapidly widening credit spreads or illiquidity, it may be difficult to value certain of our securities if trading becomes less frequent or market data becomes less observable. There may be certain asset classes that were in active markets with significant observable data that become illiquid due to the financial environment. In such cases, more securities may fall to Level 3 and thus require more subjectivity and management judgment. As such, valuations may include inputs and assumptions that are less observable or require greater estimation as well as valuation methods that are more sophisticated or require greater estimation thereby resulting in values that may be different than the value at which the investments may be ultimately sold. Further, rapidly changing or disruptive credit and equity market conditions could materially impact the valuation of securities as reported within our consolidated financial statements and the period-to-period changes in value could vary significantly. Decreases in value may have a material adverse effect on our financial condition or results of operations.

The reported value of our relatively illiquid types of investments, our investments in the asset classes described in the paragraph above and, at times, our high-quality, generally liquid asset classes, do not necessarily reflect the lowest current market price for the asset. If we were forced to sell certain of our assets in disruptive or volatile market conditions, there can be no assurance that we will be able to sell them for the prices at which we have recorded them and we may be forced to sell them at significantly lower prices.

The determination of the amount of allowances and impairments taken on our investments is highly subjective and could materially affect our financial condition or results of operations.

The determination of the amount of allowances and impairments vary by investment type and is based upon our periodic evaluation and assessment of known and inherent risks associated with the respective asset class. Such evaluations and assessments are revised as conditions change and new information becomes available. Management updates its evaluations regularly and reflects changes in allowances and impairments in operations as such evaluations are revised.

For example, the cost of our fixed maturity and equity securities is adjusted for impairments in value deemed to be other-than-temporary in the period in which the determination is made. The assessment of whether impairments have occurred is based on management's case-by-case evaluation of the underlying reasons for the decline in fair value. Our management considers a wide range of factors about the security issuer and uses their best judgment in evaluating the cause of the decline in the estimated fair value of the security and in assessing the prospects for near-term recovery. Inherent in management's evaluation of the security are assumptions and estimates about the operations of the issuer and its future earnings potential. There can be no assurance that our management has accurately assessed the level of impairments taken, or allowances reflected in our financial statements and their potential impact on regulatory capital. Furthermore, additional impairments or additional allowances may be needed in the future.

Defaults, downgrades or other events impairing the value of our fixed maturity securities portfolio may reduce our earnings.

We are subject to the risk that the issuers, or guarantors, of fixed maturity securities we own may default on principal and interest payments they owe us. Fixed maturity securities represent a substantial portion of our total cash and invested assets. The occurrence of a major economic downturn (or a prolonged downturn in the economy), acts of corporate malfeasance, widening risk spreads, or other events that adversely affect the issuers or guarantors of these securities could cause the value of our fixed maturity securities portfolio and our net income to decline and the default rate of the fixed maturity securities in our investment portfolio to increase. A ratings downgrade affecting issuers or guarantors of particular securities, or similar trends that could worsen the credit quality of issuers, such as the corporate issuers of securities in our investment portfolio, could also have a similar effect. With economic uncertainty, credit quality of issuers or guarantors could be adversely affected. Any event reducing the value of these securities other than on a temporary basis could have a material adverse effect on our business, financial condition or results of operations.

Our investments are reflected within the consolidated financial statements utilizing different accounting bases and accordingly we may not have recognized differences, which may be significant, between cost and fair value in our consolidated financial statements.

Our principal investments are in fixed maturity and equity securities, short-term investments, mortgage loans, policy loans, funds withheld at interest and other invested assets. The carrying value of such investments is as follows:

- Fixed maturity and equity securities are classified as available-for-sale and are reported at their estimated fair value. Unrealized investment gains and losses on these securities are recorded as a separate component of accumulated other comprehensive income or loss, net of related deferred acquisition costs and deferred income taxes.
- Short-term investments include investments with remaining maturities of one year or less, but greater than three months, at the time of acquisition and are stated at amortized cost, which approximates fair value.
- Mortgage and policy loans are stated at unpaid principal balance. Additionally, mortgage loans are adjusted for any unamortized premium or discount, deferred fees or expenses, net of valuation allowances.
- Funds withheld at interest represent amounts contractually withheld by ceding companies in accordance with reinsurance agreements. The value of the assets withheld and interest income are recorded in accordance with specific treaty terms.
- We use the cost method of accounting for investments in real estate joint ventures and other limited partnership interests in which we have a minor equity investment and virtually no influence over the joint ventures or the partnership's operations. The equity method of accounting is used for investments in real estate joint ventures and other limited partnership interests in which we have significant influence over the operating and financing decisions but are not required to be consolidated. These investments are reflected in other invested assets on the consolidated balance sheets.

Investments not carried at fair value in our consolidated financial statements — principally, mortgage loans, policy loans, real estate joint ventures and other limited partnerships — may have fair values that are substantially higher or lower than the carrying value reflected in our consolidated financial statements. Each of such asset classes is regularly evaluated for impairment under the accounting guidance appropriate to the respective asset class.

Risks Related to Ownership of Our Common Stock

We may not pay dividends on our common stock.

Our shareholders may not receive future dividends. Historically, we have paid quarterly dividends ranging from $0.027 per share in 1993 to $0.50 per share in 2017. All future payments of dividends, however, are at the discretion of our board of directors and will depend on our earnings, capital requirements, insurance regulatory conditions, operating conditions and such other factors as our board of directors may deem relevant. The amount of dividends that we can pay will depend in part on the operations of our reinsurance subsidiaries. Under certain circumstances, we may be contractually prohibited from paying dividends on our common stock due to restrictions associated with certain of our debt securities.

Certain provisions in our articles of incorporation and bylaws, and in Missouri law, may delay or prevent a change in control which could adversely affect the price of our common stock.

Certain provisions in our articles of incorporation and bylaws, as well as Missouri corporate law and state insurance laws, may delay or prevent a change of control of RGA, which could adversely affect the price of our common stock. Our articles of incorporation and bylaws contain some provisions that may make the acquisition of control of RGA without the approval of our board of directors more difficult, including provisions relating to the nomination, election and removal of directors, the structure of the board of directors and limitations on actions by our shareholders. In addition, Missouri law also imposes some restrictions on mergers and other business combinations between RGA and holders of 20% or more of our outstanding common stock.

These provisions may have unintended anti-takeover effects, including to delay or prevent a change in control of RGA, which could adversely affect the price of our common stock.

Applicable insurance laws may make it difficult to effect a change of control of RGA.

Before a person can acquire control of a U.S. insurance company, prior written approval must be obtained from the insurance commission of the state where the domestic insurer is domiciled. Missouri insurance laws and regulations as well as the insurance laws and regulations of California provide that no person may acquire control of us, and thus indirect control of our U.S. domiciled reinsurance subsidiaries, including RGA Reinsurance and Aurora National, unless:

- such person has provided certain required information to the domiciliary state insurance department; and
- such acquisition is approved by the domestic state Director of Insurance, to whom we refer as the Director of Insurance, after a public hearing.

Under U.S. state insurance laws and regulations, any person acquiring 10% or more of the outstanding voting securities of a corporation, such as our common stock, is presumed to have acquired control of that corporation and its subsidiaries.

Canadian federal insurance laws and regulations provide that no person may directly or indirectly acquire “control” of or a “significant interest” in our Canadian insurance subsidiary, RGA Canada, unless:

- such person has provided information, material and evidence to the Canadian Superintendent of Financial Institutions as required by him; and
- such acquisition is approved by the Canadian Minister of Finance.

For this purpose, “significant interest” means the direct or indirect beneficial ownership by a person, or group of persons acting in concert, of shares representing 10% or more of a given class, and “control” of an insurance company exists when:

- a person, or group of persons acting in concert, beneficially owns or controls an entity that beneficially owns securities, such as our common stock, representing more than 50% of the votes entitled to be cast for the election of directors and such votes are sufficient to elect a majority of the directors of the insurance company, or
- a person has any direct or indirect influence that would result in control in fact of an insurance company.

Similar laws in other countries where we operate limit our ability to effect changes of control for subsidiaries organized in such jurisdictions without the approval of local insurance regulatory officials. Prior to granting approval of an application to directly or indirectly acquire control of a domestic or foreign insurer, an insurance regulator in any jurisdiction may consider such factors as the financial strength of the applicant, the integrity of the applicant’s board of directors and executive officers, the

applicant’s plans for the future operations of the domestic insurer and any anti-competitive results that may arise from the consummation of the acquisition of control.

Issuing additional shares may dilute the value or affect the price of our common stock.

Our board of directors has the authority, without action or vote of the shareholders, to issue any or all authorized but unissued shares of our common stock, including securities convertible into, or exchangeable for, our common stock and authorized but unissued shares under our equity compensation plans. In the future, we may issue such additional securities, through public or private offerings, in order to raise additional capital. Any such issuance will dilute the percentage ownership of shareholders and may dilute the per share projected earnings or book value of our common stock. In addition, option holders may exercise their options at any time when we would otherwise be able to obtain additional equity capital on more favorable terms.

The price of our common stock may fluctuate significantly.

The overall market and the price of our common stock may continue to fluctuate as a result of many factors in addition to those discussed in the preceding risk factors. These factors, some or all of which are beyond our control, include:

- actual or anticipated fluctuations in our operating results;
- changes in expectations as to our future financial performance or changes in financial estimates of securities analysts;
- success of our operating and growth strategies;
- investor anticipation of strategic and technological threats, whether or not warranted by actual events;
- operating and stock price performance of other comparable companies; and
- realization of any of the risks described in these risk factors or those set forth in any subsequent Annual Report on Form 10-K or Quarterly Reports on Form 10-Q.

In addition, the stock market has historically experienced volatility that often has been unrelated or disproportionate to the operating performance of particular companies. These broad market and industry fluctuations may adversely affect the trading price of our common stock, regardless of our actual operating performance.

The occurrence of various events may adversely affect the ability of RGA and its subsidiaries to fully utilize any net operating losses (“NOL”s) and other tax attributes.

RGA and its subsidiaries may, from time to time, have a substantial amount of NOLs and other tax attributes, for U.S. federal income tax purposes, to offset taxable income and gains. If a corporation experiences an ownership change, it is generally subject to an annual limitation, which limits its ability to use its NOLs and other tax attributes. Events outside of our control may cause RGA (and, consequently, its subsidiaries) to experience an “ownership change” under Sections 382 and 383 of the Internal Revenue Code and the related Treasury regulations, and limit the ability of RGA and its subsidiaries to utilize fully such NOLs and other tax attributes. If we were to experience an ownership change, we could potentially have higher U.S. federal income tax liabilities than we would otherwise have had, which would negatively impact our financial condition and results of operations.

We could be subject to additional income tax liabilities.

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. Tax laws, regulations and administrative practices in various jurisdictions may be subject to significant change, with or without notice, due to economic, political and other conditions, and significant judgment is required in evaluating and estimating our provision and accruals for these taxes. The U.S. recently enacted tax reform legislation commonly referred to as the U.S. Tax Cuts and Jobs Act of 2017 (“U.S. Tax Reform”), which among other things, includes changes to U.S. federal tax rates, imposes significant additional limitations on the deductibility of interest and net operating losses, allows for the expensing of certain capital expenditures and implements a number of changes impacting operations outside of the U.S. including, but not limited to, imposing a one-time tax on accumulated post-1986 deferred foreign income that has not previously been subject to tax, modifying the treatment of certain intercompany transactions that are viewed as eroding the U.S. tax base and imposing a minimum tax on overseas operations that operate in low tax jurisdictions.

In addition, a number of countries are actively pursuing changes to their tax laws applicable to multinational corporations. Foreign governments may enact tax laws in response to U.S. Tax Reform that could result in further changes to global taxation and materially affect our financial position and results of operations.

Our ability to minimize additional tax payments by restructuring various aspects of our business operations may be hindered by uncertainty regarding U.S. Tax Reform, other new tax laws and future guidance issued by the U.S. Treasury Department, foreign taxing authorities or insurance regulators. For instance, the U.S. Treasury Department, the IRS, and other standard-setting bodies could interpret or issue guidance on how U.S. Tax Reform will be applied that is different from our interpretations. We

continue to examine the impact that U.S. Tax Reform and other tax legislation may have on our business. The impact of such tax legislation on our financial position and operations is uncertain and could be adverse.

Item 1B. UNRESOLVED STAFF COMMENTS

The Company has no unresolved staff comments from the Securities and Exchange Commission.

Item 2. PROPERTIES

The Company's headquarters is located at 16600 Swingley Ridge Road, Chesterfield, Missouri, which comprises approximately 400,000 square feet. In addition, the Company leases approximately 309,000 square feet of office space in 42 locations throughout the world.

Most of the Company's leases have terms of three to five years; while some leases have longer terms, none exceed 15 years. As provided in Note 12 – "Commitments, Contingencies and Guarantees" in the Notes to Consolidated Financial Statements, the rental expense on operating leases for office space and equipment totaled $15.7 million for 2017.

The Company believes its facilities have been generally well maintained and are in good operating condition. The Company believes the facilities are sufficient for its current requirements.

Item 3. LEGAL PROCEEDINGS

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

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND ISSUER PURCHASES OF EQUITY SECURITIES

Insurance companies are subject to statutory regulations that restrict the payment of dividends. See Item 1 under the caption Regulation – "Restrictions on Dividends and Distributions". See Item 8, Note 18 – "Equity" in the Notes to Consolidated Financial Statements for information regarding board-approved stock repurchase plans. See Item 12 for information about the Company's compensation plans.

Reinsurance Group of America, Incorporated common stock is traded on the New York Stock Exchange (NYSE) under the symbol "RGA". On January 31, 2018, there were 26,844 stockholders of record of RGA's common stock and 64.5 million shares outstanding. The following table presents the high and low closing prices for the common stock on the New York Stock Exchange during the periods indicated and the dividends declared per share during such periods:

	2017			2016		
Period	High	Low	Dividends Declared	High	Low	Dividends Declared
First Quarter	$ 132.25	$ 122.70	$ 0.41	$ 96.36	$ 78.61	$ 0.37
Second Quarter	130.52	122.13	0.41	99.29	90.26	0.37
Third Quarter	141.19	127.52	0.50	110.08	93.44	0.41
Fourth Quarter	164.17	140.60	0.50	128.28	107.00	0.41

Issuer Purchases of Equity Securities

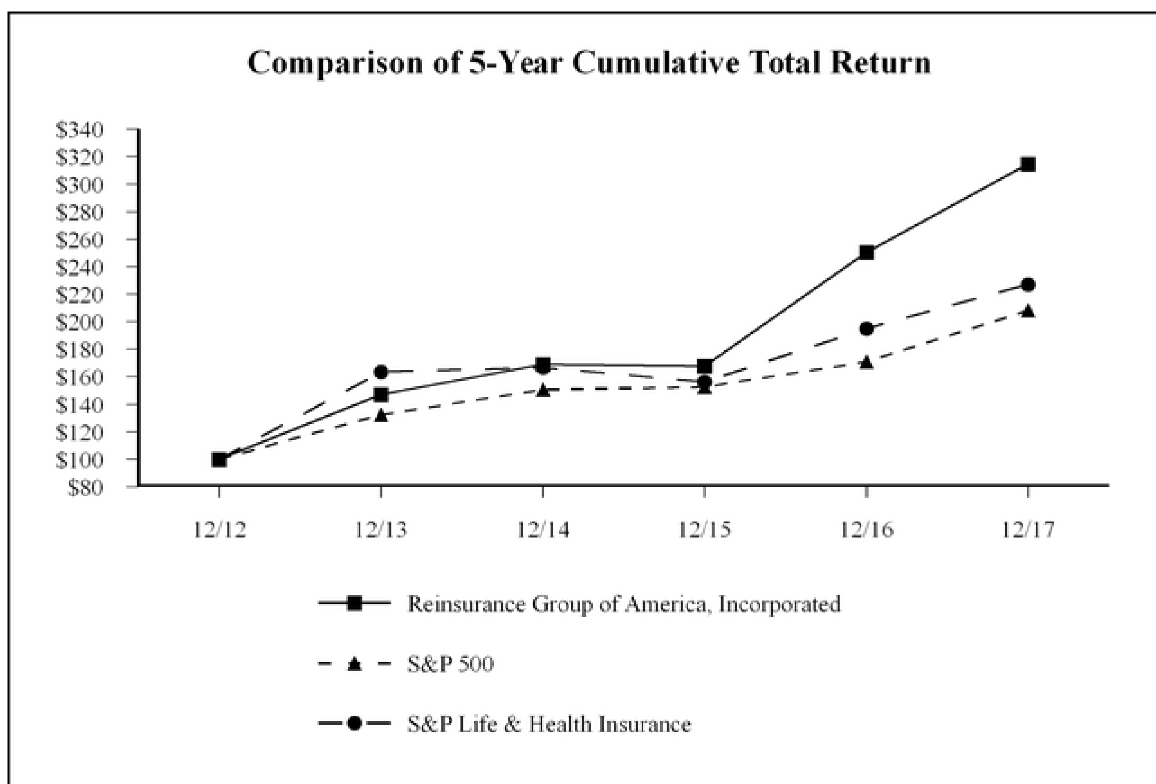
The following table summarizes RGA's repurchase activity of its common stock during the quarter ended December 31, 2017:

	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plan or Program
October 1, 2017 - October 31, 2017	1,171	$ 143.21	—	$ 373,103,074
November 1, 2017 - November 30, 2017	11,936	$ 154.26	—	$ 373,103,074
December 1, 2017 - December 31, 2017	865	$ 160.56	—	$ 373,103,074

(1) RGA had no repurchases of common stock under its share repurchase program during October, November and December 2017. The Company net settled - issuing 3,705, 28,520 and 3,594 shares from treasury and repurchasing from recipients 1,171, 11,936 and 865 shares in October, November and December 2017, respectively, in settlement of income tax withholding requirements incurred by the recipients of equity incentive awards.

Comparison of 5-Year Cumulative Total Return

Set forth below is a graph for the Company's common stock for the period beginning December 31, 2012 and ending December 31, 2017, assuming $100 was invested on December 31, 2012. The graph compares the cumulative total return on the Company's common stock, based on the market price of the common stock and assuming reinvestment of dividends, with the cumulative total return of companies in the Standard & Poor's 500 Stock Index and the Standard & Poor's Insurance (Life/Health) Index. The indices are included for comparative purposes only. They do not necessarily reflect management's opinion that such indices are an appropriate measure of the relative performance of the Company's common stock, and are not intended to forecast or be indicative of future performance of the common stock.



	Base Period	Cumulative Total Return				
	12/12	12/13	12/14	12/15	12/16	12/17
Reinsurance Group of America, Incorporated	$ 100.00	$ 147.04	$ 169.10	$ 167.63	$ 250.55	$ 314.65
S & P 500	100.00	132.39	150.51	152.59	170.84	208.14
S & P Life & Health Insurance	100.00	163.48	166.66	156.14	194.96	226.98

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Item 6. SELECTED FINANCIAL DATA

The following selected financial data has been derived from the Company's audited consolidated financial statements. The consolidated statement of income data for the years ended December 31, 2017, 2016 and 2015, and the consolidated balance sheet data at December 31, 2017 and 2016 have been derived from the Company's audited consolidated financial statements included elsewhere herein. The consolidated statement of income data for the years ended December 31, 2014 and 2013, and the consolidated balance sheet data at December 31, 2015, 2014 and 2013 have been derived from the Company's audited consolidated financial statements not included herein. The selected financial data set forth below should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes included elsewhere herein.

Selected Consolidated Financial and Operating Data
(in millions, except per share and operating data)

	As of or For the Years Ended December 31,				
Income Statement Data	2017	2016	2015	2014	2013
Revenues:					
Net premiums	$ 9,841.1	$ 9,248.9	$ 8,570.7	$ 8,669.9	$ 8,254.0
Investment income, net of related expenses	2,154.7	1,911.9	1,734.5	1,713.7	1,699.9
Investment related gains (losses), net:					
Other-than-temporary impairments on fixed maturity securities	(42.6)	(38.8)	(57.4)	(7.8)	(12.7)
Other-than-temporary impairments on fixed maturity securities transferred to (from) other comprehensive income	—	0.1	—	—	(0.2)
Other investment related gains (losses), net	210.5	132.9	(107.3)	194.0	76.9
Total investment related gains (losses), net	167.9	94.2	(164.7)	186.2	64.0
Other revenues	352.1	266.5	277.7	334.4	300.5
Total revenues	12,515.8	11,521.5	10,418.2	10,904.2	10,318.4
Benefits and expenses:					
Claims and other policy benefits	8,518.9	7,993.4	7,489.4	7,406.7	7,304.3
Interest credited	502.1	364.7	337.0	451.0	476.5
Policy acquisition costs and other insurance expenses	1,466.7	1,310.6	1,127.5	1,391.4	1,300.8
Other operating expenses	710.7	645.5	554.0	538.4	466.7
Interest expense	146.0	137.6	142.9	96.7	124.3
Collateral finance and securitization expense	28.6	25.8	22.6	11.5	10.5
Total benefits and expenses	11,373.0	10,477.6	9,673.4	9,895.7	9,683.1
Income before income taxes	1,142.8	1,043.9	744.8	1,008.5	635.3
Provision for income taxes[(1)]	(679.4)	342.5	242.6	324.5	216.4
Net income	$ 1,822.2	$ 701.4	$ 502.2	$ 684.0	$ 418.9
Earnings Per Share					
Basic earnings per share	$ 28.28	$ 10.91	$ 7.55	$ 9.88	$ 5.82
Diluted earnings per share	27.71	10.79	7.46	9.78	5.78
Weighted average diluted shares, in thousands	65,753	64,989	67,292	69,962	72,461
Dividends per share on common stock	$ 1.82	$ 1.56	$ 1.40	$ 1.26	$ 1.08
Balance Sheet Data					
Total investments	$ 51,691.2	$ 44,841.3	$ 41,978.3	$ 36,696.1	$ 32,441.1
Total assets	60,514.8	53,097.9	50,383.2	44,654.3	39,652.4
Policy liabilities[(2)]	43,583.0	37,874.0	37,370.8	30,892.2	28,386.1
Long-term debt	2,788.4	3,088.6	2,297.5	2,297.7	2,196.1
Collateral finance and securitization notes	783.9	840.7	899.2	774.0	480.9
Total stockholders' equity	9,569.5	7,093.1	6,135.4	7,023.5	5,935.5
Total stockholders' equity per share	148.48	110.31	94.09	102.13	83.87
Operating Data (in billions)					
Assumed ordinary life reinsurance in force	$ 3,297.3	$ 3,062.5	$ 2,995.1	$ 2,943.5	$ 2,889.9
Assumed new business production	395.4	404.8	491.0	482.0	370.4

(1) 2017 includes the effect of U.S. Tax Reform. See Note 9 - "Income Tax" in the Notes to Consolidated Financial Statements for additional information.

(2) Policy liabilities include future policy benefits, interest-sensitive contract liabilities, and other policy claims and benefits.

Item 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Cautionary Note Regarding Forward-Looking Statements

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

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

Forward-looking statements should be evaluated together with the many risks and uncertainties that affect the Company’s business, including those mentioned in this document and described in the periodic reports the Company files with the SEC. These forward-looking statements speak only as of the date on which they are made. The Company does not undertake any obligations to update these forward-looking statements, even though the Company’s situation may change in the future. For a discussion of these risks and uncertainties that could cause actual results to differ materially from those contained in the forward-looking statements, you are advised to see Item 1A – “Risk Factors”.

Overview

The Company is among the leading global providers of life reinsurance and financial solutions, with $3.3 trillion of life reinsurance in force and assets of $60.5 billion as of December 31, 2017. The Company’s historical approach to the reinsurance market has been to focus on large, high-quality life insurers as clients, provide quality facultative underwriting and automatic reinsurance capacity while delivering responsive and flexible service to its clients.

The Company’s underwriting expertise and industry knowledge has allowed it to expand into international markets and now has operations in over 25 countries including locations in Asia Pacific, Europe, the Middle East region and Africa. The

Company generally starts operations from the ground up in new markets as opposed to acquiring existing operations, and it often enters new markets to support its North American clients as they expand internationally. Based on the compilation of information from competitors' annual reports, the Company believes it is the third-largest global life and health reinsurer in the world based on 2016 life and health reinsurance premiums. The Company conducts business with the majority of the largest U.S. and international life insurance companies. The Company has also developed its capacity and expertise in the reinsurance of longevity risks, asset-intensive products (primarily annuities and corporate-owned life insurance) and financial reinsurance.

The Company provides traditional reinsurance and financial solutions to its clients. Traditional reinsurance includes individual and group life and health, disability, and critical illness reinsurance. Financial solutions includes longevity reinsurance, asset-intensive reinsurance, and financial reinsurance. The Company derives revenues primarily from renewal premiums from existing reinsurance treaties, new business premiums from existing or new reinsurance treaties, fee income from financial solutions business and income earned on invested assets.

Historically, the Company's primary business has been traditional life reinsurance, which involves reinsuring life insurance policies that are often in force for the remaining lifetime of the underlying individuals insured, with premiums earned typically over a period of 10 to 30 years. Each year, however, a portion of the business under existing treaties terminates due to, among other things, lapses or voluntary surrenders of underlying policies, deaths of insureds, and the exercise of recapture options by ceding companies. The Company has expanded its financial solutions business, including significant asset-intensive and longevity risk transactions, which allow its clients to take advantage of growth opportunities and manage their capital, longevity and investment risk.

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

Segment Presentation

The Company has geographic-based and business-based operational segments. Geographic-based operations are further segmented into traditional and financial solutions businesses.

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

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

Industry Trends

The Company believes that the following trends in the life insurance industry will continue to create demand for life reinsurance.

Outsourcing of Mortality. The Company believes life insurance companies will continue to utilize reinsurance to manage capital and mortality risk and to develop competitive products. The Company believes there has been a decline in the percentage of new business being reinsured in recent years, which has caused premium growth rates in the U.S. life reinsurance market to moderate. The Company believes a decline in new business being reinsured is likely a reaction by ceding companies to a broad-based increase in reinsurance rates in the market, stronger capital positions maintained by ceding companies in recent years and a desire by ceding companies to adjust their risk profiles. However, the Company believes reinsurers will continue to be an integral part of the life insurance market due to their ability to efficiently aggregate a significant volume of life insurance in force, creating economies of scale and greater diversification of risk. As a result of having larger amounts of data at their disposal compared to primary life insurance companies, reinsurers tend to have better insights into mortality trends, creating more efficient pricing for mortality risk.

Capital Management. Changing regulatory environments, most notably in Europe, rating agencies and competitive business pressures are causing life insurers to evaluate reinsurance as a means to:

- manage risk-based capital by shifting mortality and other risks to reinsurers, thereby reducing amounts of reserves and capital they need to maintain;
- release capital to pursue new business initiatives;
- unlock the capital supporting, and value embedded in, non-core product lines; and
- exit certain lines of business.

Consolidation and Reorganization within the Life Reinsurance and Life Insurance Industry. As a result of consolidations over the last decade within the life reinsurance industry, there are fewer competitors. As a consequence, the Company believes the life reinsurance pricing environment will remain attractive for the remaining life reinsurers, particularly those with a significant market presence and strong ratings.

Additionally, merger and acquisition transactions within the life insurance industry continue to occur. The Company believes that reorganizations and consolidations of life insurers will continue. As reinsurance services are used to facilitate these transactions and manage risk, the Company expects demand for its products to continue.

Changing Demographics of Insured Populations. The aging of the population in North America is increasing demand for financial products among “baby boomers” who are concerned about protecting their peak income stream and are considering retirement and estate planning. The Company believes that this trend is likely to result in continuing demand for annuity products and life insurance policies, larger face amounts of life insurance policies and higher mortality and longevity risk taken by life insurers, all of which should fuel the need for insurers to seek reinsurance coverage. The Company continues to follow a two-part business strategy to capitalize on industry trends.

1) Continue Growth of North American Mortality Business. The Company’s strategy includes continuing to grow each of the following components of its North American mortality operations:

- Facultative Reinsurance. Based on discussions with the Company’s clients, an industry survey and informal knowledge about the industry, the Company believes it is a leader in facultative underwriting in North America. The Company intends to maintain that status by emphasizing its underwriting standards, prompt response on quotes, competitive pricing, capacity, value added services and flexibility in meeting customer needs. The Company believes its facultative business has allowed it to develop close, long-standing client relationships and generate additional business opportunities with its facultative clients.
- Automatic Reinsurance. The Company intends to expand its presence in the North American automatic reinsurance market by using its mortality expertise and breadth of products and services to gain additional market share.
- In Force Block Reinsurance. Increasingly, there are occasions to grow the business by reinsuring in force blocks, as insurers and reinsurers seek to exit various non-core businesses and increase financial flexibility in order to, among other things, redeploy capital and pursue merger and acquisition activity. The Company continually seeks these types of opportunities.

2) Continue Growth in Selected International Markets and Products. The Company’s strategy includes building upon the expertise and relationships developed in its North American business platform to continue its growth in selected international markets and products, including:

- International Markets. Management believes that international markets continue to offer opportunities for long-term growth, and the Company intends to capitalize on these opportunities by growing its presence in selected markets. Since 1994, the Company has entered new markets internationally, including, in the mid-to-late 1990s, Australia,

Hong Kong, Japan, Malaysia, New Zealand, South Africa, Spain, Taiwan and the UK, and beginning in 2002, China, India and South Korea. The Company received regulatory approval to open a representative office in China in 2005 and received its branch license there in 2014; opened representative offices in Poland and Germany in 2006; opened new offices in France and Italy in 2007; opened a representative office in the Netherlands in 2009; and commenced operations in the UAE in 2011 and in Brazil in 2015. Before entering new markets, the Company evaluates several factors including:

- the size of the insured population,
- competition,
- the level of reinsurance penetration,
- regulation,
- existing clients with a presence in the market, and
- the economic, social and political environment.

As previously indicated, the Company generally starts new operations in these markets from the ground up as opposed to acquiring existing operations, and it often enters these markets to support its large international clients as they expand into additional markets. Many of the markets that the Company has entered since 1994, or may enter in the future, are not utilizing life reinsurance, including facultative life reinsurance, at the same levels as the North American market, and therefore, the Company believes these markets represent opportunities for increasing reinsurance penetration. In particular, management believes markets such as Japan, Southeast Asia and South Korea are beginning to realize the benefits that reinsurers bring to the life insurance market. Markets such as China and India represent longer-term opportunities for growth as the underlying direct life insurance markets grow to meet the needs of growing middle-class populations. Additionally, the Company believes that regulatory changes (e.g., Solvency II) in European markets may cause ceding companies to reduce counterparty exposure to their existing life reinsurers and reinsure more business, creating opportunities for the Company.

- Asset-intensive and Longevity Reinsurance and Other Products. The Company intends to continue leveraging its existing client relationships and reinsurance expertise to create customized reinsurance products and solutions. Industry trends, particularly the increased pace of consolidation and reorganization among life insurance companies and changes in products and product distribution along with new solvency requirements, are expected to enhance existing opportunities for asset-intensive and longevity reinsurance and financial solutions products. The Company began reinsuring annuities with guaranteed minimum benefits on a limited basis in 2007. To date, most of the Company’s asset-intensive reinsurance business has been written in the U.S. and the UK; however, additional opportunities outside of the U.S. continue to develop. The Company also provides longevity reinsurance in Europe and Canada, and in 2008 entered the U.S. healthcare reinsurance market with a primary focus on long-term care and Medicare supplement insurance. Additionally, the Company is experiencing growth in health related product offerings, such as critical illness, most notably in select Asian markets. In 2010, the Company expanded into the group reinsurance market in North America with the acquisition of Reliastar Life Insurance Company’s U.S. and Canada operations.

Consolidated Results of Operations

The following table summarizes net income for the periods presented.

	For the years ended December 31,		
	2017	2016	2015
Revenues	(Dollars in thousands, except per share data)		
Net premiums	$ 9,841,130	$ 9,248,871	$ 8,570,741
Investment income, net of related expenses	2,154,651	1,911,886	1,734,495
Investment related gains (losses), net:			
Other-than-temporary impairments on fixed maturity securities	(42,639)	(38,805)	(57,380)
Other-than-temporary impairments on fixed maturity securities transferred to (from) accumulated other comprehensive income	—	74	—
Other investment related gains (losses), net	210,519	132,926	(107,370)
Total investment related gains (losses), net	167,880	94,195	(164,750)
Other revenues	352,108	266,559	277,692
Total revenues	12,515,769	11,521,511	10,418,178
Benefits and expenses			
Claims and other policy benefits	8,518,917	7,993,375	7,489,382
Interest credited	502,040	364,691	336,964
Policy acquisition costs and other insurance expenses	1,466,646	1,310,540	1,127,486
Other operating expenses	710,690	645,509	554,044
Interest expense	146,025	137,623	142,863
Collateral finance and securitization expense	28,636	25,827	22,644
Total benefits and expenses	11,372,954	10,477,565	9,673,383
Income before income taxes	1,142,815	1,043,946	744,795
Provision for income taxes	(679,366)	342,503	242,629
Net income	$ 1,822,181	$ 701,443	$ 502,166
Earnings per share			
Basic earnings per share	$ 28.28	$ 10.91	$ 7.55
Diluted earnings per share	27.71	10.79	7.46
Dividends declared per share	$ 1.82	$ 1.56	$ 1.40

Consolidated net income increased $1.1 billion, or 159.8%, and $199.3 million, or 39.7%, in 2017 and 2016, respectively. Diluted earnings per share were $27.71 in 2017 compared to $10.79 in 2016 and $7.46 in 2015. As a result of the U.S. corporate income tax rate being reduced from 35 percent to 21 percent as part of the Tax Cuts and Jobs Act of 2017 ("U.S. Tax Reform"), a net tax benefit was recorded in 2017 of approximately $1.0 billion or $15.72 per diluted share, primarily related to the revaluation of the Company's net deferred tax liabilities. The estimated impact of U.S. Tax Reform is based on the best information currently available and may change as a result of changes in interpretations and assumptions the Company has made.

Consolidated income before income taxes increased $98.9 million, or 9.5%, and $299.2 million, or 40.2% in 2017 and 2016, respectively. The increase in income before income taxes in 2017 was primarily due to higher investment income, increased other revenues and improved claims experience in Europe, Middle East and Africa ("EMEA") partially offset by higher interest expense. The increase in investment income is discussed below, the increase in other revenues is largely due to recapture fees as discussed within the Asia Pacific section. The increase in interest expense is discussed within the Corporate and Other section. The increase in income before income taxes in 2016 was primarily due to an increase in investment related gains, higher investment income and improved mortality experience in the U.S. operations compared to the prior year.

The increases in investment related gains reflect changes in the fair value of embedded derivatives on modco or funds withheld treaties in 2017 and 2016, primarily due to changes in credit spreads. The effect of the change in fair value of these embedded derivatives on income is discussed below. Foreign currency exchange fluctuations resulted in decreases to income before income taxes of approximately $1.4 million and $28.9 million in 2017 and 2016, respectively.

The Company recognizes in consolidated income any changes in the value of embedded derivatives on modco or funds withheld treaties, equity-indexed annuity treaties ("EIAs") and variable annuity products. The combined changes in these three types of embedded derivatives, after adjustment for deferred acquisition costs and retrocession, resulted in an increase to income before income taxes of $209.6 million and $43.7 million in 2017 and 2016, respectively, as compared to the prior years. These fluctuations do not affect current cash flows, crediting rates or spread performance on the underlying treaties. Therefore, management believes it is helpful to distinguish between the effects of changes in these embedded derivatives, net of related

hedging activity, and the primary factors that drive profitability of the underlying treaties, namely investment income, fee income, and interest credited. The individual effect on income before income taxes for these three types of embedded derivatives is as follows:

- The change in the value of embedded derivatives related to reinsurance treaties written on a modco or funds withheld basis are subject to the general accounting principles for *Derivatives and Hedging* related to embedded derivatives. The unrealized gains and losses associated with these embedded derivatives, after adjustment for deferred acquisition costs, increased income before income taxes by $60.3 million and $54.1 million in 2017 and 2016, respectively, as compared to the prior years.
- Changes in risk-free rates used in the fair value estimates of embedded derivatives associated with EIAs affect the amount of unrealized gains and losses the Company recognizes. The unrealized gains and losses associated with EIAs, after adjustment for deferred acquisition costs and retrocession, increased income before income taxes by $3.4 million and $8.4 million in 2017 and 2016, respectively, as compared to the prior years.
- The change in the Company's liability for variable annuities associated with guaranteed minimum living benefits affects the amount of unrealized gains and losses the Company recognizes. The unrealized gains and losses associated with guaranteed minimum living benefits, after adjustment for deferred acquisition costs, increased income before income taxes by $145.9 million in 2017 and decreased income by $18.8 million in 2016, as compared to the prior years. After consideration of the change in fair value of freestanding derivatives used to hedge this liability, income before income taxes increased by $15.5 million in 2017 and decreased by $19.4 million in 2016, as compared to the prior years.

Consolidated net premiums increased $592.3 million, or 6.4%, and $678.1 million, or 7.9%, in 2017 and 2016, respectively. The increases in 2017 and 2016 are primarily due to growth in life reinsurance in force. In addition, the increase in 2016 reflects large in force block transactions entered into during the latter part of 2015, partially offset by adverse foreign currency fluctuations. Foreign currency fluctuations relative to the prior year affected net premiums favorably by approximately $25.9 million in 2017 and unfavorably by $172.2 million in 2016. Consolidated assumed life insurance in force was $3,297.3 billion, $3,062.5 billion and $2,995.1 billion as of December 31, 2017, 2016 and 2015, respectively. Foreign currency fluctuations affected the increases in assumed life insurance in force favorably by $121.1 billion in 2017 and unfavorably by $68.0 billion 2016. The Company added new business production, measured by face amount of insurance in force, of $395.4 billion, $404.8 billion and $491.0 billion during 2017, 2016 and 2015, respectively.

Consolidated investment income, net of related expenses, increased $242.8 million, or 12.7%, and $177.4 million, or 10.2%, in 2017 and 2016, respectively, primarily due to increases in the average invested asset base. Investment income reflects market value changes related to the Company's funds withheld at interest investment associated with the reinsurance of certain EIAs, which contributed $117.0 million and $23.4 million to the increases in 2017 and 2016, respectively. The effect on investment income of the EIAs' market value changes is substantially offset by a corresponding change in interest credited to policyholder account balances resulting in an insignificant effect on net income.

The average invested assets at amortized cost, excluding spread related business, totaled $25.2 billion, $23.2 billion and $20.8 billion in 2017, 2016 and 2015, respectively. The average yield earned on investments, excluding spread related business, was 4.55%, 4.57% and 4.82% in 2017, 2016 and 2015, respectively. The yield in 2015 benefited from the cumulative effect of income related to a funds withheld transaction executed in the fourth quarter of 2015 within the U.S. and Latin America Traditional segment, retroactive to the beginning of the year. The average yield will vary from year to year depending on a number of variables, including the prevailing interest rate and credit spread environment, prepayment fees and make-whole premiums, changes in the mix of the underlying investments and cash balances, and the timing of dividends and distributions on certain investments. Investment income in 2017 benefited from a higher level of bond make-whole premiums and distributions from joint ventures and limited partnerships. A continued low interest rate environment is expected to put downward pressure on this yield in future reporting periods.

Total investment related gains (losses), net, improved by $73.7 million, or 78.2%, and $258.9 million, or 157.2% in 2017 and 2016, respectively. These improvements are primarily due to a favorable changes in the value of embedded derivatives related to reinsurance treaties written on a modco or funds withheld basis of $90.6 million and $152.9 million in 2017 and 2016, respectively. Investment impairments on fixed maturity securities increased by $3.8 million in 2017 and decreased by $18.6 million in 2016, compared to the prior years. See Note 4 - "Investments" and Note 5 - "Derivative Instruments" in the Notes to Consolidated Financial Statements for additional information on investment related gains (losses), net, and derivatives. Investment income is allocated to the operating segments based upon average assets and related capital levels deemed appropriate to support segment operations.

The effective tax rate on a consolidated basis was (59.4%), 32.8%, and 32.6% for 2017, 2016, and 2015, respectively. The 2017 effective tax rate includes the tax effects of the aforementioned U.S. Tax Reform. The Company recorded an estimated net tax benefit of approximately $1.0 billion resulting in a reduction to the effective tax rate of 90.4%. Due to the complexity of

the new global intangible low tax income (“GILTI”) tax rules, as well as the new base erosion anti-abuse tax (“BEAT”), the Company is continuing to evaluate the effect of these taxes on the future effective tax rate. Notwithstanding the aforementioned complexities, the Company does not expect the GILTI and BEAT to have a material adverse effect on the effective tax rate; moreover, as result of the change in the U.S. federal corporate tax rate from 35% to 21%, the Company expects a lower overall effective tax rate in future years.

The 2016 and 2015 effective tax rates are affected by earnings of non-U.S. subsidiaries in which the Company is permanently reinvested whose statutory tax rates are less than the U.S. statutory tax rate of 35.0%, tax benefits related to the release of uncertain tax positions and differences in tax bases in foreign jurisdictions. Canada and UK statutory rates are less than the U.S. statutory rate resulting in the legal entities in these jurisdictions giving rise to the majority of the foreign rate differential. See Note 9 - “Income Tax” in the Notes to Consolidated Financial Statements for additional information on the Company’s consolidated effective tax rate.

Critical Accounting Policies

The Company’s accounting policies are described in Note 2 – “Summary of Significant Accounting Policies” in the Notes to Consolidated Financial Statements. The Company believes its most critical accounting policies include the establishment of premiums receivable; amortization of deferred acquisition costs (“DAC”); the establishment of liabilities for future policy benefits and incurred but not reported claims; the valuation of investments and investment impairments; the valuation of embedded derivatives; and accounting for income taxes. The balances of these accounts require extensive use of assumptions and estimates, particularly related to the future performance of the underlying business.

Differences in experience compared with the assumptions and estimates utilized in establishing premiums receivable, the justification of the recoverability of DAC, in establishing reserves for future policy benefits and claim liabilities, or in the determination of other-than-temporary impairments to investment securities can have a material effect on the Company’s results of operations and financial condition.

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 insurance 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.

Deferred 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 DAC. The Company also performs annual tests to establish that DAC remain recoverable at all times, 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, 2016 and 2015.

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 actual and estimated gross profits expected to be realized from mortality, investment income less interest credited, and expense margins.

Liabilities for Future Policy Benefits and Incurred but not Reported Claims

Liabilities for future policy benefits under long-term life insurance policies (policy reserves) are computed based upon expected investment yields, mortality and withdrawal (lapse) rates, and other assumptions, including a provision for adverse deviation from expected claim levels. The Company primarily relies on its own valuation and administration systems to establish policy reserves. The policy reserves the Company establishes may differ from those established by the ceding companies due to the use of different mortality and other assumptions. However, the Company relies upon its ceding company clients to provide accurate data, including policy-level information, premiums and claims, which is the primary information used to establish reserves. The Company's administration departments work directly with clients to help ensure information is submitted in accordance with the reinsurance contracts. Additionally, the Company performs periodic audits of the information provided by clients. The Company establishes reserves for processing backlogs with a goal of clearing all backlogs within a ninety-day period. The backlogs are usually due to data errors the Company discovers or computer file compatibility issues, since much of the data reported to the Company is in electronic format and is uploaded to its computer systems.

The Company periodically reviews actual historical experience and relative anticipated experience compared to the assumptions used to establish aggregate policy reserves. Further, the Company establishes premium deficiency reserves if actual and anticipated experience indicates that existing aggregate policy reserves, together with the present value of future gross premiums, are not sufficient to cover the present value of future benefits, settlement and maintenance costs and to recover unamortized acquisition costs. The premium deficiency reserve is established through a charge to income, as well as a reduction to unamortized acquisition costs and, to the extent there are no unamortized acquisition costs, an increase to future policy benefits. Because of the many assumptions and estimates used in establishing reserves and the long-term nature of the Company's reinsurance contracts, the reserving process, while based on actuarial science, is inherently uncertain. If the Company's assumptions, particularly on mortality, are inaccurate, its reserves may be inadequate to pay claims and there could be a material adverse effect on its results of operations and financial condition.

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 the date when the ceding company reports the claim to the Company can be several months and 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 net income in the period in which they are determined.

Valuation of Investments and Other-than-Temporary Impairments

The Company primarily invests in fixed maturity securities, mortgage loans, short-term investments, and other invested assets. For investments 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 Company may utilize information from third parties, such as pricing services and brokers, to assist in determining the fair value for certain investments; 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 investment being valued and significant expertise and judgment is required.

Fixed maturity securities are classified as available-for-sale and are carried at fair value. 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 stockholders' equity on the consolidated balance sheets.

See "Investments" in Note 2 – "Summary of Significant Accounting Policies" and Note 6 – "Fair Value of Assets and Liabilities" in the Notes to the Consolidated Financial Statements for additional information regarding the valuation of the Company's investments.

Mortgage loans on real estate are carried at unpaid principal balances, net of any unamortized premium or discount and valuation allowances. For a discussion regarding the valuation allowance for mortgage loans see "Mortgage Loans on Real Estate" in Note 2 – "Summary of Significant Accounting Policies" in the Notes to the Consolidated Financial Statements.

In addition, investments are subject to impairment reviews to identify when a decline in value is other-than-temporary. Other-than-temporary impairment losses related to non-credit factors are recognized in AOCI whereas the credit loss portion is recognized in investment related gains (losses), net. See "Other-than-Temporary Impairment" in Note 2 – "Summary of Significant Accounting Policies" in the Notes to the Consolidated Financial Statements for a discussion of the policies regarding other-than-temporary impairments.

Valuation of Embedded Derivatives

The Company reinsures certain annuity products that contain terms that are deemed to be embedded derivatives, primarily equity-indexed annuities and variable annuities with guaranteed minimum benefits. The Company assesses each identified embedded derivative to determine whether it is required to be bifurcated under the general accounting principles for *Derivatives and Hedging*. If the instrument would not be reported 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 as a freestanding derivative. Such embedded derivatives are carried on the consolidated balance sheets at fair value with the host contract.

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. The majority of the Company's funds withheld at interest balances are associated with its reinsurance of annuity contracts, the majority of which 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 the various embedded derivatives requires complex calculations based on actuarial and capital markets inputs and assumptions related to estimates of future cash flows and interpretations of the primary accounting guidance continue to evolve in practice. 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). See "Derivative Instruments" in Note 2 – "Summary of Significant Accounting Policies" and Note 6 – "Fair Value of Assets and Liabilities" in the Notes to the Consolidated Financial Statements for additional information regarding the valuation of the Company's embedded derivatives.

Income Taxes

The Company provides for federal, state 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 other comprehensive income. 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 aforementioned 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 reporting 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 deferred tax assets related to net operating and capital 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 projected 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 accounts for 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 statement 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.

Results of Operations by Segment

U.S. and Latin America Operations

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

For the year ended December 31, 2017		Financial Solutions		
(dollars in thousands)	Traditional	Asset-Intensive	Financial Reinsurance	Total U.S. and Latin America
Revenues:				
Net premiums	$ 5,356,321	$ 23,683	$ —	$ 5,380,004
Investment income, net of related expenses	728,073	769,932	8,541	1,506,546
Investment related gains (losses), net	(1,606)	144,343	—	142,737
Other revenues	17,383	98,782	105,097	221,262
Total revenues	6,100,171	1,036,740	113,638	7,250,549
Benefits and expenses:				
Claims and other policy benefits	4,760,194	78,447	—	4,838,641
Interest credited	82,218	379,921	—	462,139
Policy acquisition costs and other insurance expenses	753,336	229,506	22,804	1,005,646
Other operating expenses	130,989	28,158	9,958	169,105
Total benefits and expenses	5,726,737	716,032	32,762	6,475,531
Income before income taxes	$ 373,434	$ 320,708	$ 80,876	$ 775,018

For the year ended December 31, 2016		Financial Solutions		
(dollars in thousands)	Traditional	Asset-Intensive	Financial Reinsurance	Total U.S. and Latin America
Revenues:				
Net premiums	$ 5,249,571	$ 24,349	$ —	$ 5,273,920
Investment income, net of related expenses	699,833	623,974	7,123	1,330,930
Investment related gains (losses), net	(4,229)	13,648	—	9,419
Other revenues	19,793	93,614	77,738	191,145
Total revenues	5,964,968	755,585	84,861	6,805,414
Benefits and expenses:				
Claims and other policy benefits	4,632,821	81,860	—	4,714,681
Interest credited	85,029	251,247	—	336,276
Policy acquisition costs and other insurance expenses	749,487	174,225	14,650	938,362
Other operating expenses	126,530	24,111	10,973	161,614
Total benefits and expenses	5,593,867	531,443	25,623	6,150,933
Income before income taxes	$ 371,101	$ 224,142	$ 59,238	$ 654,481

For the year ended December 31, 2015		Financial Solutions		
(dollars in thousands)	Traditional	Asset-Intensive	Financial Reinsurance	Total U.S. and Latin America
Revenues:				
Net premiums	$ 4,806,706	$ 22,177	$ —	$ 4,828,883
Investment income, net of related expenses	636,779	560,701	5,479	1,202,959
Investment related gains (losses), net	2,306	(118,482)	—	(116,176)
Other revenues	19,235	105,389	68,601	193,225
Total revenues	5,465,026	569,785	74,080	6,108,891
Benefits and expenses:				
Claims and other policy benefits	4,366,696	66,146	—	4,432,842
Interest credited	77,500	244,318	—	321,818
Policy acquisition costs and other insurance expenses	673,331	85,760	10,193	769,284
Other operating expenses	111,728	20,615	8,870	141,213
Total benefits and expenses	5,229,255	416,839	19,063	5,665,157
Income before income taxes	$ 235,771	$ 152,946	$ 55,017	$ 443,734

Income before income taxes for the U.S. and Latin America operations segment increased by $120.5 million, or 18.4%, and $210.7 million, or 47.5%, in 2017 and 2016, respectively. The increase in 2017 was the result of several factors, including changes in the value of the embedded derivatives associated with reinsurance treaties structured on a modco or funds withheld, an increase in investment related capital gains and additional variable investment income. The increase in 2016 was driven by changes in the value of the embedded derivatives associated with reinsurance treaties structured on a modco or funds withheld basis, improved claims experience in the Traditional segment, and higher investment income due to a higher invested asset base, driven largely by acquisitions of in force blocks late in 2015.

Traditional Reinsurance

The U.S. and Latin America Traditional segment provides individual and group life and health reinsurance to domestic clients for a variety of products through yearly renewable term, coinsurance and modified coinsurance agreements. These reinsurance arrangements may involve either facultative or automatic agreements.

Income before income taxes for the U.S. and Latin America Traditional segment increased by $2.3 million, or 0.6%, and $135.3 million, or 57.4% in 2017 and 2016, respectively. The increase in 2017 was primarily due to higher investment income from variable investment income and a growing asset base offset somewhat by lower investment yields. Additionally, U.S. Traditional had a slightly lower underwriting margin compared to 2016. The increase in 2016 was primarily due to improved claims experience and an increase in investment income due to a higher invested asset base primarily associated with large in force block transactions executed in the fourth quarter of 2015.

Net premiums increased $106.8 million, or 2.0%, and $442.9 million, or 9.2% in 2017 and 2016, respectively. The increase in 2017 was primarily due to expected organic premium growth in yearly renewable term and coinsurance business offset somewhat by a negotiated modification of a health treaty. The increase in 2016 was primarily due to large in force block transactions executed during the latter part of 2015, significant individual health and group life transactions executed in the first six months of 2016, and organic premium growth. The segment added new life business production, measured by face amount of insurance in force, of $99.4 billion, $126.4 billion and $203.9 billion during 2017, 2016 and 2015, respectively. Contributing to the increases in 2015 were large in force block transactions of $114.5 billion. Total face amount of life business in force was $1,609.8 billion, $1,609.3 billion and $1,594.3 billion as of December 31, 2017, 2016 and 2015, respectively.

Net investment income increased $28.2 million, or 4.0%, and $63.1 million, or 9.9%, in 2017 and 2016, respectively. The increase in 2017 was primarily due to strong variable investment income associated with a higher level of bond make-whole premiums and distributions from joint ventures and limited partnerships, and an increase in the average invested asset base partially offset by a lower investment yield. The increase in 2016 was primarily due to an increase in the average invested asset base primarily associated with the aforementioned in force block transactions along with strong variable investment income partially offset by a lower investment yield. Investment related gains increased by $2.6 million in 2017, and decreased by $6.5 million in 2016. The increase in 2017 was primarily driven by changes in the value of the embedded derivatives associated with one reinsurance treaty structured on a modco basis.

Claims and other policy benefits as a percentage of net premiums (“loss ratios”) were 88.9%, 88.3% and 90.8% in 2017, 2016 and 2015, respectively. The increase in the loss ratio for 2017 was primarily due to unfavorable claims experience in the traditional mortality and group health lines of business. The decrease in the loss ratio for 2016 was primarily related to improvement

in the traditional life mortality business due to a decrease in the average claim size. In addition, in 2015 the group disability business was negatively affected by an increase in new and reopened claims.

Interest credited expense decreased by $2.8 million, or 3.3%, in 2017 and increased by $7.5 million, or 9.7%, in 2016. The decrease in 2017 relates to primarily to one treaty in which the interest credited will vary depending on the number of deaths in any given year. The decrease is primarily offset by a decrease in investment income. The increase in 2016 was the result of a full year of expense on a new treaty signed in April of 2015. The variances in interest credited expense are largely offset by variances in investment income. Interest credited in this segment relates to amounts credited on cash value products which also have a significant mortality component. Income before income taxes is affected by the spread between the investment income and the interest credited on the underlying products.

Policy acquisition costs and other insurance expenses as a percentage of net premiums were 14.1%, 14.3% and 14.0% in 2017, 2016 and 2015, respectively. Overall, while these ratios are expected to remain in a predictable range, they may fluctuate from period to period due to varying allowance levels within coinsurance-type arrangements. In addition, the amortization pattern of previously capitalized amounts, which are subject to the form of the reinsurance agreement and the underlying insurance policies, may vary. Also, the mix of first year coinsurance business versus yearly renewable term business can cause the percentage to fluctuate from period to period. In recent years, reinsurance treaties weighted toward yearly renewable term structures have contributed to relatively stable rates.

Other operating expenses increased $4.5 million, or 3.5%, and $14.8 million, or 13.2% in 2017 and 2016, respectively. Contributing to the increase in 2016 was an expansion in underwriting personnel to support clients. Other operating expenses, as a percentage of net premiums, were 2.4%, 2.4% and 2.3% in 2017, 2016 and 2015, respectively. The expense ratio tends to fluctuate only slightly from period to period due to maturity and scale of this segment.

Financial Solutions - Asset-Intensive Reinsurance

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

Impact of certain derivatives

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

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

For the year ended December 31, (dollars in thousands)	2017	2016	2015
Revenues:			
Total revenues	$ 1,036,740	$ 755,585	$ 569,785
Less:			
Embedded derivatives – modco/funds withheld treaties	146,329	58,737	(101,300)
Guaranteed minimum benefit riders and related free standing derivatives	(18,686)	(39,786)	(7,658)
Revenues before certain derivatives	909,097	736,634	678,743
Benefits and expenses:			
Total benefits and expenses	716,032	531,443	416,839
Less:			
Embedded derivatives – modco/funds withheld treaties	70,392	40,077	(58,754)
Guaranteed minimum benefit riders and related free standing derivatives	(5,369)	(10,937)	1,750
Equity-indexed annuities	(14,463)	(11,046)	(2,686)
Benefits and expenses before certain derivatives	665,472	513,349	476,529
Income (loss) before income taxes:			
Income before income taxes	320,708	224,142	152,946
Less:			
Embedded derivatives – modco/funds withheld treaties	75,937	18,660	(42,546)
Guaranteed minimum benefit riders and related free standing derivatives	(13,317)	(28,849)	(9,408)
Equity-indexed annuities	14,463	11,046	2,686
Income before income taxes and certain derivatives	$ 243,625	$ 223,285	$ 202,214

Embedded Derivatives - Modco/Funds Withheld Treaties - Represents the change in the fair value of embedded derivatives on funds withheld at interest associated with treaties written on a modco or funds withheld basis. The fair value changes of embedded derivatives on funds withheld at interest associated with treaties written on a modco or funds withheld basis are reflected in revenues, while the related impact on deferred acquisition expenses is reflected in benefits and expenses. The Company’s utilization of a credit valuation adjustment did not have a material effect on the change in fair value of these embedded derivatives for the years ended December 31, 2017, 2016 and 2015.

The change in fair value of the embedded derivatives - modco/funds withheld treaties increased (decreased) income before income taxes by $75.9 million, $18.7 million and $(42.5) million in 2017, 2016 and 2015, respectively. The increases in income in 2017 and 2016 were primarily due to tightening credit spreads. The decrease in income in 2015 was primarily due to widening credit spreads and increasing risk-free rates.

Guaranteed Minimum Benefit Riders - Represents the impact related to guaranteed minimum benefits associated with the Company’s reinsurance of variable annuities. The fair value changes of the guaranteed minimum benefits along with the changes in fair value of the free standing derivatives (interest rate swaps, financial futures and equity options), purchased by the Company to substantially hedge the liability are reflected in revenues, while the related impact on deferred acquisition expenses is reflected in benefits and expenses. The Company’s utilization of a credit valuation adjustment did not have a material effect on the change in fair value of these embedded derivatives for the years ended December 31, 2017, 2016 and 2015.

The change in fair value of the guaranteed minimum benefits, after allowing for changes in the associated free standing derivatives, decreased income before income taxes by $13.3 million, $28.8 million and $9.4 million in 2017, 2016 and 2015, respectively. The decrease in income for all periods is primarily due to the annual update of best estimate actuarial assumptions to account for lower policyholder termination experience.

Equity-Indexed Annuities - Represents changes in the liability for equity-indexed annuities in excess of changes in account value, after adjustments for related deferred acquisition expenses. The change in fair value of embedded derivative liabilities associated with equity-indexed annuities increased income before income taxes by $14.5 million, $11.0 million and $2.7 million, in 2017, 2016 and 2015, respectively. The increase in income in in each period was primarily due to the flattening of the treasury yield curve.

Discussion and analysis before certain derivatives

Income before income taxes and certain derivatives increased by $20.3 million and $21.1 million in 2017 and 2016, respectively. The increase in income in 2017, was primarily due to the impact of rising equity markets associated with the

Company's reinsurance of EIAs and variable annuities and higher variable investment income. The increase in income in 2016, was primarily due to the full year impact in 2016 from the acquisition of Aurora National in the second quarter of 2015 and investment related gains (losses) associated with funds withheld and coinsurance portfolios, net of the corresponding impact to deferred acquisition costs. Funds withheld capital gains (losses) are reported through investment income while coinsurance activity is reflected in investment related gains (losses), net.

Revenue before certain derivatives increased by $172.5 million and by $57.9 million in 2017 and 2016, respectively. The increase in 2017 was primarily due to the change in fair value of equity options associated with the reinsurance of EIAs, investment income from a new coinsurance transaction in 2017, and higher investment related gains (losses) associated with coinsurance and funds withheld portfolios. The increase in 2016 was primarily due to the increase in fair value of equity options associated with the reinsurance of EIAs and the full year impact in 2016 from the acquisition of Aurora National in the second quarter of 2015. The effect on investment income related to equity options is substantially offset by a corresponding change in interest credited.

Benefits and expenses before certain derivatives increased by $152.1 million and by $36.8 million in 2017 and 2016, respectively. The increase in 2017 was primarily due to higher interest credited associated with the reinsurance of EIAs, interest credited from a new coinsurance transaction in 2017 and the corresponding impact to deferred acquisition costs from investment related gains (losses) in coinsurance and funds withheld portfolios. The increase in 2016 was primarily due to higher interest credited associated with the reinsurance of certain EIAs and the full year impact in 2016 from the acquisition of Aurora National in the second quarter of 2015. The effect on interest credited related to equity options is substantially offset by a corresponding change in investment income.

The invested asset base supporting this segment increased to $15.4 billion as of December 31, 2017 from $13.2 billion as of December 31, 2016. The increase in the asset base was due primarily to the aforementioned new coinsurance transaction in 2017. As of December 31, 2017 and 2016, $4.1 billion and $4.0 billion, respectively, of which greater than 90% is associated with one client.

Financial Solutions - Financial Reinsurance

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

Income before income taxes increased by $21.6 million, or 36.5%, and $4.2 million, or 7.7%, in 2017 and 2016, respectively. The increases in 2017 and 2016 were primarily related to the growth from new transactions.

At December 31, 2017, 2016 and 2015, the amount of reinsurance assumed from client companies, as measured by pre-tax statutory surplus, risk based capital and other financial reinsurance structures, was $13.1 billion, $8.8 billion and $7.2 billion, respectively. The increases in both 2017 and 2016 can primarily be attributed to an increase in the number of new transactions executed each year and is consistent with the increase in related income. Fees earned from this business can vary significantly depending on the size of the transactions and the timing of their completion and, therefore, can fluctuate from period to period.

Canada Operations

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

For the year ended December 31, 2017 (dollars in thousands)	Traditional	Financial Solutions	Total Canada
Revenues:			
Net premiums	$ 901,976	$ 38,229	$ 940,205
Investment income, net of related expenses	189,018	5,115	194,133
Investment related gains (losses), net	10,619	—	10,619
Other revenues	1,907	5,594	7,501
Total revenues	1,103,520	48,938	1,152,458
Benefits and expenses:			
Claims and other policy benefits	757,892	29,639	787,531
Interest credited	20	—	20
Policy acquisition costs and other insurance expenses	192,183	789	192,972
Other operating expenses	33,207	1,867	35,074
Total benefits and expenses	983,302	32,295	1,015,597
Income before income taxes	$ 120,218	$ 16,643	$ 136,861

For the year ended December 31, 2016 (dollars in thousands)	Traditional	Financial Solutions	Total Canada
Revenues:			
Net premiums	$ 928,642	$ 38,701	$ 967,343
Investment income, net of related expenses	178,927	2,692	181,619
Investment related gains (losses), net	10,528	—	10,528
Other revenues	(93)	5,545	5,452
Total revenues	1,118,004	46,938	1,164,942
Benefits and expenses:			
Claims and other policy benefits	707,409	36,275	743,684
Interest credited	19	—	19
Policy acquisition costs and other insurance expenses	238,252	1,231	239,483
Other operating expenses	37,619	1,487	39,106
Total benefits and expenses	983,299	38,993	1,022,292
Income before income taxes	$ 134,705	$ 7,945	$ 142,650

For the year ended December 31, 2015 (dollars in thousands)	Traditional	Financial Solutions	Total Canada
Revenues:			
Net premiums	$ 838,894	$ 37,969	$ 876,863
Investment income, net of related expenses	182,621	1,436	184,057
Investment related gains (losses), net:	(1,503)	—	(1,503)
Other revenues	3,000	5,629	8,629
Total revenues	1,023,012	45,034	1,068,046
Benefits and expenses:			
Claims and other policy benefits	670,459	29,251	699,710
Interest credited	18	—	18
Policy acquisition costs and other insurance expenses	192,729	552	193,281
Other operating expenses	35,631	1,329	36,960
Total benefits and expenses	898,837	31,132	929,969
Income before income taxes	$ 124,175	$ 13,902	$ 138,077

Income before income taxes decreased by $5.8 million, or 4.1%, and increased by $4.6 million, or 3.3%, in 2017 and 2016, respectively. The decrease in income for 2017 was primarily due to unfavorable traditional individual life mortality experience compared to favorable experience in 2016, partially offset by favorable experience on longevity business. The increase in income

for 2016 was primarily due to an increase in investment related gains (losses), net, partially offset by less favorable traditional individual life mortality experience and unfavorable experience on longevity business, as compared to 2015. Foreign currency exchange fluctuation in the Canadian dollar resulted in an increase in income before income taxes of $3.7 million and decrease of $6.4 million in 2017 and 2016, respectively.

Traditional Reinsurance

Income before income taxes decreased by $14.5 million, or 10.8%, and increased by $10.5 million, or 8.5%, in 2017 and 2016, respectively. The decrease in income for 2017 was primarily due to unfavorable traditional individual life mortality experience compared to favorable experience in 2016. The increase in income before income taxes in 2016 was primarily due to a $12.0 million increase in investment related gains (losses), net, partially offset by a less favorable traditional individual life mortality experience, as compared to 2015. Foreign currency exchange fluctuation in the Canadian dollar resulted in an increase in income before income taxes of $3.2 million and a decrease of $5.8 million in 2017 and 2016, respectively.

Net premiums decreased by $26.7 million, or 2.9%, and increased by $89.7 million, or 10.7%, in 2017 and 2016, respectively. The decrease in 2017 was primarily due to an anticipated decrease in creditor premiums of $80.4 million partially offset by an increase in traditional individual life business premiums from annually increasing premium rates on yearly renewable term treaties and favorable foreign currency exchange fluctuation. The increase in 2016 was primarily due to an increase in creditor premiums of $70.0 million and premiums from new business production partially offset by adverse currency exchange fluctuation. Foreign currency exchange fluctuation in the Canadian dollar resulted in an increase in net premiums of $18.5 million and a decrease of $33.0 million in 2017 and 2016, respectively. The segment added new business production, measured by face amount of insurance in force, of $35.6 billion, $34.9 billion and $38.6 billion during 2017, 2016 and 2015, respectively.

Net investment income increased $10.1 million, or 5.6%, and decreased by $3.7 million, or 2.0%, in 2017 and 2016, respectively. The effect of changes in the Canadian dollar exchange rates resulted in an increase in net investment income of $4.0 million and a decrease of $6.6 million in 2017 and 2016, respectively. Increases in the invested asset base increased net investment income in 2017 and 2016.

Loss ratios for the segment were 84.0%, 76.2% and 79.9% in 2017, 2016 and 2015, respectively. The increase in the 2017 loss ratio was due to unfavorable traditional life mortality experience compared to favorable experience in 2016 and a decrease in creditor business premiums. The decrease in the 2016 loss ratio was due to an increase in creditor premiums partially offset by less favorable life mortality experience, as compared to 2015. Loss ratios for the individual life mortality business were 97.2%, 93.5% and 92.4% in 2017, 2016 and 2015, respectively. Historically, the loss ratio increased primarily as the result of several large permanent level premium in force blocks assumed in 1997 and 1998. These blocks are mature blocks of long-term permanent level premium business in which mortality as a percentage of net premiums is expected to be higher than historical ratios. The nature of permanent level premium policies requires the Company to set up actuarial liabilities and invest the amounts received in excess of early-year claims costs to fund claims in later years when premiums, by design, continue to be level as compared to expected increasing mortality or claim costs. As such, investment income becomes a more significant component of profitability of these in force blocks. Excluding creditor business, claims and other policy benefits, as a percentage of net premiums and investment income were 76.5%, 73.7% and 72.2% in 2017, 2016 and 2015, respectively.

Policy acquisition costs and other insurance expenses as a percentage of net premiums for traditional individual life business were 21.3%, 25.7% and 23.0% in 2017, 2016 and 2015, respectively. Overall, while these ratios are expected to remain in a predictable range, they may fluctuate from period to period due to varying allowance levels and product mix. The decrease in 2017 reflects a lower level of creditor business which typically has a higher level of acquisition costs. In addition, the amortization pattern of previously capitalized amounts, which are subject to the form of the reinsurance agreement and the underlying insurance policies, may vary.

Other operating expenses decreased by $4.4 million, or 11.7%, and increased by $2.0 million, or 5.6%, in 2017 and 2016, respectively. Foreign currency exchange fluctuation in the Canadian dollar resulted in an increase in other operating expenses of $0.7 million and a decrease of $1.2 million in 2017 and 2016, respectively. The decrease in other operating expenses in 2017 is primarily due to decrease in allocated expense from corporate operations. The increase in other operating expenses in 2016 is primarily due to higher compensation costs. Other operating expenses as a percentage of net premiums were 3.7%, 4.1% and 4.2% in 2017, 2016 and 2015, respectively.

Financial Solutions

Income before income taxes increased by $8.7 million, or 109.5%, and decreased by $6.0 million, or 42.8%, in 2017 and 2016, respectively. The increase in income before income taxes in 2017 was primarily due to favorable experience on longevity business. The decrease in income before income taxes in 2016 was primarily due to unfavorable experience on longevity business. Foreign currency exchange fluctuation in the Canadian dollar resulted in an increase in income before income taxes of $0.4 million and a decrease of $0.7 million in 2017 and 2016, respectively.

Net premiums decreased $0.5 million, or 1.2%, and increased by $0.7 million, or 1.9%, in 2017 and 2016, respectively. Foreign currency exchange fluctuation in the Canadian dollar resulted in an increase in net premiums of $0.9 million and a decrease of $1.4 million in 2017 and 2016, respectively.

Net investment income increased by $2.4 million, or 90.0%, and $1.3 million, or 87.5%, in 2017 and 2016, respectively. The increases in net investment income for both periods were primarily due to a growth in the invested asset base.

Claims and other policy benefits decreased by $6.6 million, or 18.3%, and increased by $7.0 million, or 24.0%, in 2017 and 2016, respectively. The decrease in 2017 was primarily due to favorable experience on longevity business while the increase in 2016 was primarily due to unfavorable experience on longevity business. The effect of changes in the Canadian dollar exchange rates resulted in an increase in claims and other policy benefits of $0.6 million and a decrease of $0.8 million in 2017 and 2016, respectively.

Europe, Middle East and Africa Operations

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

For the year ended December 31, 2017 (dollars in thousands)	Traditional	Financial Solutions	Total EMEA
Revenues:			
Net premiums	$ 1,301,640	$ 163,720	$ 1,465,360
Investment income, net of related expenses	55,511	123,258	178,769
Investment related gains (losses), net	52	5,487	5,539
Other revenues	4,872	18,606	23,478
Total revenues	1,362,075	311,071	1,673,146
Benefits and expenses:			
Claims and other policy benefits	1,096,211	142,796	1,239,007
Interest credited	—	11,078	11,078
Policy acquisition costs and other insurance expenses	92,143	1,833	93,976
Other operating expenses	103,235	31,850	135,085
Total benefits and expenses	1,291,589	187,557	1,479,146
Income before income taxes	$ 70,486	$ 123,514	$ 194,000

For the year ended December 31, 2016 (dollars in thousands)	Traditional	Financial Solutions	Total EMEA
Revenues:			
Net premiums	$ 1,140,062	$ 180,271	$ 1,320,333
Investment income, net of related expenses	50,301	125,282	175,583
Investment related gains (losses), net	5	13,537	13,542
Other revenues	4,781	21,428	26,209
Total revenues	1,195,149	340,518	1,535,667
Benefits and expenses:			
Claims and other policy benefits	999,005	164,883	1,163,888
Interest credited	—	13,131	13,131
Policy acquisition costs and other insurance expenses	63,848	6	63,854
Other operating expenses	102,237	24,491	126,728
Total benefits and expenses	1,165,090	202,511	1,367,601
Income before income taxes	$ 30,059	$ 138,007	$ 168,066

For the year ended December 31, 2015 (dollars in thousands)	Traditional	Financial Solutions	Total EMEA
Revenues:			
Net premiums	$ 1,121,540	$ 171,830	$ 1,293,370
Investment income, net of related expenses	51,370	73,432	124,802
Investment related gains (losses), net	8,397	10,170	18,567
Other revenues	9,435	31,234	40,669
Total revenues	1,190,742	286,666	1,477,408
Benefits and expenses:			
Claims and other policy benefits	969,596	161,917	1,131,513
Interest credited	9,629	—	9,629
Policy acquisition costs and other insurance expenses	63,042	(1,100)	61,942
Other operating expenses	100,065	17,404	117,469
Total benefits and expenses	1,142,332	178,221	1,320,553
Income before income taxes	$ 48,410	$ 108,445	$ 156,855

Income before income taxes increased by $25.9 million, or 15.4%, and $11.2 million, or 7.1%, in 2017 and 2016, respectively. The increase in income before income taxes for 2017 was primarily due to favorable individual mortality, morbidity and longevity experience, partly offset by lower payout annuity performance. The increase in income before income taxes for 2016 was primarily due to increased business volume and favorable experience related to payout annuity and longevity business offset partly by unfavorable mortality and morbidity experience. Foreign currency exchange fluctuations contributed to a decrease in income before income taxes of $4.3 million and $20.4 million in 2017 and 2016, respectively.

Traditional Reinsurance

Income before income taxes increased by $40.4 million, or 134.5%, and decreased by $18.4 million, or 37.9%, in 2017 and 2016, respectively. The increase in income before income taxes in 2017 was primarily due to business growth and favorable individual morbidity and mortality experience. The decrease in income before income taxes in 2016 was primarily due to unfavorable claims experience on life and critical illness business. Foreign currency exchange fluctuations contributed to an increase in income before income taxes of $1.5 million and a decrease of $1.0 million in 2017 and 2016, respectively.

Net premiums increased by $161.6 million, or 14.2%, and $18.5 million, or 1.7%, in 2017 and 2016, respectively. The increase in 2017 was primarily due to increased business volumes, most notably in Italy, South Africa, the Middle East and the Netherlands related to new treaties in 2017 and favorable growth from existing treaties. The increase in 2016 was primarily due to increased individual life and health premiums somewhat offset by unfavorable foreign currency exchange fluctuations. The segment added new business production, measured by face amount of insurance in force, of $181.5 billion, $169.8 billion and $171.6 billion during 2017, 2016 and 2015, respectively. The face amount of reinsurance in force totaled $739.0 billion, $603.0 billion, and $602.7 billion at December 31, 2017, 2016 and 2015, respectively. Foreign currency fluctuations favorably affected the face amount of reinsurance in force by $64.7 billion and unfavorably by $72.1 billion in 2017 and 2016, respectively. Foreign currency exchange fluctuations contributed to a decrease in net premiums of $8.3 million and $113.1 million in 2017 and 2016, respectively. The segment’s primary currencies are the British pound, the Euro and the South African rand.

A portion of the net premiums for the segment, in each period presented, relates to reinsurance of critical illness coverage, primarily in the UK. This coverage provides a benefit in the event of the diagnosis of a pre-defined critical illness. Net premiums earned from this coverage totaled $191.5 million, $203.4 million and $233.2 million in 2017, 2016 and 2015, respectively.

Net investment income increased by $5.2 million, or 10.4%, and decreased by $1.1 million, or 2.1%, in 2017 and 2016, respectively. The increase in 2017 was primarily due to an increase in the invested asset base related to increased business volumes. The decrease in 2016 was primarily due to unfavorable foreign exchange fluctuations, offset partly by an increase in the invested asset base related to increased business volume. Foreign currency exchange fluctuations resulted in an increase in net investment income of $0.1 million and a decrease of $4.5 million in 2017 and 2016, respectively.

Investment related gains were level in 2017 and decreased by $8.4 million, or 99.9%, in 2016. Revenue related to unit-linked products were included in investment related gains in 2015. Beginning in 2016, revenue related to unit-linked products is included in investment income within the Financial Solutions segment.

Other revenues increased by $0.1 million, or 1.9% and decreased by $4.7 million, or 49.3%, in 2017 and 2016, respectively. These variances are primarily due to foreign currency transactions.

Loss ratios for this segment were 84.2%, 87.6% and 86.5% in 2017, 2016 and 2015, respectively. The decrease in loss ratio in 2017 was primarily due to favorable claims experience and changes in the mix of business reflecting increased volumes of new business with lower loss ratios, but with higher commissions. These higher commissions are reflected in the increase of

the 2017 policy acquisition cost ratio below. The increase in the loss ratio in 2016 was due to variability in life and critical illness claims experience. Management views recent claims experience as normal volatility that is inherent in the business.

Interest credited expense remained level in 2017 and decreased by $9.6 million, or 100.0%, in 2016. Beginning in 2016, interest credited related to unit-linked products and the related investment income is reflected in the Financial Solutions segment.

Policy acquisition costs and other insurance expenses as a percentage of net premiums were 7.1%, 5.6% and 5.6% for 2017, 2016 and 2015, respectively. The increase in policy acquisition cost ratio in 2017 is due primarily to changes in the mix of business reflecting increased volumes of new business with higher commissions.

Other operating expenses increased by $1.0 million, or 1.0%, and $2.2 million, or 2.2%, in 2017 and 2016, respectively. The increase in 2017 was primarily due to the effect of foreign currency exchange fluctuations. The increase in 2016 was in line with expected expense levels to support business growth coupled with a higher level of incentive compensation expense. Foreign currency exchange fluctuations resulted in an increase in operating expenses of $1.6 million and a decrease of $8.1 million 2017 and 2016, respectively. Other operating expenses as a percentage of net premiums totaled 7.9%, 9.0% and 8.9% in 2017, 2016 and 2015, respectively.

Financial Solutions

Income before income taxes decreased by $14.5 million, or 10.5%, and increased by $29.6 million, or 27.3%, in 2017 and 2016, respectively. The decrease in 2017 in income before income taxes was primarily due to payout annuity experience normalizing after a particularly positive 2016, partly offset by favorable longevity business results. The increase in 2016 in income before income taxes was primarily due to increased business volume, coupled with favorable experience in payout annuity and longevity treaties. Foreign currency exchange fluctuations contributed to a decrease in income before income taxes of $5.8 million and $19.4 million in 2017 and 2016, respectively.

Net premiums decreased by $16.6 million, or 9.2%, and increased by $8.4 million, or 4.9%, in 2017 and 2016, respectively. The decrease in 2017 in net premiums was due to a new retrocession treaty, executed for risk management purposes which cedes longevity risk to third parties, partially offset by an increase in premiums from new transactions. The increase in net premiums in 2016 was primarily due to premiums on longevity closed blocks. Foreign currency exchange fluctuations contributed to a decrease in net premiums of $7.6 million and $22.5 million in 2017 and 2016, respectively.

Net investment income decreased $2.0 million, or 1.6%, and increased by $51.9 million, or 70.6%, in 2017 and 2016, respectively. The decrease in 2017 in investment income in 2017 was primarily due to adverse foreign currency exchange fluctuations. The increase in 2016 is primarily due to an increase in the invested asset base related to a payout annuity treaty executed in the fourth quarter of 2015. Beginning in 2016, revenue related to unit-linked products was included in investment income of the Financial Solutions segment, contributing $13.1 million to the increase. The effect on investment income related to unit-linked products is substantially offset by a corresponding change in interest credited. Foreign currency exchange fluctuations resulted in a decrease in investment income of $4.8 million and $14.2 million in 2017 and 2016, respectively.

Other revenues decreased by $2.8 million, or 13.2% and $9.8 million, or 31.4%, in 2017 and 2016, respectively. The decrease in 2017 in other revenues was due to experience from a longevity swap normalizing after a particularly positive 2016. The decrease in 2016 in other revenues relate to reduced fee income associated with financial reinsurance treaties terminated at the end of 2015. Fees earned from this business can vary significantly depending on the size of the transactions and the timing of their completion and, therefore, can fluctuate from period to period.

Claims and other policy benefits decreased $22.1 million, or 13.4%, and increased by $3.0 million, or 1.8%, in 2017 and 2016, respectively. The decrease in 2017 was primarily due to the aforementioned new longevity retrocession treaty that cedes longevity risk to third parties, net of an increase in claims and other policy benefits from new transactions. Claims and other policy benefits increased in 2016 due to increased benefits associated with payout annuity reinsurance transactions executed in the fourth quarter of 2015, largely offset by favorable policy benefit experience.

Interest credited expense decreased by $2.1 million, or 15.6%, in 2017. Interest credited in this segment relates to amounts credited to the contractholders of unit-linked products. This amount will fluctuate according to contractholder investment selections, equity returns and interest rates. The effect on interest credited related to unit-linked products is substantially offset by a corresponding change in investment income.

Other operating expenses increased by $7.4 million, or 30.0%, and $7.1 million, or 40.7%, in 2017 and 2016, respectively. The increase in 2017 was primarily due to increased administration costs related to longevity transactions, costs related to a potential acquisition and by the effect of foreign currency exchange fluctuations. The increase in 2016 was primarily due to administration costs related to increased longevity business, increased incentive compensation expense and an increase in expenses related to an acquisition in the Netherlands completed in the fourth quarter of 2015. Foreign currency exchange fluctuations resulted in an increase in operating expenses of $0.4 million and a decrease of $1.4 million 2017 and 2016, respectively.

Asia Pacific Operations

The Asia Pacific operations include business generated by its offices principally in Australia, China, Hong Kong, India, Japan, Malaysia, New Zealand, Singapore, South Korea and Taiwan. The Traditional segment's principal types of reinsurance include individual and group life and health, critical illness, disability and superannuation. Superannuation is the Australian government mandated compulsory retirement savings program. Superannuation funds accumulate retirement funds for employees, and, in addition, typically offer life and disability insurance coverage. The Financial Solutions segment includes financial reinsurance, asset-intensive and certain disability and life blocks. Reinsurance agreements may be facultative or automatic agreements covering primarily individual risks and in some markets, group risks.

For the year ended December 31, 2017 (dollars in thousands)	Traditional	Financial Solutions	Total Asia Pacific
Revenues:			
Net premiums	$ 2,053,029	$ 2,419	$ 2,055,448
Investment income, net of related expenses	91,675	34,529	126,204
Investment related gains (losses), net	(10)	13,938	13,928
Other revenues	65,992	22,889	88,881
Total revenues	2,210,686	73,775	2,284,461
Benefits and expenses:			
Claims and other policy benefits	1,635,728	18,020	1,653,748
Interest credited	—	22,447	22,447
Policy acquisition costs and other insurance expenses	277,582	5,111	282,693
Other operating expenses	148,590	15,067	163,657
Total benefits and expenses	2,061,900	60,645	2,122,545
Income before income taxes	$ 148,786	$ 13,130	$ 161,916

For the year ended December 31, 2016 (dollars in thousands)	Traditional	Financial Solutions	Total Asia Pacific
Revenues:			
Net premiums	$ 1,681,505	$ 5,428	$ 1,686,933
Investment income, net of related expenses	83,049	23,648	106,697
Investment related gains (losses), net	14	9,436	9,450
Other revenues	6,582	24,870	31,452
Total revenues	1,771,150	63,382	1,834,532
Benefits and expenses:			
Claims and other policy benefits	1,345,951	25,180	1,371,131
Interest credited	—	12,796	12,796
Policy acquisition costs and other insurance expenses	163,036	6,071	169,107
Other operating expenses	148,235	15,272	163,507
Total benefits and expenses	1,657,222	59,319	1,716,541
Income before income taxes	$ 113,928	$ 4,063	$ 117,991

For the year ended December 31, 2015 (dollars in thousands)	Traditional	Financial Solutions	Total Asia Pacific
Revenues:			
Net premiums	$ 1,551,586	$ 19,474	$ 1,571,060
Investment income, net of related expenses	80,549	18,678	99,227
Investment related gains (losses), net	—	(531)	(531)
Other revenues	6,222	18,960	25,182
Total revenues	1,638,357	56,581	1,694,938
Benefits and expenses:			
Claims and other policy benefits	1,208,984	16,295	1,225,279
Interest credited	—	4,471	4,471
Policy acquisition costs and other insurance expenses	187,976	2,554	190,530
Other operating expenses	135,743	13,642	149,385
Total benefits and expenses	1,532,703	36,962	1,569,665
Income before income taxes	$ 105,654	$ 19,619	$ 125,273

Income before income taxes increased by $43.9 million, or 37.2%, and decreased by $7.3 million, or 5.8%, in 2017 and 2016, respectively. The increase in income before income taxes in 2017 was primarily due to higher income from offices in Asia driven by business growth, most notably in Hong Kong and Southeast Asia. The decrease in income before income taxes in 2016 was primarily attributable to unfavorable individual disability claims experience in Australia and unfavorable lapse experience from a closed Financial Solutions treaty in Japan. These unfavorable variances in 2016 are partially offset by favorable claims experience from offices in Asia and gains on derivatives associated with the hedging programs to mitigate currency risks. Foreign currency exchange fluctuations contributed to a decrease in income before income taxes of $1.1 million and an increase of $0.7 million in 2017 and 2016, respectively.

Traditional Reinsurance

Income before income taxes increased by $34.9 million, or 30.6%, and $8.3 million, or 7.8%, in 2017 and 2016, respectively. The increase in income before income taxes in 2017 was primarily due to higher income from offices in Asia driven by business growth. The increase in income before income taxes in 2016 was primarily driven by improved mortality experience in Asia. Unfavorable individual disability claims experience in Australia partially offset the increase in income in 2016. Foreign currency exchange fluctuations contributed to a decrease in income before income taxes of $1.4 million and $0.8 million in 2017 and 2016, respectively.

Net premiums increased by $371.5 million, or 22.1%, and $129.9 million, or 8.4%, in 2017 and 2016, respectively. The increases in premiums for 2017 and 2016 were driven by both new and existing business written throughout the segment. The segment added new business production, measured by face amount of insurance in force, of $78.9 billion, $73.7 billion and $76.9 billion during 2017, 2016 and 2015, respectively. The face amount of reinsurance in force totaled $552.3 billion, $492.2 billion, and $462.7 billion at December 31, 2017, 2016 and 2015, respectively. Foreign currency fluctuations favorably affected the face amount of reinsurance in force by $30.6 billion and unfavorably by $4.7 billion in 2017 and 2016, respectively. Foreign currency exchange fluctuations contributed to an increase in net premiums of $22.7 million and $3.3 million in 2017 and 2016, respectively.

A portion of the net premiums for the segment, in each period presented, relates to reinsurance of critical illness coverage. This coverage provides a benefit in the event of the diagnosis of a pre-defined critical illness. Reinsurance of critical illness in the Asia Pacific operations is offered primarily in South Korea, Australia, China and Hong Kong. Net premiums from this coverage totaled $611.0 million, $398.3 million, and $312.6 million in 2017, 2016 and 2015, respectively.

Net investment income increased $8.6 million, or 10.4%, and $2.5 million, or 3.1%, in 2017 and 2016, respectively. The increases in 2017 and 2016 were primarily due to a higher invested asset base largely offset in 2016 by a lower investment yield.

Other revenues increased by $59.4 million, or 902.6%, and $0.4 million, or 5.8%, in 2017 and 2016, respectively. The increases in other revenues in 2017 was primarily due to $57.9 million in recapture fees associated with three treaties recaptured in Australia.

Loss ratios for this segment were 79.7%, 80.0% and 77.9% for 2017, 2016 and 2015, respectively. The decrease in the loss ratio in 2017 was primarily due to improved claims experience in Australia compared to the prior year. The increase in the loss ratio in 2016 was primarily due to aforementioned unfavorable individual disability claims experience in Australia and additional benefit expense associated with a large treaty in Hong Kong due to adjustments associated with delays in client reporting.

Policy acquisition costs and other insurance expenses as a percentage of net premiums were 13.5%, 9.7% and 12.1% for 2017, 2016 and 2015, respectively. The low ratio in 2016 was due primarily to a $40.0 million decrease in policy acquisition costs

and other insurance expenses due to adjustments associated with delays in client reporting on a large treaty in Hong Kong. The ratio of policy acquisition costs and other insurance expenses as a percentage of net premiums should generally decline as the business matures; however, the percentage does fluctuate periodically due to variations in the mixture of business and client-related actions.

Other operating expenses increased $0.4 million, or 0.2%, and $12.5 million, or 9.2%, in 2017 and 2016, respectively. Operating expenses remained flat in 2017; however, the 2016 increase in other operating expenses is mainly due to increased compensation costs relating to new positions filled during the second half of 2015, primarily in the growing Asian operations based in Hong Kong. Foreign currency exchange fluctuations resulted in an increase in operating expenses of $1.2 million and $0.7 million in 2017 and 2016, respectively. Other operating expenses as a percentage of net premiums totaled 7.2%, 8.8% and 8.7% in 2017, 2016 and 2015, respectively. The timing of premium flows and the level of costs associated with the entrance into and development of new markets in the Asia Pacific segment may cause other operating expenses as a percentage of net premiums to fluctuate over periods of time.

Financial Solutions

Income before income taxes increased by $9.1 million, or 223.2%, and decreased by $15.6 million, or 79.3%, in 2017 and 2016, respectively. The increase in income before income taxes in 2017 was primarily due to favorable lapse experience on a closed treaty in Japan as compared to 2016. The decrease in 2016 was primarily due to unfavorable lapse experience from the same treaty, partially offset by gains on derivatives associated with hedging programs to mitigate currency risks. Foreign currency exchange fluctuations contributed to an increase in income before income taxes of $0.3 million and a decrease of $1.5 million in 2017 and 2016, respectively.

Net premiums decreased by $3.0 million, or 55.4%, and $14.0 million, or 72.1%, in 2017 and 2016, respectively. The decreases were primarily due to policy lapses on the previously mentioned treaty in Japan.

Net investment income increased $10.9 million, or 46.0%, and $5.0 million, or 26.6%, in 2017 and 2016, respectively. The increases in investment income were primarily due to increases in the invested asset base.

Other revenues decreased by $2.0 million, or 8.0%, and increased by $5.9 million, or 31.2%, in 2017 and 2016, respectively. The decrease in other revenues in 2017 was primarily due to run-off of the previously mentioned treaty in Japan. The increase in 2016 was primarily due to new transactions. The amount of reinsurance assumed from client companies, as measured by pre-tax statutory surplus, risk based capital and other financial reinsurance structures was $2.6 billion and $1.5 billion at December 31, 2017 and 2016, respectively. Fees earned from this business can vary significantly depending on the size of the transactions and the timing of their completion and therefore can fluctuate from period to period.

Claims and other policy benefits decreased by $7.2 million, or 28.4%, and increased by $8.9 million, or 54.5%, in 2017 and 2016, respectively. The decrease in 2017 was attributable to lower lapses from policies from a closed block of business in Japan. The increase in 2016 was attributable to the aforementioned unfavorable lapse experience on a closed treaty in Japan. Management views recent experience as normal short-term volatility that is inherent in the business.

Other operating expenses decreased by $0.2 million, or 1.3%, and increased by $1.6 million, or 11.9%, in 2017 and 2016, respectively. The timing of premium flows and the level of costs associated with the entrance into and development of new markets in the Asia Pacific segment may cause other operating expenses to fluctuate over periods of time.

Corporate and Other

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

For the year ended December 31, (dollars in thousands)	2017	2016	2015
Revenues:			
Net premiums	$ 113	$ 342	$ 565
Investment income, net of related expenses	148,999	117,057	123,450
Investment related gains (losses), net	(4,943)	51,256	(65,107)
Other revenues	10,986	12,301	9,987
Total revenues	155,155	180,956	68,895
Benefits and expenses:			
Claims and other policy benefits	(10)	(9)	38
Interest credited	6,356	2,469	1,028
Policy acquisition costs and other insurance income	(108,641)	(100,266)	(87,551)
Other operating expenses	207,769	154,554	109,017
Interest expense	146,025	137,623	142,863
Collateral finance and securitization expense	28,636	25,827	22,644
Total benefits and expenses	280,135	220,198	188,039
Loss before income taxes	$ (124,980)	$ (39,242)	$ (119,144)

Loss before income taxes increased by $85.7 million and decreased by $79.9 million in 2017 and 2016, respectively. The increase in loss before income taxes for 2017 was primarily due to decreased net investment related gains, decreased other revenues and higher other operating expenses partially offset by increased investment income. The decrease in loss before income taxes in 2016 was primarily due to increased net investment related gains of $116.4 million along with an increase in other revenues and lower interest expense, partially offset by lower investment income and higher operating expenses.

Total revenues decreased $25.8 million, or 14.3%, and increased by $112.1 million, or 162.7%, in 2017 and 2016, respectively. The decrease in revenues in 2017 was primarily due to a reduction in investment related gains (losses), net related to higher impairments on fixed maturity and other securities of $21.3 million and a reduction in net gains on the sale of fixed maturity securities of $29.7 million. The decrease was partially offset by an increase of $31.9 million in investment income related to an increase in unallocated invested assets and higher investment yields. The increase in revenues in 2016 was primarily caused by increased net investment related gains of $116.4 million, due to a $32.7 million reduction in other-than-temporary impairments on fixed maturities and net gains on the sale of fixed maturities, along with an increase in other revenues of $2.3 million.

Total benefits and expenses increased by $59.9 million or 27.2%, and $32.2 million or 17.1%, in 2017 and 2016, respectively. The increase in total benefits and expenses in 2017 was primarily due to an increase in other operating expenses and interest expense offset by an increase in other insurance income, related to the offset to capital charges allocated to the operating segments. The $53.2 million increase in other operating expenses was primarily related to a $22.5 million capital project write-off, in addition to a $13.7 million increase in compensation expense, mainly due to increased incentive-based compensation and pension benefits, and a $10.0 million increase in consulting expenses due to various corporate initiatives. The $8.4 million increase in interest expense is primarily due to the issuance of $800.0 million in long-term debt in June 2016, which was partially offset by the repayment of $300.0 million of long-term debt in 2017, and a lower reduction in tax-related interest expense primarily resulting from settlement with the taxing authority.

The increase in total benefits and expenses in 2016 was primarily due to an increase of other operating expenses of $45.5 million, and partially offset by an increase in other insurance income of $12.7 million, as well as a decrease in interest expense of $5.2 million. The reduction in interest expense is mainly attributable to a $15.7 million reduction in tax-related interest expense resulting from the effective settlement of uncertain tax positions and a $10.8 million reduction in interest expense related to the conversion of the Company’s junior subordinated debentures to a floating rate in December 2015. These reductions in interest expense are largely offset by $21.9 million of additional interest expense related to the issuance of $800.0 million in long-term debt during 2016. The increase in other insurance income is primarily related to the offset to capital charges allocated to the operating segments.

Deferred Acquisition Costs

DAC related to interest-sensitive life and investment-type contracts is amortized over the lives of the contracts, in relation to the present value of estimated gross profits ("EGP") from mortality, investment income, and expense margins. The EGP for asset-intensive products include the following components: (1) estimates of fees charged to policyholders to cover mortality, surrenders and maintenance costs; (2) expected interest rate spreads between income earned and amounts credited to policyholder accounts; and (3) estimated costs of administration. EGP is also reduced by the Company's estimate of future losses due to defaults in fixed maturity securities as well as the change in reserves for embedded derivatives. DAC is sensitive to changes in assumptions regarding these EGP components, and any change in such assumptions could have an effect on the Company's profitability.

The Company periodically reviews the EGP valuation model and assumptions so that the assumptions reflect best estimates of future experience. Two assumptions are considered to be most significant: (1) estimated interest spread, and (2) estimated future policy lapses. As of December 31, 2017, the Company had $405.6 million of DAC related to asset-intensive products, all within the U.S. and Latin America Financial Solutions segment. The following table reflects the possible change that would occur in a given year if assumptions, as a percentage of current DAC related to asset-intensive products, are changed as illustrated:

Quantitative Change in Significant Assumptions	One-Time Increase in DAC	One-Time Decrease in DAC
Estimated interest spread increasing (decreasing) 25 basis points from the current spread	5.09%	(5.27)%
Estimated future policy lapse rates decreasing (increasing) 20% on a permanent basis (including surrender charges)	3.72%	(3.35)%

In general, a change in assumption that improves the Company's expectations regarding EGP is going to have the effect of deferring the amortization of DAC into the future, thus increasing earnings and the current DAC balance. DAC can be no greater than the initial DAC balance plus interest and would be subject to recoverability testing which is ignored for purposes of this analysis. Conversely, a change in assumption that decreases EGP will have the effect of speeding up the amortization of DAC, thus reducing earnings and lowering the DAC balance. The Company also adjusts DAC to reflect changes in the unrealized gains and losses on available-for-sale fixed maturity securities since these changes affect EGP. This adjustment to DAC is reflected in accumulated other comprehensive income.

The DAC associated with the Company's non-asset-intensive business is less sensitive to changes in estimates for investment yields, mortality and lapses. In accordance with generally accepted accounting principles, the estimates include provisions for the risk of adverse deviation and are not adjusted unless experience significantly deteriorates to the point where a premium deficiency exists.

The following table displays DAC balances for the Traditional and Financial Solutions segments as of December 31, 2017:

(dollars in thousands)	Traditional	Financial Solutions	Total
U.S. and Latin America	$ 1,818,572	$ 405,623	$ 2,224,195
Canada	212,345	—	212,345
Europe, Middle East and Africa	229,150	—	229,150
Asia Pacific	552,947	21,187	574,134
Total	$ 2,813,014	$ 426,810	$ 3,239,824

As of December 31, 2017, the Company estimates that all of its DAC balance is collateralized by surrender fees due to the Company and the reduction of policy liabilities, in excess of termination values, upon surrender or lapse of a policy.

Liquidity and Capital Resources

Overview

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

secured borrowings, the ability to issue long-term debt, preferred securities or common equity and, if necessary, the sale of invested assets subject to market conditions.

Current Market Environment

The current interest rate environment in select markets, primarily the U.S. and Canada, continues to negatively affect the Company's earnings. The Company's average investment yield, excluding spread related business, for 2017 was at 4.55%, slightly below the comparable 2016 rate. The Company's insurance liabilities, in particular its annuity products, are sensitive to changing market factors. Gross unrealized gains on fixed maturity and equity securities available-for-sale were $2,983.7 million and $2,246.5 million at December 31, 2017 and 2016, respectively. Gross unrealized losses totaled $117.0 million and $374.9 million at December 31, 2017 and 2016, respectively.

The Company continues to be in a position to hold any investment security showing an unrealized loss until recovery, provided it remains comfortable with the credit of the issuer. As indicated above, gross unrealized gains on investment securities of $2,983.7 million remain well in excess of gross unrealized losses of $117.0 million as of December 31, 2017. Historically low interest rates continued to put pressure on the Company's investment yield. The Company does not rely on short-term funding or commercial paper and to date it has experienced no liquidity pressure, nor does it anticipate such pressure in the foreseeable future.

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

The Holding Company

RGA is an insurance holding company whose primary uses of liquidity include, but are not limited to, the immediate capital needs of its operating companies, dividends paid to its shareholders, repurchase of common stock and interest payments on its indebtedness. The primary sources of RGA's liquidity include proceeds from its capital-raising efforts, interest income on undeployed corporate investments, interest income received on surplus notes with RGA Reinsurance, RCM and Rockwood Re and dividends from operating subsidiaries. As the Company continues its expansion efforts, RGA will continue to be dependent upon these sources of liquidity. See "Part IV – Item 15(a)(2) Financial Statement Schedules – Schedule II – Condensed Financial Information of Registrant" for more information regarding RGA's financial information.

RGA, through wholly-owned subsidiaries, has committed to provide statutory reserve support to third-parties, in exchange for a fee, by funding loans if certain defined events occur. Such statutory reserves are required under the U.S. Valuation of Life Policies Model Regulation (commonly referred to as Regulation XXX for term life insurance policies and Regulation A-XXX for universal life secondary guarantees). The third-parties have recourse to RGA should the subsidiary fail to provide the required funding, however, as of December 31, 2017, the Company does not believe that it will be required to provide any funding under these commitments as the occurrence of the defined events is considered remote. See Note 12 - "Commitments, Contingencies and Guarantees" in the Notes to Consolidated Financial Statements for a table that presents these commitments by period and maximum obligation.

RGA established an intercompany revolving credit facility where certain subsidiaries can lend to or borrow from each other and from RGA in order to manage capital and liquidity more efficiently. The intercompany revolving credit facility, which is a series of demand loans among RGA and its affiliates, is permitted under applicable insurance laws. This facility reduces overall borrowing costs by allowing RGA and its operating companies to access internal cash resources instead of incurring third-party transaction costs. The statutory borrowing and lending limit for RGA's Missouri-domiciled insurance subsidiaries is currently 3% of the insurance company's admitted assets as of its most recent year-end. There were no borrowings and $25.0 million outstanding under the intercompany revolving credit facility as of December 31, 2017 and 2016, respectively. In addition to loans associated with the intercompany revolving credit facility, RGA and its subsidiary, RGA Capital LLC, provided loans to RGA Australian Holdings Pty Limited with a total outstanding balance of $46.9 million and $43.2 million as of December 31, 2017 and 2016, respectively.

The Company believes that it has sufficient liquidity for the next 12 months to fund its cash needs under various scenarios that include the potential risk of early recapture of reinsurance treaties and higher than expected death claims. Historically, the Company has generated positive net cash flows from operations. However, in the event of significant unanticipated cash requirements beyond normal liquidity, the Company has multiple liquidity alternatives available based on market conditions and the amount and timing of the liquidity need. These options include borrowings under committed credit facilities, secured borrowings, the ability to issue long-term debt, preferred securities or common equity and, if necessary, the sale of invested assets, subject to market conditions.

Undistributed earnings of the Company's foreign subsidiaries are targeted for reinvestment outside of the U.S. As of December 31, 2017, the amount of cash and cash equivalents and short-term investments held by the Company's subsidiaries that are taxed in a foreign jurisdiction was $585.4 million. 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 were repatriated. The Company's liquidity and capital position would not be materially affected by not having these funds available for use in the U.S. due to the Company's aforementioned alternate liquidity resources.

RGA endeavors to maintain a capital structure that provides financial and operational flexibility to its subsidiaries, credit ratings that support its competitive position in the financial services marketplace, and shareholder returns. As part of the Company's capital deployment strategy, it has in recent years repurchased shares of RGA common stock and paid dividends to RGA shareholders, as authorized by the board of directors. In January 2017, RGA's board of directors authorized a share repurchase program, with no expiration date, to repurchase up to $400.0 million of RGA's outstanding common stock. The pace of repurchase activity depends on various factors such as the level of available cash, an evaluation of the costs and benefits associated with alternative uses of excess capital, such as acquisitions and in force reinsurance transactions, and RGA's stock price. Details underlying dividend and share repurchase program activity were as follows (in thousands, except share data):

	2017	2016	2015
Dividends to shareholders	$ 117,291	$ 100,371	$ 93,381
Repurchases of treasury stock (1)	26,897	116,522	375,305
Total amount paid to shareholders	$ 144,188	$ 216,893	$ 468,686
Number of shares repurchased (1)	208,680	1,356,892	4,145,440
Average price per share	$ 128.89	$ 85.87	$ 90.53

(1) Excludes shares utilized to execute and settle certain stock incentive awards.

RGA declared dividends totaling $1.82 per share in 2017. All future payments of dividends are at the discretion of RGA's board of directors and will depend on the Company's earnings, capital requirements, insurance regulatory conditions, operating conditions, and other such factors as the board of directors may deem relevant. The amount of dividends that RGA can pay will depend in part on the operations of its reinsurance subsidiaries.

See Note 13 - "Debt" and Note 18 - "Equity" in the Notes to Consolidated Financial Statements for additional information regarding the Company's securities transactions.

Statutory Dividend Limitations

RCM, RGA Reinsurance and Chesterfield Re are subject to Missouri statutory provisions that restrict the payment of dividends. They may not pay dividends in any 12-month period in excess of the greater of the prior year's statutory net gain from operations or 10% of statutory capital and surplus at the preceding year-end, without regulatory approval. Aurora National is subject to California statutory provisions that are identical to those imposed by Missouri regarding the ability of Aurora National to pay dividends to RGA Reinsurance. The applicable statutory provisions only permit an insurer to pay a shareholder dividend from unassigned surplus. Any dividends paid by RGA Reinsurance would be paid to RCM, its parent company, which in turn has restrictions related to its ability to pay dividends to RGA. Chesterfield Re would pay dividends to its immediate parent Chesterfield Financial, which would in turn pay dividends to RCM, subject to the terms of the indenture for the embedded value securitization transaction, in which Chesterfield Financial cannot declare or pay any dividends so long as any private placement notes are outstanding. The MDOI allows RCM to pay a dividend to RGA to the extent RCM received the dividend from its subsidiaries, without limitation related to the level of unassigned surplus. Dividend payments from other subsidiaries are subject to regulations in the jurisdiction of domicile, which are generally based on their earnings and/or capital level.

The dividend limitations for RCM, RGA Reinsurance and Chesterfield Re are based on statutory financial results. Statutory accounting practices differ in certain respects from accounting principles used in financial statements prepared in conformity with GAAP. Significant differences include the treatment of deferred acquisition costs, deferred income taxes, required investment reserves, reserve calculation assumptions and surplus notes.

Dividend payments from non-U.S. operations are subject to similar restrictions established by local regulators. The non-U.S. regulatory regimes also commonly limit the dividend payments to the parent to a portion of the prior year's statutory income, as determined by the local accounting principles. The regulators of the Company's non-U.S. operations may also limit or prohibit profit repatriations or other transfers of funds to the U.S. if such transfers are deemed to be detrimental to the solvency or financial strength of the non-U.S. operations, or for other reasons. Most of the non-U.S. operating subsidiaries are second tier subsidiaries which are owned by various non-U.S. holding companies. The capital and rating considerations applicable to the first tier subsidiaries may also impact the dividend flow to RGA.

Debt

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

As of December 31, 2017 and 2016, the Company had $2.8 billion and $3.1 billion, respectively, in outstanding borrowings under its debt agreements and was in compliance with all covenants under those agreements. As of December 31, 2017, the average interest rate on long-term debt outstanding was 5.24% compared to 5.16% at the end of 2016. The ability of the Company to make debt principal and interest payments depends on the earnings and surplus of subsidiaries, investment earnings on undeployed capital proceeds, available liquidity at the holding company, and the Company's ability to raise additional funds.

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

In June 2016, RGA issued 3.95% Senior Notes due September 15, 2026 with a face amount of $400.0 million and 5.75% Fixed-To-Floating Rate Subordinated Debentures due June 15, 2056 with a face amount of $400.0 million. These securities have been registered with the Securities and Exchange Commission. The net proceeds from these offerings were approximately $791.2 million and were used in part to repay upon maturity the Company's $300.0 million 5.625% senior notes that matured in March 2017. The remainder will be used for general corporate purposes. Capitalized issue costs were approximately $8.8 million.

The Company may borrow up to $850.0 million in cash and obtain letters of credit in multiple currencies on its revolving credit facility that matures in September 2019. As of December 31, 2017, the Company had no cash borrowings outstanding and $96.6 million in issued, but undrawn, letters of credit under this facility.

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

Letters of Credit

The Company has obtained bank letters of credit in favor of various affiliated and unaffiliated insurance companies from which the Company assumes business. These letters of credit represent guarantees of performance under the reinsurance agreements and allow ceding companies to take statutory reserve credits. Certain of these letters of credit contain financial covenant restrictions similar to those described in the "Debt" discussion above. At December 31, 2017, there were approximately $120.1 million of outstanding bank letters of credit in favor of third parties. Additionally, in accordance with applicable regulations, the Company utilizes letters of credit to secure statutory reserve credits when it retrocedes business to its affiliated subsidiaries. The Company cedes business to its affiliates to help reduce the amount of regulatory capital required in certain jurisdictions, such as the U.S. and the UK. The Company believes the capital required to support the business in the affiliates reflects more realistic expectations than the original jurisdiction of the business, where capital requirements are often considered to be quite conservative. As of December 31, 2017, $1.5 billion in letters of credit from various banks were outstanding, but undrawn, backing reinsurance between the various subsidiaries of the Company. See Note 13—"Debt" in the Notes to Consolidated Financial Statements for information regarding the Company's letter of credit facilities.

Collateral Finance and Securitization Notes and Statutory Reserve Funding

The Company uses various internal and third-party reinsurance arrangements and funding sources to manage statutory reserve strain, including reserves associated with the U.S. Valuation of Life Policies Model Regulation (commonly referred to as Regulation XXX), and collateral requirements. Assets in trust and letters of credit are often used as collateral in these arrangements.

Regulation XXX, implemented in the U.S. for various types of life insurance business beginning January 1, 2000, significantly increased the level of reserves that U.S. life insurance and life reinsurance companies must hold on their statutory financial statements for various types of life insurance business, primarily certain level premium term life products. The reserve levels required under Regulation XXX increase over time and are normally in excess of reserves required under GAAP. In situations

where primary insurers have reinsured business to reinsurers that are unlicensed and unaccredited in the U.S., the reinsurer must provide collateral equal to its reinsurance reserves in order for the ceding company to receive statutory financial statement credit. In order to manage the effect of Regulation XXX on its statutory financial statements, RGA Reinsurance has retroceded a majority of Regulation XXX reserves to unaffiliated and affiliated reinsurers, both licensed and unlicensed.

RGA Reinsurance's statutory capital may be significantly reduced if the unlicensed unaffiliated or affiliated reinsurer is unable to provide the required collateral to support RGA Reinsurance's statutory reserve credits and RGA Reinsurance cannot find an alternative source for collateral.

The Company has issued both collateral finance and securitization notes. The consolidated balance sheets include outstanding notes of $783.9 million and $840.7 million as of December 31, 2017 and 2016, respectively. See Note 14 - "Collateral Finance and Securitization Notes" in the Notes to Consolidated Financial Statements for additional information regarding the Company's collateral finance and securitization notes.

The demand for financing of the ceded reserve credits associated with the Company's assumed term life business has grown at a slower rate in recent years. The Company has been able to utilize its certified reinsurer, RGA Americas, as a means of reducing the burden of financing Regulation XXX and other types of reserves. The Company's Regulation XXX statutory reserve requirements associated with term life business and other statutory reserve requirements continues to require the Company to obtain additional letters of credit, put additional assets in trust, or utilize other funding mechanisms to support reserve credits. If the Company is unable to support the reserve credits, the regulatory capital levels of several of its subsidiaries may be significantly reduced, while the regulatory capital requirements for these subsidiaries would not change. The reduction in regulatory capital would not directly affect the Company's consolidated shareholders' equity under GAAP; however, it could affect the Company's ability to write new business and retain existing business.

Affiliated captives are commonly used in the insurance industry to help manage statutory reserve and collateral requirements and are often domiciled in the same state as the insurance company that sponsors the captive. The NAIC has analyzed the insurance industry's use of affiliated captive reinsurers to satisfy certain reserve requirements and has adopted measures to promote uniformity in both the approval and supervision of such reinsurers. New standards to address the use of captive reinsurers were implemented, allowing current captives to continue in accordance with their currently approved plans. State insurance regulators that regulate the Company's domestic insurance companies have placed additional restrictions on the use of newly established captive reinsurers which may increase costs and add complexity. As a result, the Company may need to alter the type and volume of business it reinsures, increase prices on those products, raise additional capital to support higher regulatory reserves or implement higher cost strategies, all of which could adversely affect the Company's competitive position and its results of operations. It is also possible that the NAIC could place limits on the recognition of capital held in related party captives when adopting its group capital calculation. Doing so would adversely impact the amount of capital that the group would otherwise be able to recognize and report as capital resident in the group.

In the U.S., the introduction of the certified reinsurer has provided an alternative way to manage collateral requirements. In 2014, RGA Americas was designated as a certified reinsurer by the MDOI. This designation allows the Company to retrocede business to RGA Americas in lieu of using captives for collateral requirements. Effective in 2017, principles-based reserves are permitted in the U.S. During 2016, the NAIC amended the standard valuation law to adopt life principles-based reserving that was effective January 1, 2017, allowing a three-year adoption period. The Company has chosen not to establish captives subject to the new regulations as it evaluates the impact of the regulations on new captives, and how these new captives fit into the Company's overall risk management and financing programs.

Assets in Trust

Some treaties give ceding companies the right to request that the Company place assets in trust for the benefit of the cedant to support statutory reserve credits in the event of a downgrade of the Company's ratings to specified levels, generally non-investment grade levels, or if minimum levels of financial condition are not maintained. As of December 31, 2017, these treaties had approximately $2.9 billion in statutory reserves. Assets placed in trust continue to be owned by the Company, but their use is restricted based on the terms of the trust agreement. Securities with an amortized cost of $2.2 billion were held in trust for the benefit of certain RGA subsidiaries to satisfy collateral requirements for reinsurance business at December 31, 2017. Additionally, securities with an amortized cost of $15.6 billion as of December 31, 2017, were held in trust to satisfy collateral requirements under certain third-party reinsurance treaties. Under certain conditions, the Company may be obligated to move reinsurance from one subsidiary of RGA to another subsidiary or make payments under a given treaty. These conditions include change in control or ratings of the subsidiary, insolvency, nonperformance under a treaty, or loss of reinsurance license of such subsidiary. If the Company was ever required to perform under these obligations, the risk to the Company on a consolidated basis under the reinsurance treaties would not change; however, additional capital may be required due to the change in jurisdiction of the subsidiary reinsuring the business, which could lead to a strain on liquidity.

Proceeds from the notes issued by Timberlake Financial and RGA's direct investment in Timberlake Financial were deposited into a series of trust accounts as collateral and are not available to satisfy the general obligations of the Company. As

of December 31, 2017 the Company held deposits in trust and in custody of $841.5 million for this purpose, which is not included in the figures above. A reserve account has been established to cover interest payments on notes issued by Chesterfield Financial that are not available to satisfy the general obligations of the Company. As of December 31, 2017 the Company held deposits in trust of $19.4 million for this purpose, which is not included in the figures above. See “Collateral Finance and Securitization Notes and Statutory Reserve Funding” above for additional information on the Timberlake Financial and Chesterfield Financial notes.

Reinsurance Operations

Reinsurance agreements, whether facultative or automatic, generally provide recapture provisions. Most U.S.-based reinsurance treaties include a recapture right for ceding companies, generally after 10 years. Outside of the U.S., treaties primarily include a mutually agreed-upon recapture provision. Recapture rights permit the ceding company to reassume all or a portion of the risk formerly ceded to the reinsurer. In some situations, the Company has the right to place assets in trust for the benefit of the ceding party in lieu of recapture. Additionally, certain treaties may grant recapture rights to ceding companies in the event of a significant decrease in RGA Reinsurance’s NAIC risk based capital ratio or financial strength rating. The RBC ratio trigger varies by treaty, with the majority between 125% and 225% of the NAIC’s company action level. Financial strength rating triggers vary by treaty with the majority of the triggers reached if RGA Reinsurance’s financial strength rating falls five notches from its current rating of “AA-” to the “BBB” level on the S&P scale. Recapture of business previously ceded does not affect premiums ceded prior to the recapture of such business, but would reduce premiums in subsequent periods. Upon recapture, the Company would reflect a net gain or loss on the settlement of the assets and liabilities associated with the treaty. In some cases, the ceding company is required to pay the Company a recapture fee. The Company estimates approximately $453.8 billion of its gross assumed in force business, as of December 31, 2017, was subject to treaties where the ceding company could recapture in the event minimum levels of financial condition or ratings were not maintained.

Guarantees

RGA has issued guarantees to third parties on behalf of its subsidiaries for the payment of amounts due under certain reinsurance treaties, securities borrowing arrangements, financing arrangements and office lease obligations, whereby if a subsidiary fails to meet an obligation, RGA or one of its other subsidiaries will make a payment to fulfill the obligation. In limited circumstances, treaty guarantees are granted to ceding companies in order to provide additional security, particularly in cases where RGA’s subsidiary is relatively new, unrated, or not of significant size, relative to the ceding company. Potential guaranteed amounts of future payments will vary depending on production levels and underwriting results. Guarantees related to borrowed securities provide additional security to third parties should a subsidiary fail to return the borrowed securities when due. RGA has issued payment guarantees on behalf of two of its subsidiaries in the event the subsidiaries fail to make payment under their office lease obligations. See Note 12 - “Commitments, Contingencies and Guarantees” in the Notes to Consolidated Financial Statements for a table that presents the amounts for guarantees, by type, issued by the Company.

In addition, the Company indemnifies its directors and officers pursuant to its charters and by-laws. Since this indemnity generally is not subject to limitation with respect to duration or amount, the Company does not believe that it is possible to determine the maximum potential amount due under this indemnity in the future.

Off-Balance Sheet Arrangements

The Company has commitments to fund investments in limited partnerships, joint ventures, commercial mortgage loans, private placement investments and bank loans, including revolving credit agreements. See Note 12 - “Commitments, Contingencies and Guarantees” in the Notes to Consolidated Financial Statements for additional information on the Company’s commitments to fund investments and other off-balance sheet arrangements.

The Company has not engaged in trading activities involving non-exchange-traded contracts reported at fair value, nor has it engaged in relationships or transactions with persons or entities that derive benefits from their non-independent relationship with the Company.

Cash Flows

The Company’s principal cash inflows from its reinsurance operations include premiums and deposit funds received from ceding companies. The primary liquidity concerns with respect to these cash flows are early recapture of the reinsurance contract by the ceding company and lapses of annuity products reinsured by the Company. The Company’s principal cash inflows from its invested assets result from investment income and the maturity and sales of invested assets. The primary liquidity concerns with respect to these cash inflows relates to the risk of default by debtors and interest rate volatility. The Company manages these risks very closely. See “Investments” and “Interest Rate Risk” below.

Additional sources of liquidity to meet unexpected cash outflows in excess of operating cash inflows and current cash and equivalents on hand include selling short-term investments or fixed maturity securities and drawing funds under a revolving credit facility, under which the Company had availability of $753.4 million as of December 31, 2017. The Company also has $1.1

billion of funds available through collateralized borrowings from the Federal Home Loan Bank of Des Moines ("FHLB") as of December 31, 2017. As of December 31, 2017, the Company could have borrowed these additional amounts without violating any of its existing debt covenants.

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

Summary of Primary Sources and Uses of Liquidity and Capital

The Company's primary sources and uses of liquidity and capital are summarized as follows (dollars in thousands):

	For the years ended December 31,		
	2017	2016	2015
Sources:			
Net cash provided by operating activities	$ 1,982,308	$ 1,421,076	$ 2,088,615
Proceeds from long-term debt issuance	—	799,984	—
Proceeds from issuance of collateral finance and securitization notes	—	—	164,220
Excess tax benefits from share-based payment arrangement	—	162	2,963
Exercise of stock options, net	7,292	15,321	11,151
Change in cash collateral for derivatives and other arrangements	—	26,413	52,381
Cash provided by changes in universal life and other investment type policies and contracts	265,318	512,612	—
Effect of exchange rate changes on cash	52,693	—	—
Total sources	2,307,611	2,775,568	2,319,330
Uses:			
Net cash used in investing activities	1,607,573	2,781,084	1,431,741
Dividends to stockholders	117,291	100,371	93,381
Repayment of collateral finance and securitization notes	68,429	64,571	19,732
Debt issuance costs	—	8,766	4,748
Principal payments of long-term debt	302,582	2,479	2,380
Purchases of treasury stock	43,508	122,916	384,519
Change in cash collateral for derivatives and other arrangements	65,422	—	—
Cash used for changes in universal life and other investment type policies and contracts	—	—	434,237
Effect of exchange rate changes on cash	—	19,938	68,986
Total uses	2,204,805	3,100,125	2,439,724
Net increase (decrease) in cash and cash equivalents	$ 102,806	$ (324,557)	$ (120,394)

Cash Flows from Operations - The principal cash inflows from the Company's reinsurance activities come from premiums, investment and fee income, annuity considerations and deposit funds. The principal cash outflows relate to the liabilities associated with various life and health insurance, annuity and disability products, operating expenses, income tax and interest on outstanding debt obligations. The primary liquidity concern with respect to these cash flows is the risk of shortfalls in premiums and investment income, particularly in periods with abnormally high claims levels.

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

Financing Cash Flows - The principal cash inflows from the Company's financing activities come from issuances of RGA debt and equity securities, and deposit funds associated with universal life and other investment type policies and contracts. The principal cash outflows come from repayments of debt, payments of dividends to stockholders, purchases of treasury stock, and withdrawals associated with universal life and other investment type policies and contracts. A primary liquidity concern with respect to these cash flows is the risk of early contractholder and policyholder withdrawal.

Contractual Obligations

The following table displays the Company's contractual obligations, including obligations arising from its reinsurance business (in millions):

	Payment Due by Period				
	Total	Less than 1 Year	1-3 Years	4-5 Years	After 5 Years
Future policy benefits(1)	$ 7,837.7	$ (366.6)	$ (791.1)	$ (736.9)	$ 9,732.3
Interest-sensitive contract liabilities(2)	24,372.9	2,039.8	4,019.5	3,839.2	14,474.4
Long-term debt, including interest	5,781.0	156.2	686.6	640.8	4,297.4
Collateral finance and securitization notes, including interest(3)	865.1	112.7	397.0	193.7	161.7
Other policy claims and benefits	4,992.1	4,992.1	—	—	—
Operating leases	38.2	11.2	12.0	5.5	9.5
Limited partnership interests and joint ventures	485.2	485.2	—	—	—
Payables for collateral received under derivative transactions	185.9	185.9	—	—	—
Other investment related commitments	288.4	288.4	—	—	—
Total	$ 44,846.5	$ 7,904.9	$ 4,324.0	$ 3,942.3	$ 28,675.3

(1) Future policyholder benefits include liabilities related primarily to the Company's reinsurance of life and health insurance products. Amounts presented in the table above represent the estimated obligations as they become due to ceding companies for benefits under such contracts, and also include future premiums, allowances and other amounts due to or from the ceding companies as the result of the Company's assumptions of mortality, morbidity, policy lapse and surrender risk as appropriate to the respective product. Total payments may vary materially from prior years due to the assumption of new treaties or as a result of changes in projections of future experience. All estimated cash payments presented in the table above are undiscounted as to interest, net of estimated future premiums on policies currently in force and gross of any reinsurance recoverable. The sum of the undiscounted estimated cash flows shown for all years in the table is an obligation of $7,837.7 million compared to the discounted liability amount of $22,363.2 million included on the consolidated balance sheets, substantially all due to the effects of discounting the estimated cash flows in the balance sheet liability. The time value of money is not factored into the calculations in the table above. In addition, differences will arise due to changes in the projection of future benefit payments compared with those developed when the reserve was established. Expected premiums can exceed expected policy benefit payments and allowances due to the nature of the reinsurance treaties, which generally have increasing premium rates that exceed the increasing benefit payments.

(2) Interest-sensitive contract liabilities include amounts related to the Company's reinsurance of asset-intensive products, primarily deferred annuities and corporate-owned life insurance. Amounts presented in the table above represent the estimated obligations as they become due both to and from ceding companies relating to activity of the underlying policyholders. Amounts presented in the table above represent the estimated obligations under such contracts undiscounted as to interest, including assumptions related to surrenders, withdrawals, premium persistency, partial withdrawals, surrender charges, annuitizations, mortality, future interest credited rates and policy loan utilization. The sum of the obligations shown for all years in the table of $24,372.9 million exceeds the liability amount of $16,227.6 million included on the consolidated balance sheets principally due to the lack of discounting and accounting for separate account contracts.

(3) Includes the Manor Re collateral financing arrangement that does not appear on the consolidated balance sheets due to a master netting agreement where the Company holds a term deposit note of equal value from the counterparty.

Excluded from the table above are net deferred income tax liabilities, unrecognized tax benefits, and accrued interest related to unrecognized tax benefits of $2,319.1 million, for which the Company cannot reliably determine the timing of payment. Current income tax payable is also excluded from the table.

The net funded status of the Company's qualified and nonqualified pension and other postretirement liabilities included within other liabilities has been excluded from the amounts presented in the table above. As of December 31, 2017, the Company had a net unfunded balance of $139.1 million related to qualified and nonqualified pension and other postretirement liabilities. See Note 10 – "Employee Benefit Plans" in the Notes to Consolidated Financial Statements for information related to the Company's obligations and funding requirements for pension and other post-employment benefits.

Asset / Liability Management

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

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

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

these asset-intensive agreements, primarily in the U.S. and Latin America Financial Solutions operating segment, are generally funded by fixed maturity securities that are withheld by the ceding company.

The Company's liquidity position (cash and cash equivalents and short-term investments) was $1,396.8 million and $1,277.4 million at December 31, 2017 and 2016, respectively. The increase in cash and cash equivalents during 2017 is primarily related to the timing and execution of the Company's investment strategies. Cash and cash equivalents includes cash collateral received from derivative counterparties of $185.9 million and $254.5 million as of December 31, 2017 and 2016, respectively. This unrestricted cash collateral is included in cash and cash equivalents and the obligation to return it is included in other liabilities in the Company's consolidated balance sheets. Liquidity needs are determined from valuation analyses conducted by operational units and are driven by product portfolios. Periodic evaluations of demand liabilities and short-term liquid assets are designed to adjust specific portfolios, as well as their durations and maturities, in response to anticipated liquidity needs.

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

The Company is a member of the FHLB and holds $67.8 million of FHLB common stock, which is included in other invested assets on the Company's consolidated balance sheets. Membership provides the Company access to borrowing arrangements with the FHLB ("advances") and funding agreements, discussed below. The Company did not have advances at December 31, 2017 and 2016. The Company's average outstanding balance of advances was $12.7 million and $28.5 million in 2017 and 2016, respectively. Interest on advances is reflected in interest expense on the Company's consolidated statements of income.

In addition, the Company has also entered into funding agreements with the FHLB under guaranteed investment contracts whereby the Company has issued the funding agreements in exchange for cash and for which the FHLB has been granted a blanket lien on the Company's commercial and residential mortgage-backed securities and commercial mortgage loans used to collateralize the Company's obligations under the funding agreements. The Company maintains control over these pledged assets, and may use, commingle, encumber or dispose of any portion of the collateral as long as there is no event of default and the remaining qualified collateral is sufficient to satisfy the collateral maintenance level. The funding agreements and the related security agreements represented by this blanket lien provide that upon any event of default by the Company, the FHLB's recovery is limited to the amount of the Company's liability under the outstanding funding agreements. The amount of the Company's liability for the funding agreements with the FHLB under guaranteed investment contracts was $1.4 billion and $1.1 billion at December 31, 2017 and 2016, respectively, which is included in interest sensitive contract liabilities on the Company's consolidated balance sheets. The advances on these agreements are collateralized primarily by commercial and residential mortgage-backed securities, commercial mortgage loans, and U.S. Treasury and government agency securities. The amount of collateral exceeds the liability and is dependent on the type of assets collateralizing the guaranteed investment contracts.

Investments

Management of Investments

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

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

Portfolio Composition

The Company had total cash and invested assets of $53.0 billion and $46.0 billion at December 31, 2017 and 2016, respectively, as illustrated below (dollars in thousands):

	2017	% of Total	2016	% of Total
Fixed maturity securities, available-for-sale	$ 38,150,820	71.9%	$ 32,093,625	69.6%
Mortgage loans on real estate	4,400,533	8.3	3,775,522	8.2
Policy loans	1,357,624	2.6	1,427,602	3.1
Funds withheld at interest	6,083,388	11.5	5,875,919	12.8
Short-term investments	93,304	0.2	76,710	0.2
Other invested assets	1,605,484	3.0	1,591,940	3.5
Cash and cash equivalents	1,303,524	2.5	1,200,718	2.6
Total cash and invested assets	$ 52,994,677	100.0%	$ 46,042,036	100.0%

Investment Yield

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

				Increase /(Decrease)	
	2017	2016	2015	2017	2016
Average invested assets at amortized cost	$ 25,225,400	$ 23,188,717	$ 20,784,941	8.8%	11.6%
Net investment income	1,147,713	1,060,641	1,002,197	8.2%	5.8%
Investment yield (ratio of net investment income to average invested assets)	4.55%	4.57%	4.82%	(2) bps	(25) bps

Investment yield was progressively lower each year primarily due to the effect of a lower interest rate environment notably in the U.S. and Canada.

Fixed Maturity and Equity Securities Available-for-Sale

See “Fixed Maturity and Equity Securities Available-for-Sale” in Note 4 – “Investments” in the Notes to Consolidated Financial Statements for tables that provide the amortized cost, unrealized gains and losses, estimated fair value of fixed maturity and equity securities, and the other-than-temporary impairments in AOCI by sector as of December 31, 2017 and 2016.

The Company holds various types of fixed maturity securities available-for-sale and classifies them as corporate securities (“Corporate”), Canadian and Canadian provincial government securities (“Canadian government”), residential mortgage-backed securities (“RMBS”), asset-backed securities (“ABS”), commercial mortgage-backed securities (“CMBS”), U.S. government and agencies (“U.S. government”), state and political subdivisions, and other foreign government, supranational and foreign government-sponsored enterprises (“Other foreign government”). As of December 31, 2017 and 2016, approximately 95.6% and 95.0%, respectively, of the Company’s consolidated investment portfolio of fixed maturity securities were investment grade.

Important factors in the selection of investments include diversification, quality, yield, call protection and total rate of return potential. The relative importance of these factors is determined by market conditions and the underlying reinsurance liability and existing portfolio characteristics. The largest asset class in which fixed maturity securities were invested was in corporate securities, which represented approximately 60.9% of total fixed maturity securities at December 31, 2017, compared to 61.1% at December 31, 2016. See “Corporate Fixed Maturity Securities” in Note 4 – “Investments” in the Notes to Consolidated Financial Statements for tables showing the major industry types which comprise the corporate fixed maturity holdings at December 31, 2017 and 2016.

As of December 31, 2017, the Company’s investments in Canadian government securities represented 11.1% of the fair value of total fixed maturity securities compared to 11.4% of the fair value of total fixed maturity securities at December 31, 2016. These assets are primarily high-quality long duration provincial strips, the valuation of which is closely linked to the interest rate curve. These assets are longer in duration and held primarily for asset/liability management to meet Canadian regulatory requirements. See “Fixed Maturity and Equity Securities Available-for-Sale” in Note 4 – “Investments” in the Notes to Consolidated Financial Statements for tables showing the various sectors as of December 31, 2017 and 2016.

The Company owns floating rate securities that represent approximately 13.8% and 12.9% of the total fixed maturity securities at December 31, 2017 and December 31, 2016. These investments have a higher degree of income variability than the other fixed income holdings in the portfolio due to the floating rate nature of the interest payments. The Company holds these

investments to match specific floating rate liabilities primarily reflected in the consolidated balance sheets as collateral finance notes, as well as to enhance asset management strategies.

The Company references rating agency designations in some of its investments disclosures. These designations are based on the ratings from nationally recognized statistical rating organizations, primarily Moody's, S&P and Fitch. Structured securities (mortgage-backed and asset-backed securities) held by the Company's insurance subsidiaries that maintain the NAIC statutory basis of accounting utilize the NAIC rating methodology. The NAIC assigns designations to publicly traded as well as privately placed securities. The designations assigned by the NAIC range from class 1 to class 6, with designations in classes 1 and 2 generally considered investment grade (BBB or higher rating agency designation). NAIC designations in classes 3 through 6 are generally considered below investment grade (BB or lower rating agency designation).

The quality of the Company's available-for-sale fixed maturity securities portfolio, as measured at fair value and by the percentage of fixed maturity securities invested in various ratings categories, relative to the entire available-for-sale fixed maturity security portfolio, at December 31, 2017 and 2016 was as follows (dollars in thousands):

		2017			2016		
NAIC Designation	Rating Agency Designation	Amortized Cost	Estimated Fair Value	% of Total	Amortized Cost	Estimated Fair Value	% of Total
1	AAA/AA/A	$ 23,534,574	$ 25,762,103	67.5%	$ 19,813,653	$ 21,369,081	66.5%
2	BBB	10,115,008	10,709,170	28.1	8,834,469	9,162,483	28.5
3	BB	1,139,200	1,173,639	3.1	944,839	955,735	3.0
4	B	408,990	420,284	1.1	414,087	411,138	1.3
5	CCC	78,143	79,747	0.2	187,744	177,481	0.6
6	In or near default	5,497	5,877	—	16,995	17,707	0.1
	Total	$ 35,281,412	$ 38,150,820	100.0%	$ 30,211,787	$ 32,093,625	100.0%

The Company's fixed maturity portfolio includes structured securities. The following table shows the types of structured securities the Company held at December 31, 2017 and 2016 (dollars in thousands):

	2017		2016	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
RMBS:				
Agency	$ 878,559	$ 896,977	$ 579,686	$ 602,549
Non-agency	816,567	822,903	678,353	676,027
Total RMBS	1,695,126	1,719,880	1,258,039	1,278,576
CMBS	1,285,594	1,303,387	1,342,440	1,363,654
ABS	1,634,758	1,648,362	1,443,822	1,429,344
Total	$ 4,615,478	$ 4,671,629	$ 4,044,301	$ 4,071,574

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

The Company's ABS include credit card receivables, railcar leasing, student loans, single-family rentals, home equity loans and collateralized debt obligations (primarily collateralized loan obligations). The principal risks specific to holding ABS are structural, credit and capital market risks. Structural risks include the securities' cash flow priority in the capital structure and the inherent prepayment sensitivity of the underlying collateral. Credit risks include the adequacy and ability to realize proceeds from the collateral. Credit risks are mitigated by credit enhancements which include excess spread, over-collateralization and subordination. Capital market risks include general level of interest rates and the liquidity for these securities in the marketplace.

The Company monitors its fixed maturity and equity securities to determine impairments in value and evaluates factors such as financial condition of the issuer, payment performance, the length of time and the extent to which the market value has been below amortized cost, compliance with covenants, general market and industry sector conditions, current intent and ability to hold securities, and various other subjective factors. Based on management's judgment, securities determined to have an other-than-temporary impairment in value are written down to fair value. See "Investments – Other-than-Temporary Impairment" in

Note 2 – “Summary of Significant Accounting Policies” in the Notes to Consolidated Financial Statements for additional information. The table below summarizes other-than-temporary impairments and changes in the mortgage loan provision for 2017, 2016 and 2015 (dollars in thousands):

	2017	2016	2015
Impairment losses on available-for-sale securities:			
Fixed maturity securities	$ 42,639	$ 38,731	$ 57,380
Equity securities	1,202	—	—
Other impairment losses	7,806	10,134	6,611
Change in mortgage loan provision	1,691	872	342
Total	$ 53,338	$ 49,737	$ 64,333

The fixed maturity impairments in 2017, 2016 and 2015 were largely related to high-yield energy and emerging market corporate securities. The equity impairments in 2017 were related to an equity position received as part of a debt restructuring. There were no impairment losses on equity securities in 2016 and 2015. In addition, other impairment losses in 2017, 2016 and 2015 are primarily due to impairments on limited partnerships.

At December 31, 2017 and 2016, the Company had $117.0 million and $374.9 million, respectively, of gross unrealized losses related to its fixed maturity and equity securities. The distribution of the gross unrealized losses related to these securities is shown below:

	2017	2016
Sector:		
Corporate	50.5%	61.6%
Canadian government	1.5	0.9
RMBS	10.2	3.6
ABS	4.4	6.4
CMBS	4.1	2.1
U.S. government	18.7	16.8
State and political subdivisions	3.7	3.3
Other foreign government	6.9	5.3
Total	100.0%	100.0%
Industry:		
Finance	16.3%	20.1%
Asset-backed	4.4	6.4
Industrial	30.8	32.9
Mortgage-backed	14.3	5.7
Government	30.8	26.3
Utility	3.4	8.6
Total	100.0%	100.0%

See “Unrealized Losses for Fixed Maturity and Equity Securities Available-for-Sale” in Note 4 – “Investments” in the Notes to Consolidated Financial Statements for a table that presents the total gross unrealized losses for fixed maturity securities and equity securities at December 31, 2017 and 2016, respectively, where the estimated fair value had declined and remained below amortized cost by less than 20% or more than 20%.

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

See “Unrealized Losses for Fixed Maturity and Equity Securities Available-for-Sale” in Note 4 – “Investments” in the Notes to Consolidated Financial Statements for tables that present the estimated fair values and gross unrealized losses, including other-than-temporary impairment losses reported in AOCI, for fixed maturity and equity securities that have estimated fair values below amortized cost, by class and grade security, as well as the length of time the related market value has remained below amortized cost as of December 31, 2017 and 2016.

As of December 31, 2017 and 2016, respectively, the Company classified approximately 5.9% and 6.9% of its fixed maturity securities in the Level 3 category (refer to Note 6 – “Fair Value of Assets and Liabilities” in the Notes to Consolidated Financial Statements for additional information). These securities primarily consist of private placement corporate securities, bank

loans, Canadian provincial strips, below investment grade mortgage-backed securities and subprime asset-backed securities with inactive trading markets.

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

Mortgage Loans on Real Estate

Mortgage loans represented approximately 8.3% and 8.2% of the Company’s cash and invested assets as of December 31, 2017 and 2016, respectively. The Company’s mortgage loan portfolio consists of U.S. and Canada based investments primarily in commercial offices, light industrial properties and retail locations. The mortgage loan portfolio is diversified by geographic region and property type. Most of the mortgage loans in the Company’s portfolio range in size up to $30.0 million, with the average mortgage loan investment as of December 31, 2017 totaling approximately $9.5 million. The mortgage loan portfolio was diversified by geographic region and property type as discussed further under “Mortgage Loans on Real Estate” in Note 4 - “Investments” in the Notes to Consolidated Financial Statements.

As of December 31, 2017 and 2016, the Company’s mortgage loans, gross of unamortized deferred loan origination fees and expenses and valuation allowances, were distributed geographically as follows (dollars in thousands):

	2017		2016	
	Recorded Investment	% of Total	Recorded Investment	% of Total
Pacific	$ 1,258,753	28.6%	$ 1,112,636	29.4%
South Atlantic	896,117	20.3	782,509	20.7
Mountain	694,324	15.7	615,915	16.3
East North Central	527,316	11.9	422,512	11.2
West North Central	309,326	7.0	318,212	8.4
West South Central	387,151	8.8	317,194	8.4
Middle Atlantic	137,600	3.1	92,683	2.4
East South Central	96,887	2.2	57,216	1.5
New England	5,700	0.1	9,346	0.2
Subtotal - U.S.	4,313,174	97.7	3,728,223	98.5
Canada	99,997	2.3	54,984	1.5
Total	$ 4,413,171	100.0%	$ 3,783,207	100.0%

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

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

Policy Loans

Policy loans comprised approximately 2.6% and 3.1% of the Company’s cash and invested assets as of December 31, 2017 and 2016, respectively, substantially all of which are associated with one client. These policy loans present no credit risk because the amount of the loan cannot exceed the obligation due the ceding company upon the death of the insured or surrender of the underlying policy. The provisions of the treaties in force and the underlying policies determine the policy loan interest rates. The Company earns a spread between the interest rate earned on policy loans and the interest rate credited to corresponding liabilities.

Funds Withheld at Interest

Funds withheld at interest comprised approximately 11.5% and 12.8% of the Company’s cash and invested assets as of December 31, 2017 and 2016, respectively. For reinsurance agreements written on a modified coinsurance basis and certain agreements written on a coinsurance basis, assets equal to the net statutory reserves are withheld and legally owned and managed by the ceding company, and are reflected as funds withheld at interest on the Company’s consolidated balance sheets. In the event of a ceding company’s insolvency, the Company would need to assert a claim on the assets supporting its reserve liabilities. However, the risk of loss to the Company is mitigated by its ability to offset amounts it owes the ceding company for claims or allowances with amounts owed by the ceding company. Ceding companies with funds withheld at interest had an average financial

strength rating of "A" at December 31, 2017 and 2016. Certain ceding companies maintain segregated portfolios for the benefit of the Company.

The majority of the Company's funds withheld at interest balances are associated with its reinsurance of annuity contracts. The funds withheld receivable balance for segregated portfolios is subject to the general accounting principles for *Derivatives and Hedging* related to embedded derivatives for both periods.

Under these principles, the Company's funds withheld receivable under certain reinsurance arrangements incorporate credit risk exposures that are unrelated or only partially related to the creditworthiness of the obligor and include an embedded derivative feature that is not clearly and closely related to the host contract. Therefore, the embedded derivative feature must be measured at fair value on the consolidated balance sheets and changes in fair value reported in income. See "Embedded Derivatives" in Note 2 - "Summary of Significant Accounting Policies" in the Notes to Consolidated Financial Statements for further discussion.

Based on data provided by ceding companies at December 31, 2017 and 2016, funds withheld at interest totaled (dollars in thousands):

	2017		2016	
Underlying Security Type:	Book Value	Estimated Fair Value	Book Value	Estimated Fair Value
Segregated portfolios	$ 3,958,583	$ 4,279,114	$ 4,023,190	$ 4,322,975
Non-segregated portfolios	1,996,509	1,996,509	1,870,191	1,870,191
Embedded derivatives (1)	128,296	—	(17,462)	—
Total funds withheld at interest	$ 6,083,388	$ 6,275,623	$ 5,875,919	$ 6,193,166

(1) Represents the fair value of embedded derivatives related to reinsurance written on a modco or funds withheld basis and subject to the general accounting principles for Derivatives and Hedging related to embedded derivatives for the segregated portfolios. When the segregated portfolios are presented on a fair value basis in the "Estimated Fair Value" column, the calculation of a separate embedded derivative is not applicable.

Based on data provided by the ceding company at December 31, 2017 and 2016, segregated portfolios contained primarily corporate, municipal, government and asset-backed securities as well as derivative securities and reverse repurchase obligations. These assets pose risks similar to the fixed maturity securities the Company directly owns. Derivatives consist primarily of S&P 500 options which are used to hedge liabilities and interest credited for EIAs reinsured by the Company. The securities held within the segregated portfolios are primarily investment-grade, with an average rating of "A." The average maturity for investments held within the segregated portfolios of funds withheld at interest is ten years or more. Interest accrues to the total funds withheld at interest assets at rates defined by the treaty terms and the Company estimated the yields were approximately 7.78%, 5.89% and 6.10% for the years ended December 31, 2017, 2016 and 2015, respectively. Changes in these estimated yields are affected by changes in the fair value of equity options held in the funds withheld portfolio associated with EIAs. Additionally, under certain treaties the Company is subject to the investment performance on the withheld assets, although it does not directly control them. To mitigate this risk, the Company helps set the investment guidelines followed by the ceding company and monitors compliance.

Other Invested Assets

Other invested assets include equity securities, limited partnership interests, joint ventures (other than operating joint ventures), derivative contracts, fair value option ("FVO") contractholder-directed unit-linked investments, FHLB common stock and equity release mortgages. Other invested assets represented approximately 3.0% and 3.5% of the Company's cash and invested assets as of December 31, 2017 and 2016, respectively. See "Other Invested Assets" in Note 4 – "Investments" in the Notes to Consolidated Financial Statements for a table that presents the carrying value of the Company's other invested assets by type as of December 31, 2017 and 2016.

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

See Note 5 – "Derivative Instruments" in the Notes to Consolidated Financial Statements for a table that presents the notional amounts and fair value of investment related derivative instruments held at December 31, 2017 and 2016.

The Company may be exposed to credit-related losses in the event of non-performance by counterparties to derivative financial instruments. Generally, the credit exposure of the Company's derivative contracts is limited to the fair value at the reporting date plus or minus any collateral posted or held by the Company. The Company had no credit exposure related to its derivative contracts, excluding futures and mortality swaps, at December 31, 2017 and 2016, as the net amount of collateral pledged to the Company from counterparties exceeded the fair value of the derivative contracts.

The Company manages its credit risk related to over-the-counter derivatives by entering into transactions with creditworthy counterparties, maintaining collateral arrangements and through the use of master agreements that provide for a single net payment to be made by one counterparty to another at each due date and upon termination. As exchange-traded futures are affected through regulated exchanges, and positions are marked to market on a daily basis, the Company has minimal exposure to credit-related losses in the event of nonperformance by counterparties. See Note 5 – "Derivative Instruments" in the Notes to Consolidated Financial Statements for more information regarding the Company's derivative instruments.

Enterprise Risk Management

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

Enterprise Risk Management Structure and Governance

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

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

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

- Company's global ERM framework, activities, and issues.
- Identification, assessments, and management of all known, new and emerging strategic risk exposures.
- Risk appetite statement, including the ongoing alignment of the risk appetite statement with the Company's strategy and capital plans.
- Review, revise and approve RGA group-level strategic risk limits consistent with the risk appetite statement

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

To ensure appropriate oversight of enterprise-wide risk management issues without unnecessary duplication, as well as to foster cross-committee communication and coordination regarding risk issues, risk committee chairs attend RMSC meetings. In addition to the risk committees, their sub-committees and working groups, some RGA operating entities have risk management committees that oversee relevant risks related to segment-level risk limits.

Enterprise Risk Management Framework

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

RGA's ERM framework includes the following elements:

1. Risk Culture: Risk management is an integral part of the Company's culture and is embedded in RGA's business processes in accordance with RGA's risk philosophy. As the cornerstone of the ERM framework, a culture of prudent risk management reinforced by senior management plays a preeminent role in the effective management of risks assumed by RGA.
2. Risk Appetite Statement: A general and high level overview of the risk profile RGA aims to achieve to meet its strategic objectives. This statement is then supported by more granular risk limits guiding the businesses to achieve this Risk Appetite Statement.

3. Risk Limits: Risk Limits establish the maximum amount of defined risk that the Company is willing to assume to remain within the Company’s overall risk appetite. These risks have been identified by the management of the Company as relevant to manage the overall risk profile of the Company while allowing achievement of strategic objectives.
4. Risk Assessment Process: RGA uses qualitative and quantitative methods to assess key risks through a portfolio approach, which analyzes established and emerging risks in conjunction with other risks.
5. Business Specific Limits/Controls: These limits/controls provide additional safeguards against undesired risk exposures and are embedded in business processes. Examples include maximum retention limits, pricing and underwriting reviews, per issuer limits, concentration limits, and standard treaty language.

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

Risk Categories

The Company groups its risks into the following categories: Insurance risk, Market and Credit risk, Capital risk, Operational risk and Strategic risk. Specific risk assessments and descriptions can be found below and in Item 1A - “Risk Factors.”

Insurance Risk

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

Insurance Risk Assessment and Pricing

The Company has developed extensive expertise in assessing insurance risks which ultimately forms an integral part of ensuring that it is compensated commensurately for the risks it assumes and that it does not overpay for the risks it transfers to third parties. This expertise includes a vast array of market and product knowledge supported by a large information database of historical experience which is closely monitored. Analysis and experience studies derived from this database help form the basis for the Company’s pricing assumptions which are used in developing rates for new risks. If actual mortality or morbidity experience is materially adverse, some reinsurance treaties allow for increases to future premium rates.

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

Risk Transfer

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

Individual Exposure Retrocession

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

Catastrophic Excess Loss Retrocession

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

Catastrophe Coverage

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

Managing Retained Exposure

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

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

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

Market and Credit Risk

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

Interest Rate Risk

Interest Rate risk is risk that changes in the level and volatility of nominal interest rates affect the profitability, value or solvency position of the Company. This includes credit spread changes and inflation but excludes credit quality deterioration. This risk arises from many of the Company's primary activities, as the Company invests substantial funds in interest-sensitive assets, primarily fixed maturity securities, and also has certain interest-sensitive contract liabilities. A prolonged period where market yields are significantly below the book yields of the Company's asset portfolio puts downward pressure on portfolio book yields. The Company has been proactive in its investment strategies, reinsurance structures and overall asset-liability management practices to reduce the risk of unfavorable consequences in this type of environment.

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

The following table presents the account values, the weighted average interest-crediting rates and minimum guaranteed rate ranges for the contracts containing guaranteed rates by major class of interest-sensitive product as of December 31, 2017 and 2016 (dollars in thousands):

	Account Value		Current Weighted-Average Interest Crediting Rate		Minimum Guaranteed Rate Ranges	
Interest Sensitive Contract Liability	2017	2016	2017	2016	2017	2016
Traditional individual fixed annuities	$ 6,671,880	$ 5,377,061	2.86%	2.86%	0.50 – 4.50%	0.50 – 4.50%
Equity-indexed annuities	4,071,702	4,243,481	3.88	1.69	1.00 – 3.00	1.00 – 3.00
Individual variable annuity contracts	144,615	4,781	3.04	2.64	1.50 – 3.04	0.33 – 3.13
Guaranteed investment contracts	1,358,612	1,054,747	1.63	1.17	1.47 – 2.63	0.31 – 4.50
Universal life – type policies	2,659,445	2,761,886	3.97	4.03	3.00 – 6.00	3.00 – 6.00

The following table presents the account values by each minimum guaranteed rate, rounded to the nearest percentage, by class of interest-sensitive product as of December 31, 2017 and 2016 (dollars in thousands):

	Account Value as of December 31, 2017						
Interest Sensitive Contract Liability	1%	2%	3%	4%	5%	6%	Total
Traditional individual fixed annuities	$ 833,788	$ 742,760	$ 3,761,978	$ 1,322,063	$ 11,291	$ —	$ 6,671,880
Equity-indexed annuities	692,601	2,508,847	870,254	—	—	—	4,071,702
Individual variable annuity contracts	—	2,528	142,087	—	—	—	144,615
Guaranteed investment contracts	239,809	1,093,776	25,027	—	—	—	1,358,612
Universal life – type policies	—	—	51,010	2,529,314	56,634	22,487	2,659,445

	Account Value as of December 31, 2016						
Interest Sensitive Contract Liability	1%	2%	3%	4%	5%	6%	Total
Traditional individual fixed annuities	$ 659,734	$ 636,455	$ 3,371,758	$ 697,216	$ 11,898	$ —	$ 5,377,061
Equity-indexed annuities	688,796	2,612,985	941,700	—	—	—	4,243,481
Individual variable annuity contracts	—	—	4,781	—	—	—	4,781
Guaranteed investment contracts	800,082	192,812	—	36,537	25,316	—	1,054,747
Universal life – type policies	—	—	49,706	2,631,139	57,751	23,290	2,761,886

The spread profits on the Company’s fixed annuity and interest-sensitive whole life, universal life (“UL”) and fixed portion of variable universal life (“VUL”) insurance policies are at risk if interest rates decline and remain relatively low for a period of time, which has generally been the case in recent years. Should interest rates remain at current levels, which are significantly lower than those existing prior to the declines of recent years, the average earned rate of return on the Company’s annuity and UL investment portfolios will continue to decline. Declining portfolio yields may cause the spreads between investment portfolio yields and the interest rate credited to contract holders to deteriorate as the Company’s ability to manage spreads can become limited by minimum guaranteed rates on annuity and UL policies. In 2017, minimum guaranteed rates on non-variable annuity and UL policies generally ranged from 0.50% to 6.00%, with an average guaranteed rate of approximately 2.74%. In 2016, minimum guaranteed rates on non-variable annuity and UL policies generally ranged from 0.50% to 6.00%, with an average guaranteed rate of approximately 2.69%.

Interest rate spreads are managed for near term income through a combination of crediting rate actions and portfolio management. Certain annuity products contain crediting rates that reset annually, of which $5,343.9 million and $4,218.6 million of account balances are not subject to surrender charges as of December 31, 2017 and 2016, respectively, with substantially all of these already at their minimum guaranteed rates. As such, certain management and monitoring processes are designed to minimize the effect of sudden and/or sustained changes in interest rates on fair value, cash flows, and net interest income.

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

Interest rate sensitivity analysis is used to measure the Company’s interest rate price risk by computing estimated changes in fair value of fixed rate assets and liabilities in the event of a hypothetical 100 basis point change (increase or decrease) in market interest rates. The Company does not have fixed rate instruments classified as trading securities. The Company’s projected net decrease in fair value of financial instruments in the event of a 100 basis point increase in market interest rates at its fiscal years ended December 31, 2017 and 2016 was $966.7 million and $876.5 million, respectively.

The calculation of fair value is based on the net present value of estimated discounted cash flows expected over the life of the market risk sensitive instruments, using market prepayment assumptions and market rates of interest provided by independent broker quotations and other public sources, with adjustments made to reflect the shift in the treasury yield curve as appropriate.

The interest rate sensitivity relating to the Company's fixed maturity securities is assessed using hypothetical scenarios that assume positive and negative 50 and 100 basis point parallel shifts in the yield curves. This analysis assumes that the U.S., Canadian and other pertinent countries' yield curve shifts are of equal direction and magnitude. Change in value of individual securities is estimated consistently under each scenario using a commercial valuation tool. The Company's actual experience may differ from the results noted below particularly due to assumptions utilized or if events differ from those included in the methodology. The following tables summarize the results of this analysis for fixed maturity securities in the Company's investment portfolio as of the dates indicated (dollars in millions):

Interest Rate Analysis of Estimated Fair Value of Fixed Maturity Securities

December 31, 2017:	-100 bps	-50 bps	-	50 bps	100 bps
Total estimated fair value	$ 41,312	$ 39,695	$ 38,151	$ 36,699	$ 35,354
% Change in estimated fair value from base	8.3%	4.0%	—%	(3.8)%	(7.3)%
$ Change in estimated fair value from base	$ 3,161	$ 1,544	$ —	$ (1,452)	$ (2,797)

December 31, 2016:	-100 bps	-50 bps	-	50 bps	100 bps
Total estimated fair value	$ 34,649	$ 33,346	$ 32,094	$ 30,907	$ 29,810
% Change in estimated fair value from base	8.0%	3.9%	—%	(3.7)%	(7.1)%
$ Change in estimated fair value from base	$ 2,555	$ 1,252	$ —	$ (1,187)	$ (2,284)

Interest rate sensitivity analysis is also used to measure the Company's interest rate cash flow risk by computing estimated changes in the expected cash flows for floating rate assets and liabilities over a one year period following an instantaneous, parallel, hypothetical 100 basis point change (increase or decrease) in market interest rates. The Company does not have variable rate instruments classified as trading securities. The Company's projected decrease in cash flows associated with floating rate instruments in the event of an instantaneous 100 basis point decrease in market interest rates for its fiscal years ended December 31, 2017 and 2016 was $44.4 million and $33.7 million, respectively.

Computations of prospective effects of hypothetical interest rate changes are based on numerous assumptions, and should not be relied on as indicative of future results. Further, the computations do not contemplate any actions management could undertake in response to changes in interest rates. Certain shortcomings are inherent in the method of analysis presented in the computation of the estimated fair value of fixed maturity securities and the estimated cash flows of floating rate instruments, which constitute forward-looking statements. Actual values may differ materially from those projections presented due to a number of factors, including, without limitation, market conditions varying from assumptions used in the calculation of the fair value.

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

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

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

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

Foreign Currency Risk

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

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

The Company does not hedge the income statement risk associated with translating foreign currencies. The foreign exchange risk sensitivity of the Company's consolidated pre-tax income is assessed using hypothetical test scenarios. Actual results may differ from the results noted below particularly due to assumptions utilized or if events occur that were not included in the methodology. For more information on this risk, see "Item 1A - Risk Factors - Risks Related to Our Business." In general, a weaker U.S. dollar relative to foreign currencies has a favorable impact on the Company's income before income taxes. The following tables summarize the impact on the Company's reported income before income taxes of an immediate favorable or unfavorable change in each of the foreign exchange rates to which the Company has exposure (dollars in thousands):

	Unfavorable			Favorable	
Year Ended December 31, 2017	-10%	-5%	-	5%	10%
Income before income taxes	$ 1,096,520	$ 1,119,667	$ 1,142,815	$ 1,165,963	$ 1,189,110
% change of income before income taxes from base	(4.1)%	(2.0)%	—%	2.0%	4.1%
$ change of income before income taxes from base	$ (46,295)	$ (23,148)	$ —	$ 23,148	$ 46,295

	Unfavorable			Favorable	
Year Ended December 31, 2016	-10%	-5%	-	5%	10%
Income before income taxes	$ 996,109	$ 1,020,028	$ 1,043,946	$ 1,067,864	$ 1,091,783
% change of income before income taxes from base	(4.6)%	(2.3)%	—%	2.3%	4.6%
$ change of income before income taxes from base	$ (47,837)	$ (23,918)	$ —	$ 23,918	$ 47,837

Real Estate Risk

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

Equity Risk

Equity risk is the risk that changes in the level and volatility of equity market valuations affect the profitability, value or solvency position of the Company. This risk includes Variable Annuity and other equity linked exposures and asset related equity exposure. The Company assumes equity risk from alternative investments, fixed indexed annuities and variable annuities. The Company uses derivatives to hedge its exposure to movements in equity markets that have a direct correlation with certain of its reinsurance products.

Alternative Investments

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

Fixed Indexed Annuities

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

Variable Annuities

The Company reinsures variable annuities including those with guaranteed minimum death benefits ("GMDB"), guaranteed minimum income benefits ("GMIB"), guaranteed minimum accumulation benefits ("GMAB") and guaranteed minimum withdrawal benefits ("GMWB"). Strong equity markets, increases in interest rates and decreases in equity market volatility will generally decrease the fair value of the liabilities underlying the benefits. Conversely, a decrease in the equity markets along with a decrease in interest rates and an increase in equity market volatility will generally result in an increase in the fair value of the liabilities underlying the benefits, which has the effect of increasing reserves and lowering earnings. The Company maintains a customized dynamic hedging program that is designed to substantially mitigate the risks associated with income volatility around the change in reserves on guaranteed benefits, ignoring the Company's own credit risk assessment. However, the hedge positions may not fully offset the changes in the carrying value of the guarantees due to, among other things, time lags, high levels of volatility in the equity and derivative markets, extreme swings in interest rates, unexpected contract holder behavior, and divergence between the performance of the underlying funds and hedging indices. These factors, individually or collectively, may have a material adverse effect on the Company's net income, financial condition or liquidity. The table below provides a summary of variable annuity account values and the fair value of the guaranteed benefits as of December 31, 2017 and 2016.

	December 31,	
(dollars in millions)	2017	2016
No guaranteed minimum benefits	$ 950	$ 731
GMDB only	182	58
GMIB only	24	5
GMAB only	22	28
GMWB only	1,366	1,334
GMDB / WB	343	335
Other	31	19
Total variable annuity account values	$ 2,918	$ 2,510
Fair value of liabilities associated with living benefit riders	$ 152	$ 185

Credit Risk

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

Investment Credit Risk

Investment credit risk is credit risk related to invested assets. The Company manages investment credit risk using per-issuer investment limits. In addition to per-issuer limits, the Company also limits the total amounts of investments per rating category. An automated compliance system checks for compliance for all investment positions and sends warning messages when there is a breach. The Company manages its credit risk related to over-the-counter derivatives by entering into transactions with creditworthy counterparties, maintaining collateral arrangements and through the use of master agreements that provide for a single net payment to be made by one counterparty to another at each due date and upon termination. Because futures are transacted through regulated exchanges, and positions are marked to market on a daily basis, the Company has minimal exposure to credit-related losses in the event of nonperformance by counterparties to such derivative instruments.

The Company enters into various collateral arrangements, which require both the posting and accepting of collateral in connection with its derivative instruments. Collateral agreements contain attachment thresholds that vary depending on the posting party's financial strength ratings. Additionally, a decrease in the Company's financial strength rating to a specified level results in potential settlement of the derivative positions under the Company's agreements with its counterparties. A committee is responsible for setting rules and approving and overseeing all transactions requiring collateral. See "Credit Risk" in Note 5 - "Derivative Instruments" in the Notes to Consolidated Financial Statements for additional information on credit risk related to derivatives.

Counterparty Risk

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

Run-on-the-Bank

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

Collection Risk

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

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

Generally, RGA’s insurance subsidiaries retrocede amounts in excess of their retention to certain other RGA insurance subsidiaries. External retrocessions are arranged through the Company’s retrocession pools for amounts in excess of its retention. As of December 31, 2017, all retrocession pool members in this excess retention pool rated by the A.M. Best Company were rated “A-” or better. A rating of “A-” is the fourth highest rating out of sixteen possible ratings. For a majority of the retrocessionaires that were not rated, letters of credit or trust assets have been given as additional security. In addition, the Company performs annual financial and in force reviews of its retrocessionaires to evaluate financial stability and performance.

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

Aggregate Counterparty Limits

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

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

Capital Risk

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

Collateral Risk

Collateral risk is the risk that collateral will not be available at expected costs or in the capacity required to meet current and future needs. The Company monitors risks related to interest rate movement, collateral requirements and position and capital markets environment. Collateral demands and resources continue to be actively managed with available collateral sources being more than sufficient to cover stress level collateral demands.

Financing Risk

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

Liquidity Risk

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

Tax Risk

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

Operational Risk

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

Business Conduct and Governance

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

Fraud Risk

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

Privacy and Security Risk

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

Business Disruption Risk

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

Business Operations Risk

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

Human Capital Risk

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

Strategic Risk

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

Strategy Risk

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

External Environment Risk

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

Key Relationships Risk

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

Political and Regulatory Risk

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

New Accounting Standards

See "New Accounting Pronouncements" in Note 2 — "Summary of Significant Accounting Policies" in the Notes to Consolidated Financial Statements.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Information required by Item 7A is contained in Item 7 under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operations—Market and Credit Risk"

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES

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REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	December 31, 2017	December 31, 2016
	(Dollars in thousands, except share data)	
Assets		
Fixed maturity securities:		
Available-for-sale at fair value (amortized cost of $35,281,412 and $30,211,787)	$ 38,150,820	$ 32,093,625
Mortgage loans on real estate (net of allowances of $9,384 and $7,685)	4,400,533	3,775,522
Policy loans	1,357,624	1,427,602
Funds withheld at interest	6,083,388	5,875,919
Short-term investments	93,304	76,710
Other invested assets	1,605,484	1,591,940
Total investments	51,691,153	44,841,318
Cash and cash equivalents	1,303,524	1,200,718
Accrued investment income	392,721	347,173
Premiums receivable and other reinsurance balances	2,338,481	1,930,755
Reinsurance ceded receivables	782,027	683,972
Deferred policy acquisition costs	3,239,824	3,338,605
Other assets	767,088	755,338
Total assets	$ 60,514,818	$ 53,097,879
Liabilities and Stockholders' Equity		
Future policy benefits	$ 22,363,241	$ 19,581,573
Interest-sensitive contract liabilities	16,227,642	14,029,354
Other policy claims and benefits	4,992,074	4,263,026
Other reinsurance balances	488,739	388,989
Deferred income taxes	2,198,309	2,770,640
Other liabilities	1,102,975	1,041,880
Long-term debt	2,788,365	3,088,635
Collateral finance and securitization notes	783,938	840,700
Total liabilities	50,945,283	46,004,797
Commitments and contingent liabilities (See Note 12)		
Stockholders' Equity:		
Preferred stock (par value $.01 per share; 10,000,000 shares authorized; no shares issued or outstanding)	—	—
Common stock (par value $.01 per share; 140,000,000 shares authorized; shares issued: 79,137,758 at December 31, 2017 and 2016)	791	791
Additional paid-in-capital	1,870,906	1,848,611
Retained earnings	6,736,265	5,199,130
Treasury stock, at cost - 14,685,663 and 14,835,256 shares	(1,102,058)	(1,094,779)
Accumulated other comprehensive income	2,063,631	1,139,329
Total stockholders' equity	9,569,535	7,093,082
Total liabilities and stockholders' equity	$ 60,514,818	$ 53,097,879

See accompanying notes to consolidated financial statements.

REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME

	For the years ended December 31,		
	2017	2016	2015
Revenues	(Dollars in thousands, except per share data)		
Net premiums	$ 9,841,130	$ 9,248,871	$ 8,570,741
Investment income, net of related expenses	2,154,651	1,911,886	1,734,495
Investment related gains (losses), net:			
Other-than-temporary impairments on fixed maturity securities	(42,639)	(38,805)	(57,380)
Other-than-temporary impairments on fixed maturity securities transferred to other comprehensive income	—	74	—
Other investment related gains (losses), net	210,519	132,926	(107,370)
Total investment related gains (losses), net	167,880	94,195	(164,750)
Other revenues	352,108	266,559	277,692
Total revenues	12,515,769	11,521,511	10,418,178
Benefits and expenses			
Claims and other policy benefits	8,518,917	7,993,375	7,489,382
Interest credited	502,040	364,691	336,964
Policy acquisition costs and other insurance expenses	1,466,646	1,310,540	1,127,486
Other operating expenses	710,690	645,509	554,044
Interest expense	146,025	137,623	142,863
Collateral finance and securitization expense	28,636	25,827	22,644
Total benefits and expenses	11,372,954	10,477,565	9,673,383
Income before income taxes	1,142,815	1,043,946	744,795
Provision for income taxes	(679,366)	342,503	242,629
Net income	$ 1,822,181	$ 701,443	$ 502,166
Earnings per share			
Basic earnings per share	$ 28.28	$ 10.91	$ 7.55
Diluted earnings per share	27.71	10.79	7.46
Dividends declared per share	$ 1.82	$ 1.56	$ 1.40

See accompanying notes to consolidated financial statements.

REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	For the years ended December 31,		
	2017	2016	2015
Comprehensive income (loss)			
Net Income	$ 1,822,181	$ 701,443	$ 502,166
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	69,126	8,610	(262,998)
Net unrealized investment gains (losses)	698,078	419,336	(689,076)
Defined benefit pension and postretirement plan adjustments	726	3,099	3,229
Total other comprehensive income (loss), net of tax	767,930	431,045	(948,845)
Total comprehensive income (loss)	$ 2,590,111	$ 1,132,488	$ (446,679)

See accompanying notes to consolidated financial statements.

REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)

	Common Stock	Additional Paid In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income	Total
Balance, December 31, 2014	$ 791	$ 1,798,279	$ 4,239,647	$ (672,394)	$ 1,657,129	$ 7,023,452
Net income			502,166			502,166
Total other comprehensive income (loss)					(948,845)	(948,845)
Dividends to stockholders			(93,381)			(93,381)
Purchase of treasury stock				(384,519)		(384,519)
Reissuance of treasury stock		17,863	(28,129)	46,774		36,508
Balance, December 31, 2015	791	1,816,142	4,620,303	(1,010,139)	708,284	6,135,381
Net income			701,443			701,443
Total other comprehensive income (loss)					431,045	431,045
Dividends to stockholders			(100,371)			(100,371)
Purchase of treasury stock				(122,916)		(122,916)
Reissuance of treasury stock		32,469	(22,245)	38,276		48,500
Balance, December 31, 2016	791	1,848,611	5,199,130	(1,094,779)	1,139,329	7,093,082
Adoption of new accounting standards			(138,649)		156,372	17,723
Net income			1,822,181			1,822,181
Total other comprehensive income (loss)					767,930	767,930
Dividends to stockholders			(117,291)			(117,291)
Purchase of treasury stock				(43,508)		(43,508)
Reissuance of treasury stock		22,295	(29,106)	36,229		29,418
Balance, December 31, 2017	$ 791	$ 1,870,906	$ 6,736,265	$ (1,102,058)	$ 2,063,631	$ 9,569,535

See accompanying notes to consolidated financial statements.

REINSURANCE GROUP OF AMERICA, INCORPORATED AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOW
(in thousands)

	For the years ended December 31,		
	2017	2016	2015
Cash flows from operating activities			
Net income	$ 1,822,181	$ 701,443	$ 502,166
Adjustments to reconcile net income to net cash provided by operating activities:			
Change in operating assets and liabilities:			
Accrued investment income	(43,142)	(18,761)	(48,458)
Premiums receivable and other reinsurance balances	(346,737)	(156,836)	(313,882)
Deferred policy acquisition costs	154,234	31,024	(66,633)
Reinsurance ceded receivable balances	(124,056)	(53,221)	(11,740)
Future policy benefits, other policy claims and benefits, and other reinsurance balances	1,320,810	810,474	1,867,488
Deferred income taxes	(847,304)	293,777	148,996
Other assets and other liabilities, net	242,466	(98,675)	(55,345)
Amortization of net investment premiums, discounts and other	(105,382)	(93,952)	(77,303)
Depreciation and amortization expense	52,902	26,853	31,103
Investment related (gains) losses, net	(167,880)	(94,195)	164,750
Excess tax benefits from share-based payment arrangement	—	(162)	(2,963)
Other, net	24,216	117,949	(49,564)
Net cash provided by operating activities	1,982,308	1,465,718	2,088,615
Cash flows from investing activities			
Sales of fixed maturity securities available-for-sale	7,308,608	4,584,828	5,461,687
Maturities of fixed maturity securities available-for-sale	589,214	472,435	439,640
Sales of equity securities	207,347	434,518	81,319
Principal payments on mortgage loans on real estate	339,919	442,755	383,828
Principal payments on policy loans	114,586	88,840	21,322
Purchases of fixed maturity securities available-for-sale	(8,941,293)	(7,414,647)	(5,874,309)
Purchases of equity securities	(81,254)	(584,532)	(95,834)
Cash invested in mortgage loans on real estate	(964,421)	(1,092,876)	(810,092)
Cash invested in policy loans	(44,607)	(47,646)	(52,207)
Cash invested in funds withheld at interest	(22,557)	(32,597)	(339,062)
Purchase of businesses, net of cash acquired of $69,823	—	—	(145,235)
Purchases of property and equipment	(44,211)	(44,642)	(23,553)
Cash paid under securities repurchase agreements	—	—	(101,203)
Change in short-term investments	52,302	465,628	(470,002)
Change in other invested assets	(121,206)	(97,790)	91,960
Net cash used in investing activities	(1,607,573)	(2,825,726)	(1,431,741)
Cash flows from financing activities			
Dividends to stockholders	(117,291)	(100,371)	(93,381)
Repayment of collateral finance and securitization notes	(68,429)	(64,571)	(19,732)
Proceeds from issuance of collateral finance and securitization notes	—	—	164,220
Proceeds from long-term debt issuance	—	799,984	—
Debt issuance costs	—	(8,766)	(4,748)
Principal payments of long-term debt	(302,582)	(2,479)	(2,380)
Purchases of treasury stock	(43,508)	(122,916)	(384,519)
Excess tax benefits from share-based payment arrangement	—	162	2,963
Exercise of stock options, net	7,292	15,321	11,151
Change in cash collateral for derivative positions and other arrangements	(65,422)	26,413	52,381
Deposits on universal life and other investment type policies and contracts	1,017,699	1,041,623	277,280
Withdrawals on universal life and other investment type policies and contracts	(752,381)	(529,011)	(711,517)
Net cash used in financing activities	(324,622)	1,055,389	(708,282)
Effect of exchange rate changes on cash	52,693	(19,938)	(68,986)
Change in cash and cash equivalents	102,806	(324,557)	(120,394)
Cash and cash equivalents, beginning of period	1,200,718	1,525,275	1,645,669
Cash and cash equivalents, end of period	$ 1,303,524	$ 1,200,718	$ 1,525,275

Supplemental disclosures of cash flow information:

Interest paid	$ 173,471	$ 156,727	$ 148,124
Income taxes paid, net of refunds	$ 37,098	$ 61,085	$ 41,577
Non-cash transactions:			
Transfer of invested assets	$ 3,285,837	$ 120,500	$ 2,092,558
Accrual for capitalized assets	$ —	$ —	$ 253
Purchase of a business:			
Assets acquired, excluding cash acquired	$ —	$ —	$ 4,040,175
Liabilities assumed	—	—	(3,894,940)
Net cash paid on purchase	$ —	$ —	$ 145,235

See accompanying notes to consolidated financial statements.

Reinsurance Group of America, Incorporated
Notes to consolidated financial statements
For the years ended December 31, 2017, 2016 and 2015

Note 1 BUSINESS AND BASIS OF PRESENTATION

Business

Reinsurance Group of America, Incorporated ("RGA") is an insurance holding company that was formed on December 31, 1992. The consolidated financial statements herein include the assets, liabilities, and results of operations of RGA and its subsidiaries, all of which are wholly owned (collectively, the "Company").

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.

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"). 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 and its subsidiaries, all of which are wholly owned, and any variable interest entities where the Company is the primary beneficiary. 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. The Company evaluates variable interest entities in accordance with the general accounting principles for *Consolidation*. Intercompany balances and transactions have been eliminated.

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 stockholders' 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 (losses), 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.

Mortgage Loans on Real Estate

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 (losses), net on the consolidated statements of income.

The Company evaluates whether a mortgage loan modification represents a troubled debt restructuring. In a troubled debt restructuring, the Company grants concessions related to the borrower's financial difficulties. Generally, the types of concessions include: reduction of the contractual interest rate, extension of the maturity date at an interest rate lower than current market interest rates and/or a reduction of accrued interest. The Company considers the amount, timing and extent of the concession granted in determining any impairment or changes in the specific valuation allowance recorded in connection with the troubled debt restructuring. Through the continuous monitoring process, the Company may have recorded a specific valuation allowance prior to when the mortgage loan is modified in a troubled debt restructuring. Accordingly, the carrying value (after specific valuation allowance) before and after modification through a troubled debt restructuring may not change significantly, or may increase if the expected recovery is higher than the pre-modification recovery assessment.

Policy Loans

Policy loans are reported at the unpaid principal balance. Interest income on such loans is recorded as earned using the contractually agreed-upon interest rate. These policy loans present no credit risk because the amount of the loan cannot exceed the obligation due the ceding company upon the death of the insured or surrender of the underlying policy.

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. Changes in the value of the equity options held within the funds withheld portfolio associated with equity-indexed annuity treaties are reflected in investment income, net of related expenses.

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, limited partnership interests, joint ventures (other than operating joint ventures), equity release mortgages and structured loans. Equity securities are carried at fair value with the exception of the Company's investment in the Federal Home Loan Bank of Des Moines ("FHLB") common stock, which is carried at cost. 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 and structured loans 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. Joint ventures and certain limited partnerships are reported using the equity method of accounting.

Equity release mortgages are carried at unpaid principal balances, net of any unamortized premium or discount and valuation allowance. Interest income is accrued on the principal amount of the equity release mortgage based on its contractual interest rate.

Securities Borrowing, Lending and Repurchase Agreements

The Company participates in securities borrowing programs whereby securities, which are not reflected on the Company's consolidated balance sheets, are borrowed from third parties. The borrowed securities are used to provide collateral under affiliated reinsurance transactions. The Company is required to maintain a minimum of 100% of the fair value, or par value under certain programs, of the borrowed securities as collateral. The collateral consists of rights to reinsurance treaty cash flows. If cash flows from the reinsurance treaties are insufficient to maintain the minimum collateral requirement, the Company may substitute cash or securities to meet the requirement.

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

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

Other-than-Temporary Impairment

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 issuers 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 (losses), net on the consolidated statements of income. Impairment losses on fixed maturity securities recognized in the 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 (losses), 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 (losses), 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. The 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 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 net investment income 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 (including real estate ventures), 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, forwards 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 5 - “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 (losses), net.

Changes in the fair value of non-investment free-standing derivative instruments (e.g. mortality and 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 (losses), net. The fair values of the hedging derivatives are exclusive of any accruals that are separately reported in the consolidated statement 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 statement 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 (losses), net. The fair values of the hedging derivatives are exclusive of any accruals that are separately reported in the consolidated statement 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 (losses), 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 (losses), 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 statement 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 (losses), 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 (losses), 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 (losses), net.

Embedded Derivatives

The Company reinsures certain annuity products that contain terms that are deemed to be embedded derivatives, primarily equity-indexed annuities and 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 equity-indexed annuities are reflected in interest credited on the consolidated statements of income and changes in the fair value of embedded derivatives associated with variable annuity guaranteed minimum benefits are reflected in investment related gains (losses), net on the consolidated statements of income. See "Interest-Sensitive Contract Liabilities" below for additional information on embedded derivatives related to equity-indexed and 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. The Company's funds withheld at interest balances are primarily associated with its reinsurance treaties structured on a modified coinsurance or funds withheld basis, the majority of which were 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 investment related gains (losses), net 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 6 - "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.

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, 2016 and 2015.

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 premiums receivable and other reinsurance balances while other reinsurance liabilities are included in other reinsurance balances on the consolidated balance sheets.

Goodwill and Value of Business Acquired

Goodwill, reported in other assets, is not amortized into results of operations, but instead is reviewed at least annually for impairment and written down only in the periods in which the recorded value of goodwill exceeds its fair value. Goodwill as of December 31, 2017 and 2016 totaled $7.0 million. The value of business acquired ("VOBA") is amortized in proportion to the ratio of annual premium revenues to total anticipated premium revenues or in relation to the present value of estimated profits. Anticipated premium revenues have been estimated using assumptions consistent with those used in estimating reserves for future policy benefits. The carrying value is reviewed at least annually for indicators of impairment in value. The VOBA was approximately $3.3 million and $3.1 million, including accumulated amortization of $14.6 million and $14.3 million, as of December 31, 2017 and 2016, respectively. The VOBA amortization expense for the years ended December 31, 2017, 2016 and 2015 was $0.3 million, $0.5 million, and $0.4 million, respectively. These amortized balances are included in other assets on the consolidated balance sheets. Future amortization of the VOBA is not material.

Value of Distribution Agreements and Customer Relationships Acquired

Value of distribution agreements ("VODA") is reported in other assets and represents the present value of future profits associated with the expected future business derived from the distribution agreements. Value of customer relationships acquired ("VOCRA") is also reported in other assets and represents the present value of the expected future profits associated with the expected future business acquired through existing customers of the acquired company or business. The VODA is amortized over a useful life of 15 years and the VOCRA is also amortized over a 15 year period in proportion to expected revenues generated. Such amortization is included in policy acquisition costs and other insurance expenses for reinsurance-related acquisitions or other operating expenses for other acquisitions. Each year the Company reviews VODA and VOCRA to determine the recoverability of these balances. VODA and VOCRA totaled approximately $52.3 million and $61.2 million, including accumulated amortization of $72.1 million and $63.2 million, as of December 31, 2017 and 2016, respectively. The VODA and VOCRA amortization expense for the years ended December 31, 2017, 2016 and 2015 was $8.9 million, $9.3 million and $9.5 million, respectively. Amortization of the VODA and VOCRA is estimated to be $8.6 million, $8.3 million, $7.8 million, $6.9 million and $6.6 million during 2018, 2019, 2020, 2021 and 2022, respectively.

Property, Equipment, Leasehold Improvements and Computer Software

Property, equipment and leasehold improvements, which are included in other assets, are stated at cost, less accumulated depreciation. Depreciation is determined using the straight-line method over the estimated useful lives of the assets, as appropriate. The estimated life is generally 40 years for company occupied real estate property, from one to seven years for leasehold improvements, and from three to seven years for all other property and equipment. The cost basis of the property, equipment and leasehold improvements was $236.1 million and $221.7 million at December 31, 2017 and 2016, respectively. Accumulated depreciation of property, equipment and leasehold improvements was $79.4 million and $60.8 million at December 31, 2017 and 2016, respectively. Related depreciation expense was $17.2 million, $16.6 million and $17.1 million for the years ended December 31, 2017, 2016 and 2015, respectively. The Company had assets acquired under capital leases, included in the total above, of $136.3 million and $145.7 million, net of accumulated depreciation of $30.5 million and $21.0 million as of December 31, 2017 and 2016, respectively. Depreciation on assets under capital leases charged to expense is included in other operating expenses. Depreciation expense for the years ended December 31, 2017, 2016 and 2015 was $9.4 million, $9.6 million and $10.0 million, respectively.

Computer software, which is included in other assets, is stated at cost, less accumulated amortization. Purchased software costs, as well as certain internal and external costs incurred to develop internal-use computer software during the application development stage, are capitalized. Amortization of software costs is recorded on a straight-line basis over periods ranging from three to ten years. Carrying values are reviewed periodically for indicators of impairment in value. Unamortized computer software costs were $145.5 million and $139.8 million at December 31, 2017 and 2016, respectively. Amortization expense was $35.7 million, $10.3 million, and $14.0 million for the years ended December 31, 2017, 2016 and 2015, respectively. The Company recognized capital project write-offs of $24.5 million, $0.6 million and $6.0 million in 2017, 2016 and 2015, respectively.

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. Interest rates range from 3.0% to 6.0%. 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 and corporate-owned life insurance. The investment portfolios for these products are segregated for management purposes within the general account of RGA Reinsurance Company ("RGA Reinsurance"). 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, single premium immediate annuities, equity-indexed annuities, individual variable annuities, corporate-owned life and interest-sensitive whole life insurance contracts. 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 (losses), 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 reinsures equity-indexed annuity contracts. These contracts allow the contract holder to elect an interest rate return or an equity market component where interest credited is based on the performance of common stock market indices, such as the S&P 500 Index®, the Dow Jones Industrial Average, or the NASDAQ. The equity market option is considered an embedded derivative, similar to a call option, which is reflected at fair value on the consolidated balance sheets in interest-sensitive contract liabilities. The fair value of embedded derivatives is computed based on a projection of future equity option costs using a budget methodology, discounted back to the balance sheet date using current market indicators of volatility and interest rates. Changes in the fair value of the embedded derivatives are included as a component of interest credited on the consolidated statements of 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, but generally averages around 3.6 months. 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.

Other Liabilities

Other liabilities primarily include investments in transit, separate accounts, employee benefits, cash collateral received on derivative positions and current federal income taxes payable.

Income Taxes

The U.S. consolidated tax return includes the operations of RGA and all eligible subsidiaries. Aurora National Life Assurance Company's ("Aurora National") files a separate U.S. income tax return as it is ineligible for inclusion in the consolidated federal tax return until 2021. The Company's foreign subsidiaries are taxed under applicable local statutes.

The Company provides for federal, state 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 deferred tax assets related to net operating and capital 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 a 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 statement 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.

Collateral Finance and Securitization Notes

Collateral finance and securitization notes represent private placement asset-backed structured financing transactions. Collateral finance notes are issued on specified insurance policies reinsured by the Company's regulated subsidiaries. Transaction costs, primarily interest expense, are reflected in collateral finance and securitization expense. See Note 14 - "Collateral Finance and Securitization Notes" for additional information.

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, Japanese yen, Korean won, Euro and South African rand. The translation of the functional 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 revenue 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 premiums receivable and 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

The Company expenses the fair value of 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 stockholders' equity, and stock-based compensation expense is reflected in other operating expenses in the consolidated statements of income.

Earnings Per Share

Basic earnings per share exclude any dilutive effects of any outstanding options. Diluted earnings per share include the dilutive effects assuming outstanding stock options were exercised.

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 changed 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 income statement. Previously, excess tax benefits and deficiencies were recognized in shareholders' equity or deferred taxes on the balance sheet depending on the tax situation of the Company. In addition, the updated guidance also changes the accounting for forfeitures and statutory tax withholding requirements, as well as the classification in the statement of cash flows. 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 excess tax benefits of approximately $17.7 million in deferred tax assets that were previously not recognized in a cumulative-effect adjustment increasing retained earnings by $17.7 million. The Company also recorded excess

tax benefits of approximately $10.5 million in the provision for income taxes for the year ended December 31, 2017. The number of weighted average diluted shares outstanding were also adjusted to exclude excess tax benefits from the assumed proceeds in the diluted shares calculation resulting in an immaterial increase in the number of dilutive shares outstanding. The Company also elected to continue estimating forfeitures for purposes of recognizing share-based compensation. Other aspects of the adoption of the updated guidance did not have a material impact to the Company's financial statements.

Reporting Comprehensive Income

In February 2018, the FASB updated the general accounting principle for Reporting Comprehensive Income to require reclassification from accumulated other comprehensive income to retained earnings for the stranded tax effects resulting from the newly enacted U.S. federal corporate income tax rate. The amount of the reclassification would be the difference between the historical U.S. federal corporate income tax rate and the newly enacted 21 percent tax rate. The Company adopted the new guidance on December 31, 2017 by reclassifying certain income tax effects of items within accumulated other comprehensive income to retained earnings as a result of the Tax Cuts and Jobs Act of 2017. The impact of adopting this standard was an increase in accumulated other comprehensive income and a reduction in retained earnings of approximately $156.4 million.

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 became effective for the Company beginning January 1, 2018 and 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 U.S. GAAP an impairment model, known as current expected credit loss ("CECL") model that is based on expected losses rather than incurred losses. For traditional and other receivables, held-to-maturity debt securities, loans and other instruments entities will be required to use the new forward-looking "expected loss" model that generally will result in earlier recognition of allowance for losses. For available-for-sale debt securities with unrealized losses, entities will measure credit losses similar to what they do today, except the losses will be recognized as allowances rather than reduction to the amortized cost of the securities. 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 January 1, 2019, 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 $38.2 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 ACQUISITIONS

In April 2015, the Company completed the acquisition of 100% of Aurora National stock from Swiss Re Life & Health America, Inc. ("Swiss Re") pursuant to the stock purchase agreement dated October 20, 2014, between the Company and Swiss Re. The transaction represented an opportunity to deploy capital into a seasoned closed block of business in the U.S. market. The total cash purchase price was $191.5 million, net of cash acquired. Total assets acquired were $3.7 billion, primarily consisting of $3.6 billion of investments, and total liabilities assumed were $3.5 billion. There is no goodwill, including tax deductible goodwill, associated with the acquisition. The business acquired is reflected in the U.S. and Latin America Traditional and Financial Solutions segments. This acquisition did not have a material impact on the Company's consolidated financial statements, and as a result no proforma disclosures have been presented.

In October 2015, the Company completed the acquisition of the life insurance portfolio of PGGM Levensverzekeringen, N.V. ("PGGM"), a Netherlands-based cooperative. This transaction supports the Company's objective to capitalize on the realignment of the financial services industry and provide closed-block solutions in the European market. Total assets acquired were $404.4 million, primarily consisting of $395.6 million of investments, and total liabilities assumed were $394.1 million. There is no goodwill, including tax deductible goodwill, associated with the acquisition. The acquisition is reflected in the Company's Europe, Middle East and Africa traditional and financial solutions segments. This acquisition did not have a material impact on the Company's consolidated financial statements, and as a result no proforma disclosures have been presented.

Note 4 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	$ 21,966,803	$ 1,299,594	$ 55,429	$ 23,210,968	60.9%	$ —
Canadian government	2,843,273	1,378,510	1,707	4,220,076	11.1	—
RMBS	1,695,126	36,632	11,878	1,719,880	4.5	—
ABS	1,634,758	18,798	5,194	1,648,362	4.3	275
CMBS	1,285,594	22,627	4,834	1,303,387	3.4	—
U.S. government	1,953,436	12,089	21,933	1,943,592	5.1	—
State and political subdivisions	647,727	59,997	4,296	703,428	1.8	—
Other foreign government	3,254,695	154,507	8,075	3,401,127	8.9	—
Total fixed maturity securities	$ 35,281,412	$ 2,982,754	$ 113,346	$ 38,150,820	100.0%	$ 275
Non-redeemable preferred stock	$ 41,553	$ 479	$ 2,226	$ 39,806	39.7%	
Other equity securities	61,288	479	1,421	60,346	60.3	
Total equity securities	$ 102,841	$ 958	$ 3,647	$ 100,152	100.0%	

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

The Company enters into various collateral arrangements with counterparties that require both the pledging and acceptance of fixed maturity securities as collateral. Pledged fixed maturity securities are included in fixed maturity securities, available-for-sale in the 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 derivative transactions and 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	$ 72,542	$ 75,622	$ 207,066	$ 210,676
Fixed maturity securities received as collateral	n/a	590,417	n/a	300,925
Assets in trust held to satisfy collateral requirements	15,584,296	16,715,281	12,135,258	12,874,370

The Company monitors its concentrations of financial instruments on an ongoing basis, and mitigates credit risk by maintaining a diversified investment portfolio which limits exposure to any one issuer. The Company's exposure to concentrations of credit risk from single issuers greater than 10% of the Company's stockholders' equity included securities of the U.S. government and its agencies, as well as the securities disclosed below, as of December 31, 2017 and 2016 (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	$ 1,119,337	$ 1,917,996	$ 1,004,261	$ 1,612,957
Canadian province of Ontario	939,837	1,282,944	832,764	1,126,433

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	$ 864,993	$ 868,802
Due after one year through five years	7,988,167	8,234,097
Due after five years through ten years	9,286,543	9,781,323
Due after ten years	12,526,231	14,594,969
Asset and mortgage-backed securities	4,615,478	4,671,629
Total	$ 35,281,412	$ 38,150,820

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	$ 7,977,885	$ 8,362,774	36.1%
Industrial	11,535,166	12,199,333	52.5
Utility	2,453,752	2,648,861	11.4
Total	$ 21,966,803	$ 23,210,968	100.0%

December 31, 2016:	Amortized Cost	Estimated Fair Value	% of Total
Finance	$ 6,725,199	$ 6,888,968	35.2%
Industrial	10,228,813	10,639,613	54.2
Utility	1,970,699	2,090,503	10.6
Total	$ 18,924,711	$ 19,619,084	100.0%

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

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. The following table sets forth the amount of pre-tax credit loss impairments on fixed maturity securities held by the Company as of the dates indicated, for which a portion of the OTTI loss was recognized in AOCI, and the corresponding changes in such amounts (dollars in thousands):

	2017	2016	2015
Balance, beginning of period	$ 6,013	$ 7,284	$ 7,284
Additional impairments - credit loss OTTI recognized on securities previously impaired	—	231	—
Credit loss impairments previously recognized on securities impaired to fair value during the period	(2,336)	—	—
Credit loss previously recognized on securities which matured, paid down, prepaid or were sold during the period	—	(1,502)	—
Balance, end of period	$ 3,677	$ 6,013	$ 7,284

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

The following table presents the total gross unrealized losses for the 1,116 and 1,535 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%	$ 113,466	97.0%	$ 337,831	90.1%
20% or more for less than six months	689	0.6	19,438	5.2
20% or more for six months or greater	2,838	2.4	17,588	4.7
Total	$ 116,993	100.0%	$ 374,857	100.0%

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

The following tables present the estimated fair values and gross unrealized losses, including other-than-temporary impairment losses reported in AOCI, for 1,116 and 1,535 fixed maturity and equity securities that have estimated fair values below amortized cost as of December 31, 2017 and 2016, respectively. 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 (dollars in thousands):

	Less than 12 months		12 months or greater		Total	
December 31, 2017:	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Investment grade securities:						
Corporate	$ 1,886,212	$ 17,099	$ 1,009,750	$ 28,080	$ 2,895,962	$ 45,179
Canadian government	18,688	91	111,560	1,596	130,248	1,687
RMBS	566,699	5,852	224,439	6,004	791,138	11,856
ABS	434,274	2,707	168,524	2,434	602,798	5,141
CMBS	220,401	1,914	103,269	2,920	323,670	4,834
U.S. government	800,298	6,177	767,197	15,756	1,567,495	21,933
State and political subdivisions	43,510	242	68,666	4,054	112,176	4,296
Other foreign government	369,717	2,707	191,265	4,704	560,982	7,411
Total investment grade securities	4,339,799	36,789	2,644,670	65,548	6,984,469	102,337
Below investment grade securities:						
Corporate	194,879	3,317	75,731	6,933	270,610	10,250
Canadian government	1,995	20	—	—	1,995	20
RMBS	—	—	1,369	22	1,369	22
ABS	—	—	1,489	53	1,489	53
Other foreign government	28,600	113	15,134	551	43,734	664
Total below investment grade securities	225,474	3,450	93,723	7,559	319,197	11,009
Total fixed maturity securities	$ 4,565,273	$ 40,239	$ 2,738,393	$ 73,107	$ 7,303,666	$ 113,346
Non-redeemable preferred stock	$ 82	$ 1	$ 26,471	$ 2,225	$ 26,553	$ 2,226
Other equity securities	5,820	1,023	47,251	398	53,071	1,421
Total equity securities	$ 5,902	$ 1,024	$ 73,722	$ 2,623	$ 79,624	$ 3,647

	Less than 12 months		12 months or greater		Total	
December 31, 2016:	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
Investment grade securities:						
Corporate	$ 4,661,706	$ 124,444	$ 549,273	$ 43,282	$ 5,210,979	$ 167,726
Canadian government	101,578	3,541	—	—	101,578	3,541
RMBS	490,473	9,733	112,216	3,635	602,689	13,368
ABS	563,259	12,010	257,166	9,653	820,425	21,663
CMBS	368,465	6,858	10,853	166	379,318	7,024
U.S. government	1,056,101	63,044	—	—	1,056,101	63,044
State and political subdivisions	187,194	9,396	13,635	3,068	200,829	12,464
Other foreign government	524,236	13,372	51,097	2,981	575,333	16,353
Total investment grade securities	7,953,012	242,398	994,240	62,785	8,947,252	305,183
Below investment grade securities:						
Corporate	330,757	7,914	163,152	41,605	493,909	49,519
RMBS	—	—	412	12	412	12
ABS	5,904	700	12,581	1,465	18,485	2,165
CMBS	5,815	735	—	—	5,815	735
Other foreign government	32,355	1,258	39,763	2,327	72,118	3,585
Total below investment grade securities	374,831	10,607	215,908	45,409	590,739	56,016
Total fixed maturity securities	$ 8,327,843	$ 253,005	$ 1,210,148	$ 108,194	$ 9,537,991	$ 361,199
Non-redeemable preferred stock	$ 10,831	$ 831	$ 21,879	$ 5,506	$ 32,710	$ 6,337
Other equity securities	202,068	7,020	6,751	301	208,819	7,321
Total equity securities	$ 212,899	$ 7,851	$ 28,630	$ 5,807	$ 241,529	$ 13,658

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

Unrealized losses on below investment grade securities as of December 31, 2017 are primarily related to high-yield corporate securities. 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 consist of the following (dollars in thousands):

	2017	2016	2015
Fixed maturity securities	$ 1,401,585	$ 1,285,406	$ 1,177,706
Mortgage loans on real estate	197,755	168,582	149,564
Policy loans	60,617	63,837	62,955
Funds withheld at interest	457,774	368,728	343,031
Short-term investments and cash and cash equivalents	7,171	8,051	7,574
Other	110,460	89,371	61,709
Investment income	2,235,362	1,983,975	1,802,539
Investment expense	(80,711)	(72,089)	(68,044)
Investment income, net of related expenses	$ 2,154,651	$ 1,911,886	$ 1,734,495

Investment Related Gains (Losses), Net

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

	2017	2016	2015
Fixed maturity and equity securities:			
Other-than-temporary impairment losses on fixed maturities	$ (42,639)	$ (38,805)	$ (57,380)
Portion of loss recognized in accumulated other comprehensive income	—	74	—
Net other-than-temporary impairment losses on fixed maturity securities recognized in earnings	$ (42,639)	$ (38,731)	$ (57,380)
Impairment losses on equity securities	(1,202)	—	—
Gain on investment activity	110,569	154,370	73,079
Loss on investment activity	(41,679)	(49,965)	(71,893)
Other impairment losses and change in mortgage loan provision	(9,497)	(11,006)	(6,953)
Derivatives and other, net	152,328	39,527	(101,603)
Total investment related gains (losses), net	$ 167,880	$ 94,195	$ (164,750)

The other-than-temporary impairment losses on fixed maturity securities for 2017, 2016 and 2015 are primarily due to emerging market and high-yield debt 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 and 2016 the Company held non-income producing securities with amortized costs of $38.8 million and $35.4 million, and estimated fair values of $39.3 million and $47.3 million, respectively. 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, 2016 and 2015 the Company sold fixed maturity and equity securities with fair values of $2,727.8 million, $1,181.6 million, and $1,523.6 million, which were below amortized cost, at gross realized losses of $41.7 million, $50.0 million and $71.9 million, respectively. The Company generally does not engage in short-term buying and selling of securities.

Securities Borrowing, Lending and Repurchase Agreements

The following table includes the amount of borrowed securities, securities lent and securities collateral received as part of the securities lending program, 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
Borrowed securities	$ 358,875	$ 377,820	$ 263,820	$ 279,186
Securities lending:				
Securities loaned	117,246	121,551	74,389	73,625
Securities received	n/a	128,000	n/a	80,000
Repurchase program/reverse repurchase program:				
Securities pledged	413,819	428,344	476,531	499,891
Securities received	n/a	417,550	n/a	515,200

The Company also held cash collateral for securities lending and the repurchase program/reverse repurchase programs of $31.2 million and $28.8 million at December 31, 2017 and 2016, respectively. No cash or securities have been pledged by the Company for its securities borrowing program as of December 31, 2017 and 2016.

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). Collateral associated with certain borrowed securities is not included within the tables as the collateral pledged to each counterparty is the right to reinsurance treaty cash flows.

	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	$ —	$ —	$ —	$ 121,551	$ 121,551
Total	—	—	—	121,551	121,551
Repurchase transactions:					
Corporate	—	—	312	184,334	184,646
RMBS	—	—	—	—	—
U.S. government	—	—	—	220,765	220,765
Foreign government	—	—	—	21,802	21,802
Other	1,131	—	—	—	1,131
Total	1,131	—	312	426,901	428,344
Total transactions	$ 1,131	$ —	$ 312	$ 548,452	$ 549,895

Gross amount of recognized liabilities for securities lending and repurchase transactions in preceding table	$ 576,786
Amounts related to agreements not included in offsetting disclosure	$ 26,891

	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
Total	—	—	4,017	69,608	73,625
Repurchase transactions:					
Corporate	$ —	$ —	$ 3,220	$ 166,979	$ 170,199
RMBS	—	—	—	92,546	92,546
U.S. government	—	—	—	216,000	216,000
Foreign government	—	—	—	19,900	19,900
Other	1,246	—	—	—	1,246
Total	1,246	—	3,220	495,425	499,891
Total transactions	$ 1,246	$ —	$ 7,237	$ 565,033	$ 573,516

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

The Company has elected to offset amounts recognized as receivables and payables resulting from the repurchase/reverse repurchase programs. After the effect of offsetting, the net amount presented on the consolidated balance sheets was a liability of $1.1 million and $5.5 million as of December 31, 2017 and 2016, respectively. As of December 31, 2017 and 2016, the Company recognized payables resulting from cash received as collateral associated with a repurchase agreement as discussed above. Amounts owed to and due from the counterparties may be settled in cash or offset, in accordance with the agreements.

Mortgage Loans on Real Estate

Mortgage loans represented approximately 8.5% and 8.4% of the Company’s total investments as of December 31, 2017 and 2016, respectively. As of December 31, 2017, mortgage loans were geographically dispersed throughout the U.S. with the largest concentrations in California (19.5%), Texas (8.4%) and Georgia (7.6%) and include loans secured by properties in Canada (2.3%). The recorded investment in mortgage loans on real estate presented below is gross of unamortized deferred loan origination fees and expenses, and valuation allowances.

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

	2017		2016	
	Carrying Value	Percentage of Total	Carrying Value	Percentage of Total
Property type:				
Office building	$ 1,487,392	33.6%	$ 1,270,113	33.6%
Retail	1,270,676	28.8	1,179,936	31.2
Industrial	938,612	21.3	713,461	18.8
Apartment	510,052	11.6	447,088	11.8
Other commercial	206,439	4.7	172,609	4.6
Recorded investment	4,413,171	100.0%	$ 3,783,207	100.0%
Unamortized balance of loan origination fees and expenses	(3,254)		—	
Valuation allowances	(9,384)		(7,685)	
Total mortgage loans on real estate	$ 4,400,533		$ 3,775,522	

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

	2017		2016	
	Recorded Investment	% of Total	Recorded Investment	% of Total
Due within five years	$ 1,091,066	24.8%	$ 822,073	21.7%
Due after five years through ten years	2,516,872	57.0	2,099,559	55.5
Due after ten years	805,233	18.2	861,575	22.8
Total	$ 4,413,171	100.0%	$ 3,783,207	100.0%

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

	Recorded Investment					
	Debt Service Ratios					
	>1.20x	1.00x - 1.20x	<1.00x	Construction loans	Total	% of Total
December 31, 2017:						
Loan-to-Value Ratio						
0% - 59.99%	$ 2,148,428	$ 53,979	$ 3,801	$ —	$ 2,206,208	50.0%
60% - 69.99%	1,517,029	47,128	43,921	—	1,608,078	36.4
70% - 79.99%	396,446	19,461	15,367	—	431,274	9.8
Greater than 80%	120,850	30,713	6,362	9,686	167,611	3.8
Total	$ 4,182,753	$ 151,281	$ 69,451	$ 9,686	$ 4,413,171	100.0%

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

The age analysis of the Company's past due recorded investments in mortgage loans as of December 31, 2017 and 2016 (dollars in thousands):

	2017	2016
31-60 days past due	$ 17,100	$ —
61-90 days past due	2,056	—
Total past due	19,156	—
Current	4,394,015	3,783,207
Total	$ 4,413,171	$ 3,783,207

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

	2017	2016
Mortgage loans:		
Individually measured for impairment	$ 5,858	$ 2,216
Collectively measured for impairment	4,407,313	3,780,991
Recorded investment	4,413,171	3,783,207
Valuation allowances:		
Individually measured for impairment	—	—
Collectively measured for impairment	9,384	7,685
Total valuation allowances	9,384	7,685

Information regarding the Company's loan valuation allowances for mortgage loans as of December 31, 2017, 2016 and 2015 are as follows (dollars in thousands):

	2017	2016	2015
Balance, beginning of period	$ 7,685	$ 6,813	$ 6,471
Provision	1,691	872	342
Translation adjustment	8	—	—
Balance, end of period	$ 9,384	$ 7,685	$ 6,813

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

	Unpaid Principal Balance	Recorded Investment	Related Allowance	Carrying Value
December 31, 2017:				
Impaired mortgage loans with no valuation allowance recorded	$ 6,427	$ 5,858	$ —	$ 5,858
Impaired mortgage loans with valuation allowance recorded	—	—	—	—
Total impaired mortgage loans	$ 6,427	$ 5,858	$ —	$ 5,858
December 31, 2016:				
Impaired mortgage loans with no valuation allowance recorded	$ 2,758	$ 2,216	$ —	$ 2,216
Impaired mortgage loans with valuation allowance recorded	—	—	—	—
Total impaired mortgage loans	$ 2,758	$ 2,216	$ —	$ 2,216

The Company's average investment balance of impaired mortgage loans and the related interest income are reflected in the table below for the years ended December 31, 2017, 2016 and 2015 (dollars in thousands):

	2017		2016		2015	
	Average Investment(1)	Interest Income	Average Investment(1)	Interest Income	Average Investment(1)	Interest Income
Impaired mortgage loans with no valuation allowance recorded	$ 3,621	$ 186	$ 2,249	$ 142	$ 6,033	$ 330
Impaired mortgage loans with valuation allowance recorded	—	—	—	—	11,592	770
Total	$ 3,621	$ 186	$ 2,249	$ 142	$ 17,625	$ 1,100

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

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

Policy Loans

Policy loans comprised approximately 2.6% and 3.2% of the Company's total investments as of December 31, 2017 and 2016, respectively, the majority of which are associated with one client. These policy loans present no credit risk because the amount of the loan cannot exceed the obligation due to the ceding company upon the death of the insured or surrender of the underlying policy. The provisions of the treaties in force and the underlying policies determine the policy loan interest rates. The Company earns a spread between the interest rate earned on policy loans and the interest rate credited to corresponding liabilities.

Funds Withheld at Interest

Funds withheld at interest comprised approximately 11.8% and 13.1% of the Company's total investments as of December 31, 2017 and 2016, respectively. Of the $6.1 billion funds withheld at interest balance, net of embedded derivatives, as of December 31, 2017, $4.1 billion of the balance is associated with one client. For reinsurance agreements written on a modified coinsurance basis and certain agreements written on a coinsurance funds withheld basis, assets equal to the net statutory reserves are withheld and legally owned and managed by the ceding company and are reflected as funds withheld at interest on the Company's consolidated balance sheets. In the event of a ceding company's insolvency, the Company would need to assert a claim on the assets supporting its reserve liabilities. However, the risk of loss to the Company is mitigated by its ability to offset amounts it owes the ceding company for claims or allowances against amounts owed to the Company from the ceding company.

Other Invested Assets

Other invested assets include equity securities, limited partnership interests, joint ventures (other than operating joint ventures), derivative contracts, and FVO contractholder-directed unit-linked investments. Other invested assets also include Federal Home

Loan Bank of Des Moines ("FHLB") common stock, equity release mortgages and structured loans, all of which are included in other in the table below. Other invested assets represented approximately 3.1% and 3.6% 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	$ 100,152	$ 275,361
Limited partnerships and real estate joint ventures	781,124	687,522
Derivatives	137,613	229,108
FVO contractholder-directed unit-linked investments	218,541	190,120
Other	368,054	209,829
Total other invested assets	$ 1,605,484	$ 1,591,940

Note 5 DERIVATIVE INSTRUMENTS

Derivatives, except for embedded derivatives and longevity and mortality swaps, are carried on the Company's consolidated balance sheets in other invested assets or other liabilities, at fair value. Longevity and mortality swaps are included on the consolidated balance sheets in other assets or other liabilities, at fair value. Embedded derivative assets and liabilities on modified coinsurance or funds withheld arrangements are included on the consolidated balance sheets with the host contract in funds withheld at interest, at fair value. Embedded derivative liabilities on indexed annuity and variable annuity products are included on the consolidated balance sheets with the host contract in interest-sensitive contract liabilities, at fair value. The following table presents the notional amounts and gross fair value of derivative instruments prior to taking into account the netting effects of master netting agreements as of 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	$ 996,204	$ 59,809	$ 2,372	$ 949,556	$ 78,405	$ 5,949
Financial futures	412,438	—	—	475,968	—	—
Foreign currency forwards	6,030	—	28	25,000	—	5,070
Consumer price index swaps	221,932	—	2,160	20,615	—	262
Credit default swaps	961,200	8,319	1,651	926,000	12,012	2,871
Equity options	632,251	23,271	—	525,894	33,459	—
Longevity swaps	960,400	40,659	—	841,360	26,958	—
Mortality swaps	—	—	1,683	50,000	—	2,462
Synthetic guaranteed investment contracts	10,052,576	—	—	8,834,700	—	—
Embedded derivatives in:						
Modified coinsurance or funds withheld arrangements	—	122,194	—	—	—	22,529
Indexed annuity products	—	—	861,758	—	—	805,672
Variable annuity products	—	—	152,470	—	—	184,636
Total non-hedging derivatives	14,243,031	254,252	1,022,122	12,649,093	150,834	1,029,451
Derivatives designated as hedging instruments:						
Interest rate swaps	435,000	—	20,389	435,000	27,901	31,223
Foreign currency swaps	672,921	65,207	8,496	928,505	104,359	734
Foreign currency forwards	553,175	1,265	7,720	—	—	—
Total hedging derivatives	1,661,096	66,472	36,605	1,363,505	132,260	31,957
Total derivatives	$ 15,904,127	$ 320,724	$ 1,058,727	$ 14,012,598	$ 283,094	$ 1,061,408

Netting Arrangements

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

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

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

	Gross Amounts Recognized	Gross Amounts Offset in the Balance Sheet	Net Amounts Presented in the Balance Sheet	Gross Amounts Not Offset in the Balance Sheet		Net Amount
				Financial Instruments[(1)]	Cash Collateral Pledged/ Received	
December 31, 2017:						
Derivative assets	$ 198,530	$ (20,258)	$ 178,272	$ (862)	$ (185,900)	$ (8,490)
Derivative liabilities	44,499	(20,258)	24,241	(58,156)	(22,221)	(56,136)
December 31, 2016:						
Derivative assets	$ 283,094	$ (27,028)	$ 256,066	$ (16,913)	$ (254,498)	$ (15,345)
Derivative liabilities	48,571	(27,028)	21,543	(95,863)	(1,441)	(75,761)

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

Accounting for Derivative Instruments and Hedging Activities

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

Fair Value Hedges

The Company designates and reports certain foreign currency swaps to hedge the foreign currency fair value exposure of foreign currency denominated assets as fair value hedges when they meet the requirements of the general accounting principles for Derivatives and Hedging. The gain or loss on the hedged item attributable to a change in foreign currency and the offsetting gain or loss on the related foreign currency swaps as of December 31, 2017, 2016 and 2015 were (dollars in thousands):

Type of Fair Value Hedge	Hedged Item	Gains (Losses) Recognized for Derivatives	Gains (Losses) Recognized for Hedged Items	Ineffectiveness Recognized in Investment Related Gains (Losses)
For the Year Ended December 31, 2017:				
Foreign currency swaps	Foreign-denominated fixed maturity securities	$ 9,456	$ (9,456)	$ —
For the Year Ended December 31, 2016:				
Foreign currency swaps	Foreign-denominated fixed maturity securities	$ (1,700)	$ 1,700	$ —
For the Year Ended December 31, 2015:				
Foreign currency swaps	Foreign-denominated fixed maturity securities	$ 4,008	$ (4,008)	$ —

A regression analysis was used, both at inception of the hedge and on an ongoing basis, to determine whether each derivative used in a hedged transaction is highly effective in offsetting changes in the hedged item. For the foreign currency swaps, the change in fair value related to changes in the benchmark interest rate and credit spreads are excluded from the hedge effectiveness. For the years ended December 31, 2017, 2016 and 2015, $2.0 million, $0.4 million and $0.8 million, respectively, of the change in the estimated fair value of derivatives, was excluded from hedge effectiveness.

Cash Flow Hedges

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

The following table presents the components of AOCI, before income tax, and the consolidated income statement classification where the gain or loss is recognized related to cash flow hedges for the years ended December 31, 2017, 2016 and 2015 (dollars in thousands):

	Amounts Included in AOCI
Balance December 31, 2014	$ (31,591)
Gains (losses) deferred in other comprehensive income (loss) on the effective portion of cash flow hedges	2,676
Amounts reclassified to investment related (gains) losses, net	87
Amounts reclassified to investment income	(569)
Balance December 31, 2015	(29,397)
Gains (losses) deferred in other comprehensive income (loss) on the effective portion of cash flow hedges	27,110
Amounts reclassified to investment related (gains) losses, net	278
Amounts reclassified to investment income	(487)
Balance December 31, 2016	(2,496)
Gains (losses) deferred in other comprehensive income (loss) on the effective portion of cash flow hedges	6,316
Amounts reclassified to investment related (gains) losses, net	(775)
Amounts reclassified to investment income	(505)
Amounts reclassified to interest expense	79
Balance December 31, 2017	$ 2,619

As of December 31, 2017, the before-tax deferred net gains (losses) on derivative instruments recorded in AOCI that are expected to be reclassified to earnings during the next twelve months are approximately $0.7 million and $(0.8) million in investment income and interest expense, respectively.

The following table presents the effective portion of derivatives in cash flow hedging relationships on the consolidated statements of income and the consolidated statements of stockholders' equity for the years ended December 31, 2017, 2016 and 2015 (dollars in thousands):

	Effective Portion			
Derivative Type	Gains (Losses) Deferred in OCI	Gains (Losses) Reclassified into Income from OCI		
		Investment Related Gains (Losses)	Investment Income	Interest Expense
For the year ended December 31, 2017:				
Interest rate	$ (5,649)	$ —	$ —	$ (79)
Currency/Interest rate	11,955	—	380	—
Forward bond purchase commitments	10	775	125	—
Total	$ 6,316	$ 775	$ 505	$ (79)
For the year ended December 31, 2016:				
Interest rate	$ 27,901	$ —	$ —	$ —
Currency/Interest rate	(791)	—	510	—
Forward bond purchase commitments	—	(278)	(23)	—
Total	$ 27,110	$ (278)	$ 487	$ —
For the year ended December 31, 2015:				
Currency/Interest rate	$ (11,422)	$ —	$ 343	$ —
Forward bond purchase commitments	14,098	(87)	226	—
Total	$ 2,676	$ (87)	$ 569	$ —

All components of each derivative's gain or loss were included in the assessment of hedge effectiveness. For the years ended December 31, 2017, 2016 and 2015, the ineffective portion of derivatives reported as cash flow hedges was not material to the Company's results of operations. Also, there were no material amounts reclassified into earnings relating to instances in which the Company discontinued cash flow hedge accounting because the forecasted transaction did not occur by the anticipated date or within the additional time period permitted by the authoritative guidance for the accounting for derivatives and hedging.

Hedges of Net Investments in Foreign Operations

The Company uses foreign currency swaps and foreign currency forwards to hedge a portion of its net investment in certain foreign operations against adverse movements in exchange rates. The following table illustrates the Company's net investments in foreign operations ("NIFO") hedges for the years ended December 31, 2017, 2016 and 2015 (dollars in thousands):

	Derivative Gains (Losses) Deferred in AOCI		
	For the year ended		
Type of NIFO Hedge (1) (2)	2017	2016	2015
Foreign currency swaps	$ (37,567)	$ (10,234)	$ 96,019
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 accumulated other comprehensive income (loss) into investment income during the periods presented.

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

The cumulative foreign currency translation gain recorded in AOCI related to these hedges was $113.7 million and $161.6 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 (losses), 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, 2016 and 2015 is as follows (dollars in thousands):

		Gains (Losses) for the Years Ended December 31,		
Type of Non-hedging Derivative	Income Statement Location of Gains (Losses)	2017	2016	2015
Interest rate swaps	Investment related gains (losses), net	$ 11,278	$ 7,649	$ 20,358
Interest rate options	Investment related gains (losses), net	—	—	3,275
Financial futures	Investment related gains (losses), net	(36,160)	(40,242)	319
Foreign currency forwards	Investment related gains (losses), net	591	1,630	(1,160)
Consumer price index swaps	Investment related gains (losses), net	(2,078)	(401)	(208)
Credit default swaps	Investment related gains (losses), net	18,118	18,100	(4,683)
Equity options	Investment related gains (losses), net	(42,953)	(28,270)	(16,899)
Longevity swaps	Other revenues	9,358	13,095	8,228
Mortality swaps	Other revenues	(921)	(172)	(1,822)
Subtotal		(42,767)	(28,611)	7,408
Embedded derivatives in:				
Modified coinsurance or funds withheld arrangements	Investment related gains (losses), net	144,723	54,169	(98,792)
Indexed annuity products	Interest credited	(80,062)	10,708	19,440
Variable annuity products	Investment related gains (losses), net	32,166	7,835	(33,192)
Total non-hedging derivatives		$ 54,060	$ 44,101	$ (105,136)

Types of Derivatives Used by the Company

Interest Rate Swaps

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

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 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.

Equity Options

Equity index options are used by the Company primarily to hedge minimum guarantees embedded in certain variable annuity products. To hedge against adverse changes in equity indices volatility, the Company buys put options. The contracts are net settled in cash based on differentials in the indices at the time of exercise and the strike price. Equity warrants have also been used by the Company to economically hedge the variability in anticipated cash flows for the acquisition of investment securities.

Consumer Price Index Swaps

Consumer price index (“CPI”) swaps are used by the Company primarily to economically hedge liabilities embedded in certain insurance products where value is directly affected by changes in a designated benchmark consumer price index. With a CPI swap transaction, the Company agrees with another party to exchange the actual amount of inflation realized over a specified period of time for a fixed amount of inflation determined at inception. These transactions are executed pursuant to master agreements that provide for a single net payment or individual gross payments to be made by the counterparty at each due date. Most of these swaps will require a single payment to be made by one counterparty at the maturity date of the swap.

Foreign Currency Swaps

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

Foreign Currency Forwards

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

Forward Bond Purchase Commitments

Forward bond purchase commitments are used by the Company to hedge against the variability in the anticipated cash flows required to purchase securities. With forward bond purchase commitments, the forward price is agreed upon at the time of the contract and payment for such contract is made at the future specified settlement date of the securities.

Credit Default Swaps

The Company sells protection under single name credit default swaps and credit default swap index tranches to diversify its credit risk exposure in certain portfolios and, in combination with purchasing securities, to replicate characteristics of similar investments based on the credit quality and term of the credit default swap. Credit default triggers for indexed reference entities and single name reference entities are defined in the contracts. The Company’s maximum exposure to credit loss equals the notional value for credit default swaps. In the event of default of a referencing entity, the Company is typically required to pay the protection holder the full notional value less a recovery amount determined at auction.

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

	2017			2016		
Rating Agency Designation of Referenced Credit Obligations(1)	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	$ 3,128	$ 162,000	2.9	$ 1,726	$ 150,500	3.8
Subtotal	3,128	162,000	2.9	1,726	150,500	3.8
BBB+/BBB/BBB-						
Single name credit default swaps	4,469	361,700	2.9	1,426	347,200	3.7
Credit default swaps referencing indices	(55)	422,600	4.0	6,295	416,000	5.0
Subtotal	4,414	784,300	3.5	7,721	763,200	4.4
BB+/BB/BB-						
Single name credit default swaps	30	5,000	1.5	(477)	9,000	3.5
Subtotal	30	5,000	1.5	(477)	9,000	3.5
Total	$ 7,572	$ 951,300	3.4	$ 8,970	$ 922,700	4.3

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

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

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

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

Longevity Swaps

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

Mortality Swaps

Mortality swaps have been used by the Company to hedge risk from changes in mortality experience associated with its reinsurance of life insurance risk. The Company agrees with another party to exchange, at specified intervals, a proportion of a notional value determined by the difference between a predefined expected and realized claim amount on a designated index of reinsured lives, for a fixed percentage (premium) each term. The mortality swaps matured in 2017 and an accrued liability for amounts owed to the counterparty is recorded in other liabilities at December 31, 2017.

Synthetic Guaranteed Investment Contracts

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

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 equity-indexed annuity and variable annuity contracts with benefits that are considered embedded derivatives, including guaranteed minimum withdrawal benefits, guaranteed minimum accumulation benefits, and guaranteed minimum income benefits. The changes in fair values of embedded derivatives on equity-indexed annuities described below relate to changes in the fair value associated with capital market and other related assumptions. The Company's utilization of a credit valuation adjustment did not have a material effect on the change in fair value of its embedded derivatives for the years ended December 31, 2017, 2016 and 2015. The related gains (losses) and the effect on net income after amortization of DAC and income taxes for the years ended December 31, 2017, 2016 and 2015 are reflected in the following table (dollars in thousands):

	2017	2016	2015
Embedded derivatives in modified coinsurance or funds withheld arrangements included in investment related gains	$ 144,723	$ 54,169	$ 98,792
After the associated amortization of DAC and taxes, the related amounts included in net income	48,316	9,160	(26,025)
Embedded derivatives in variable annuity contracts included in investment related gains	32,166	7,835	(33,192)
After the associated amortization of DAC and taxes, the related amounts included in net income	53,645	(41,201)	(29,008)
Amounts related to embedded derivatives in equity-indexed annuities included in benefits and expenses	(80,062)	10,708	19,440
After the associated amortization of DAC and taxes, the related amounts included in net income	(68,808)	(4,148)	6,204

Credit Risk

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

The credit exposure of the Company's OTC derivative transactions is represented by the contracts with a positive fair value (market value) at the reporting date. To reduce credit exposures, the Company seeks to (i) enter into OTC derivative transactions pursuant to master netting agreements that provide for a netting of payments and receipts with a single counterparty and (ii) enter into agreements that allow the use of credit support annexes, which are bilateral rating-sensitive agreements that require collateral postings at established threshold levels. Certain of the Company's OTC derivatives are cleared derivatives, which are bilateral transactions between the Company and a counterparty where the transactions are cleared through a clearinghouse, such that each derivative counterparty is only exposed to the default of the clearinghouse. These cleared transactions require initial and daily variation margin collateral postings and include certain interest rate swaps and credit default swaps entered into on or after June 10, 2013, related to guidelines implemented under the Dodd-Frank Wall Street Reform and Consumer Protection Act. In 2017, the Company followed the Chicago Mercantile Exchange amended rulebook to legally characterize variation margin payments as settlements of the derivative's mark-to-market exposure and not collateral. 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 over-the-counter 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	$ 155,714	$ 236,985
Cash provided as collateral[(1)]	22,221	1,441
Securities pledged to counterparties as collateral[(2)]	58,156	95,863
Cash pledged from counterparties as collateral[(3)]	(185,900)	(254,498)
Securities pledged from counterparties as collateral[(4)]	(862)	(16,913)
Initial margin for cleared derivatives	(58,156)	(73,571)
Net amount after application of master netting agreements and collateral	$ (8,827)	$ (10,693)
Margin account related to exchange-traded futures[(5)]	$ 6,538	$ 9,687

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

Note 6 FAIR VALUE OF ASSETS AND LIABILITIES

Fair Value Measurement

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

Level 1 - Unadjusted quoted prices in active markets for identical assets or liabilities. 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 and mortality swaps are classified in Level 3 since their values include significant unobservable inputs.

When inputs used to measure the fair value of an asset or liability fall within different levels of the hierarchy, the level within which the fair value measurement is categorized is based on the lowest level input that is significant to the fair value measurement in its entirety, except for fair value measurements using 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 December 31, 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	$ 23,210,968	$ —	$ 21,873,696	$ 1,337,272
Canadian government	4,220,076	—	3,626,134	593,942
RMBS	1,719,880	—	1,611,998	107,882
ABS	1,648,362	—	1,524,888	123,474
CMBS	1,303,387	—	1,300,153	3,234
U.S. government	1,943,592	1,818,006	103,075	22,511
State and political subdivisions	703,428	—	662,225	41,203
Other foreign government	3,401,127	—	3,396,035	5,092
Total fixed maturity securities – available-for-sale	38,150,820	1,818,006	34,098,204	2,234,610
Funds withheld at interest – embedded derivatives	122,194	—	—	122,194
Cash equivalents	356,788	354,071	2,717	—
Short-term investments	50,746	—	47,650	3,096
Other invested assets:				
Non-redeemable preferred stock	39,806	39,806	—	—
Other equity securities	60,346	60,346	—	—
Derivatives:				
Interest rate swaps	51,359	—	51,359	—
Foreign currency forwards	730	—	730	—
CPI swaps	(221)	—	(221)	—
Credit default swaps	5,908	—	5,908	—
Equity options	16,932	—	16,932	—
Foreign currency swaps	62,905	—	62,905	—
FVO contractholder-directed unit-linked investments	218,541	217,618	923	—
Total other invested assets	456,306	317,770	138,536	—
Other assets - longevity swaps	40,659	—	—	40,659
Total	$ 39,177,513	$ 2,489,847	$ 34,287,107	$ 2,400,559
Liabilities:				
Interest sensitive contract liabilities – embedded derivatives	$ 1,014,228	$ —	$ —	$ 1,014,228
Other liabilities:				
Derivatives:				
Interest rate swaps	14,311	—	14,311	—
Foreign currency forwards	7,213	—	7,213	—
CPI swaps	1,939	—	1,939	—
Credit default swaps	(760)	—	(760)	—
Equity options	(6,339)	—	(6,339)	—
Foreign currency swaps	6,194	—	6,194	—
Mortality swaps	1,683	—	—	1,683
Total	$ 1,038,469	$ —	$ 22,558	$ 1,015,911

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

The Company may utilize information from third parties, such as pricing services and brokers, to assist in determining the fair value for certain assets and liabilities; however, management is ultimately responsible for all fair values presented in the Company's 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 equity-indexed and variable annuity treaties, the Company utilizes a discounted cash flow model, which includes an estimate of future equity option purchases and an adjustment for a CVA. The variable annuity embedded derivative calculations are performed by third parties based on methodology and input assumptions provided by the Company. To validate the reasonableness of the resulting fair value, the Company's internal actuaries perform reviews and analytical procedures on the results. The capital market inputs to the model, such as equity indexes, short-term equity volatility and interest rates, are generally observable. The valuation also requires certain significant inputs, which are generally not observable and accordingly, the valuation is considered Level 3 in the fair value hierarchy, see "Level 3 Measurements and Transfers" below for a description.

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

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

Cash Equivalents and Short-Term Investments – Cash equivalents and short-term investments include money market instruments, commercial paper and other highly liquid debt instruments. Money market instruments are generally valued using unadjusted quoted prices in active markets that are accessible for identical assets and are primarily classified as Level 1. The fair value of certain other cash equivalents and short-term investments, such as 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 and mortality swaps, are classified within Level 2 on the fair value hierarchy. These derivatives are principally valued using an income approach. Valuations of interest rate contracts are based on present value techniques, which utilize significant inputs that may include the swap yield curve, London Interbank Offered Rate ("LIBOR") basis curves, and repurchase rates. Valuations of foreign currency contracts are based on present value techniques, which utilize significant inputs that may include the swap yield curve, LIBOR basis curves, currency spot rates, and cross currency basis curves. Valuations of credit contracts, are based on present value techniques, which utilize significant inputs that may include the swap yield curve, credit curves, and recovery rates. Valuations of equity market contracts, are based on present value techniques, which utilize significant inputs that may include the swap yield curve, spot equity index levels, and dividend yield curves. Valuations of equity market contracts, option-based, are based on option pricing models, which utilize significant inputs that may include the swap yield curve, spot equity index levels, dividend yield curves, and equity volatility. The Company does not currently have derivatives, except for longevity and mortality swaps, included in Level 3 measurement.

Longevity and Mortality Swaps – The Company utilizes a discounted cash flow model to estimate the fair value of longevity and mortality swaps. The fair value of these swaps includes an accrual for premiums payable and receivable. Some inputs to the valuation model are generally observable, such as interest rates and actual population mortality experience. The valuation also

requires significant inputs that are generally not observable and, accordingly, the valuation is considered Level 3 in the fair value hierarchy.

Level 3 Measurements and Transfers

As of December 31, 2017 and December 31, 2016, respectively, the Company classified approximately 5.9% and 6.9% of its fixed maturity securities in the Level 3 category. These securities primarily consist of private placement corporate securities, bank loans, Canadian provincial strips, below investment grade mortgage-backed securities and subprime asset-backed securities with inactive trading markets.

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

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

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

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

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

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

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

	Fair Value		Valuation	Unobservable	Range (Weighted Average)	
Assets:	2017	2016	Technique	Input	2017	2016
Corporate	$ 173,579	$ 167,815	Market comparable securities	Liquidity premium	0-2% (1%)	0-2% (1%)
U.S. government	22,511	24,488	Market comparable securities	Liquidity premium	0-1% (1%)	0-1% (1%)
State and political subdivisions	4,616	4,670	Market comparable securities	Liquidity premium	1%	1%
Funds withheld at interest-embedded derivatives	122,194	(22,529)	Total return swap	Mortality	0-100% (2%)	0-100% (2%)
				Lapse	0-35% (9%)	0-35% (8%)
				Withdrawal	0-5% (3%)	0-5% (3%)
				CVA	0-5% (1%)	0-5% (1%)
				Crediting rate	2-4% (2%)	2-4% (2%)
Longevity swaps	40,659	26,958	Discounted cash flow	Mortality	0-100% (2%)	0-100% (2%)
				Mortality improvement	(10%)-10% (3%)	(10%)-10% (3%)
Liabilities:						
Interest sensitive contract liabilities- embedded derivatives- indexed annuities	861,758	805,672	Discounted cash flow	Mortality	0-100% (2%)	0-100% (2%)
				Lapse	0-35% (9%)	0-35% (8%)
				Withdrawal	0-5% (3%)	0-5% (3%)
				Option budget projection	2-4% (2%)	2-4% (2%)
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%)
Mortality swaps	1,683	2,462	Discounted cash flow	Mortality	0-100% (1%)	0-100% (1%)

The Company recognizes transfers of assets and liabilities into and out of levels within the fair value hierarchy at the beginning of the quarter in which the actual event or change in circumstances that caused the transfer occurs. Transfers between Levels 1 and 2 are made to reflect changes in observability of inputs and market activity. There were no transfers between Level 1 and Level 2 for 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 tables present 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	$ 596,809	$ 88,674
Other foreign government	317,640	—

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 out of Level 3 were also due to ratings upgrades on mortgage-backed securities that previously had below investment-grade ratings.

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

For the year ended December 31, 2017:	Fixed maturity securities - available-for-sale			
	Corporate	Canadian government	RMBS	ABS
Fair value, beginning of period	$ 1,272,253	$ 475,965	$ 160,291	$ 219,280
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	(1,429)	13,180	(346)	1,776
Investment related gains (losses), net	4,991	—	729	245
Included in other comprehensive income	(6,719)	104,797	2,341	7,044
Purchases[(1)]	408,995	—	76,792	45,215
Sales[(1)]	(89,248)	—	(28,043)	—
Settlements[(1)]	(285,958)	—	(18,988)	(87,328)
Transfers into Level 3	47,360	—	9,100	85,152
Transfers out of Level 3	(12,973)	—	(93,994)	(147,910)
Fair value, end of period	$ 1,337,272	$ 593,942	$ 107,882	$ 123,474
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period				
Included in earnings, net:				
Investment income, net of related expenses	$ (1,457)	$ 13,180	$ (196)	$ 669
Investment related gains (losses), net	(5,389)	—	(346)	—

For the year ended December 31, 2017 (continued):	Fixed maturity securities - available-for-sale				
	CMBS	U.S. government	State and political subdivisions	Other foreign government	Short-term investments
Fair value, beginning of period	$ 21,145	$ 24,488	$ 41,666	$ 12,869	$ 3,346
Total gains/losses (realized/unrealized)					
Included in earnings, net:					
Investment income, net of related expenses	709	(461)	(55)	(1)	—
Investment related gains (losses), net	(595)	—	—	—	—
Included in other comprehensive income	(71)	19	(15)	(252)	11
Purchases[(1)]	—	465	—	496	3,703
Sales[(1)]	(3,720)	—	—	—	—
Settlements[(1)]	(5,404)	(2,000)	(843)	(672)	(335)
Transfers into Level 3	1,302	—	7,294	—	—
Transfers out of Level 3	(10,132)	—	(6,844)	(7,348)	(3,629)
Fair value, end of period	$ 3,234	$ 22,511	$ 41,203	$ 5,092	$ 3,096
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	$ —	$ (461)	$ (54)	$ (1)	$ —

For the year ended December 31, 2017 (continued):

	Funds withheld at interest-embedded derivatives	Other assets - longevity swaps	Interest sensitive contract liabilities embedded derivatives	Other liabilities - mortality swaps
Fair value, beginning of period	$ (22,529)	$ 26,958	$ (990,308)	$ (2,462)
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment related gains (losses), net	144,723	—	32,166	—
Interest credited	—	—	(80,062)	—
Included in other comprehensive income	—	4,343	—	—
Other revenue	—	9,358	—	(921)
Purchases[(1)]	—	—	(55,237)	—
Sales[(1)]	—	—	—	—
Settlements[(1)]	—	—	79,213	1,700
Fair value, end of period	$ 122,194	$ 40,659	$ (1,014,228)	$ (1,683)
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period				
Included in earnings, net:				
Investment related gains (losses), net	$ 144,723	$ —	$ 23,472	$ —
Other revenue	—	9,358	—	(921)
Interest credited	—	—	(159,276)	—

For the year ended December 31, 2016:

	Fixed maturity securities - available-for-sale			
	Corporate	Canadian government	RMBS	ABS
Fair value, beginning of period	$ 1,226,970	$ 416,076	$ 330,649	$ 303,836
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	(2,399)	12,197	(595)	801
Investment related gains (losses), net	(4,756)	—	(2,153)	1,101
Included in other comprehensive income	10,022	47,692	(1,621)	(2,696)
Purchases[(1)]	312,720	—	103,553	138,522
Sales[(1)]	(60,399)	—	(167,684)	(38,681)
Settlements[(1)]	(195,016)	—	(38,495)	(61,770)
Transfers into Level 3	14,098	—	1,728	56,105
Transfers out of Level 3	(28,987)	—	(65,091)	(177,938)
Fair value, end of period	$ 1,272,253	$ 475,965	$ 160,291	$ 219,280
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	$ (2,343)	$ 12,197	$ (158)	$ 734
Investment related gains (losses), net	(817)	—	(231)	—

For the year ended December 31, 2016 (continued):

	Fixed maturity securities - available-for-sale				
	CMBS	U.S. government	State and political subdivisions	Other foreign government	Short-term investments
Fair value, beginning of period	$ 68,563	$ 26,265	$ 38,342	$ 14,065	$ —
Total gains/losses (realized/unrealized)					
Included in earnings, net:					
Investment income, net of related expenses	1,677	(487)	215	—	—
Investment related gains (losses), net	(876)	—	—	—	—
Included in other comprehensive income	(5,887)	39	962	110	—
Purchases[(1)]	1,545	508	6,952	—	3,365
Sales[(1)]	(41,143)	—	—	—	—
Settlements[(1)]	(552)	(1,837)	(599)	(1,306)	(19)
Transfers into Level 3	—	—	—	—	—
Transfers out of Level 3	(2,182)	—	(4,206)	—	—
Fair value, end of period	$ 21,145	$ 24,488	$ 41,666	$ 12,869	$ 3,346
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period					
Included in earnings, net:					
Investment income, net of related expenses	$ 1,552	$ (487)	$ 215	$ —	$ —

For the year ended December 31, 2016 (continued):

	Funds withheld at interest-embedded derivatives	Other assets - longevity swaps	Interest sensitive contract liabilities embedded derivatives	Other liabilities - mortality swaps
Fair value, beginning of period	$ (76,698)	$ 14,996	$ (1,070,584)	$ (2,619)
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment related gains (losses), net	54,169	—	7,834	—
Interest credited	—	—	10,709	—
Included in other comprehensive income	—	(1,133)	—	—
Other revenue	—	13,095	—	(172)
Purchases[(1)]	—	—	(12,725)	—
Sales[(1)]	—	—	—	—
Settlements[(1)]	—	—	74,458	329
Fair value, end of period	$ (22,529)	$ 26,958	$ (990,308)	$ (2,462)
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period				
Included in earnings, net:				
Investment related gains (losses), net	$ 54,169	$ —	$ (4,579)	$ —
Other revenue	—	13,095	—	(172)
Interest credited	—	—	(63,748)	—

For the year ended December 31, 2015:	Fixed maturity securities - available-for-sale			
	Corporate	Canadian government	RMBS	ABS
Fair value, beginning of period	$ 1,310,427	$ —	$ 188,094	$ 572,960
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	(3,517)	2,788	(1,754)	4,526
Investment related gains (losses), net	(2,814)	—	(216)	808
Included in other comprehensive income	(32,452)	70,144	(944)	(2,490)
Purchases[1]	243,871	—	249,208	229,220
Sales[1]	(3,949)	—	(985)	(13,105)
Settlements[1]	(279,495)	—	(39,494)	(98,918)
Transfers into Level 3	15,455	343,144	2,853	13,542
Transfers out of Level 3	(20,556)	—	(66,113)	(402,707)
Fair value, end of period	$ 1,226,970	$ 416,076	$ 330,649	$ 303,836
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	$ (3,396)	$ 2,788	$ (1,753)	$ 2,465
Investment related gains (losses), net	(2,278)	—	—	—

For the year ended December 31, 2015 (continued):	Fixed maturity securities - available-for-sale			
	CMBS	U.S. government	State and political subdivisions	Other foreign government
Fair value, beginning of period	$ 86,746	$ 28,529	$ 42,711	$ 19,663
Total gains/losses (realized/unrealized)				
Included in earnings, net:				
Investment income, net of related expenses	2,817	(48)	32	—
Investment related gains (losses), net	(4,737)	(233)	(19)	—
Included in other comprehensive income	(337)	(602)	(3,055)	(7)
Purchases[1]	42	544	—	—
Sales[1]	(6,153)	—	—	—
Settlements[1]	(7,226)	(1,925)	(492)	(1,258)
Transfers into Level 3	12,828	—	—	—
Transfers out of Level 3	(15,417)	—	(835)	(4,333)
Fair value, end of period	$ 68,563	$ 26,265	$ 38,342	$ 14,065
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	$ 2,718	$ (48)	$ 32	$ —
Investment related gains (losses), net	(3,593)	—	—	—

For the year ended December 31, 2015 (continued):

	Funds withheld at interest-embedded derivatives	Other invested assets - non-redeemable preferred stock	Other assets - longevity swaps	Interest sensitive contract liabilities embedded derivatives	Other liabilities - mortality swaps
Fair value, beginning of period	$ 22,094	$ 7,904	$ 7,727	$ (1,085,166)	$ (797)
Total gains/losses (realized/unrealized)					
Included in earnings, net:					
Investment related gains (losses), net	(98,792)	—	—	(33,191)	—
Interest credited	—	—	—	19,440	—
Included in other comprehensive income	—	(412)	(959)	—	—
Other revenue	—	—	8,228	—	(1,822)
Purchases[(1)]	—	4,529	—	(42,798)	—
Sales[(1)]	—	—	—	—	—
Settlements[(1)]	—	—	—	71,131	—
Transfers out of Level 3	—	(12,021)	—	—	—
Fair value, end of period	$ (76,698)	$ —	$ 14,996	$ (1,070,584)	$ (2,619)
Unrealized gains and losses recorded in earnings for the period relating to those Level 3 assets and liabilities that were still held at the end of the period					
Included in earnings, net:					
Investment related gains (losses), net	$ (98,792)	$ —	$ —	$ (43,496)	$ —
Other revenue	—	—	8,228	—	(1,822)
Interest credited	—	—	—	(51,691)	—

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

	Carrying Value After Measurement		Net Investment Gains (Losses)	
	At December 31,		Years ended December 31,	
(dollars in thousands)	2017	2016	2017	2016
Limited partnership interests[(1)]	$ 4,656	$ 6,192	$ (7,204)	$ (9,277)
Private equities[(2)]	106	—	(531)	—

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

Fair Value of Financial Instruments

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

		Estimated Fair	Fair Value Measurement Using:			
December 31, 2017:	Carrying Value [(1)]	Value	Level 1	Level 2	Level 3	NAV
Assets:						
Mortgage loans on real estate	$ 4,400,533	$ 4,477,654	$ —	$ —	$ 4,477,654	$ —
Policy loans	1,357,624	1,357,624	—	1,357,624	—	—
Funds withheld at interest	5,955,092	6,275,623	—	—	6,275,623	—
Cash and cash equivalents	946,736	946,736	946,736	—	—	—
Short-term investments	42,558	42,558	42,558	—	—	—
Other invested assets	690,198	718,282	28,540	67,778	286,839	335,125
Accrued investment income	392,721	392,721	—	392,721	—	—
Liabilities:						
Interest-sensitive contract liabilities	$ 12,683,872	$ 12,917,243	$ —	$ —	$ 12,917,243	$ —
Long-term debt	2,788,365	2,959,912	—	—	2,959,912	—
Collateral finance and securitization notes	783,938	722,145	—	—	722,145	—
December 31, 2016:						
Assets:						
Mortgage loans on real estate	$ 3,775,522	$ 3,786,987	$ —	$ —	$ 3,786,987	$ —
Policy loans	1,427,602	1,427,602	—	1,427,602	—	—
Funds withheld at interest	5,893,381	6,193,166	—	—	6,193,166	—
Cash and cash equivalents	862,117	862,117	862,117	—	—	—
Short-term investments	32,469	32,469	32,469	—	—	—
Other invested assets	477,132	510,640	26,294	55,669	131,904	296,773
Accrued investment income	347,173	347,173	—	347,173	—	—
Liabilities:						
Interest-sensitive contract liabilities	$ 10,225,099	$ 10,234,544	$ —	$ —	$ 10,234,544	$ —
Long-term debt	3,088,635	3,186,173	—	—	3,186,173	—
Collateral finance and securitization notes	840,700	745,805	—	—	745,805	—

(1) Carrying values presented herein 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.

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

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

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

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

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

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

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

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

Note 7 REINSURANCE

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

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. The Company verifies retrocession pool participants' ratings on a quarterly basis. For a majority of the retrocessionaires that were not rated, security in the form of letters of credit or trust assets has been posted. In addition, the Company performs annual financial reviews of its retrocessionaires to evaluate financial stability and performance. In addition to its third party retrocessionaires, various RGA reinsurance subsidiaries retrocede amounts in excess of their retention to affiliated subsidiaries.

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

		2017		2016	
Reinsurer	A.M. Best Rating	Amount	% of Total	Amount	% of Total
Reinsurer A	A+	$ 301,478	38.6%	$ 240,894	35.2%
Reinsurer B	A+	203,898	26.1	183,881	26.9
Reinsurer C	A	67,723	8.7	68,832	10.1
Reinsurer D	A++	40,592	5.2	36,202	5.3
Reinsurer E	A+	40,528	5.2	35,484	5.2
Other reinsurers		127,808	16.2	118,679	17.3
Total		$ 782,027	100.0%	$ 683,972	100.0%

Included in the total ceded reinsurance receivables balance were $243.8 million and $242.0 million of claims recoverable, of which $1.9 million and $4.0 million were in excess of 90 days past due, as of December 31, 2017 and 2016, respectively.

The effect of reinsurance on net premiums is as follows (dollars in thousands):

Years ended December 31,	2017	2016	2015
Direct	$ 61,571	$ 57,562	$ 43,106
Reinsurance assumed	10,642,462	10,049,587	9,371,308
Reinsurance ceded	(862,903)	(858,278)	(843,673)
Net premiums	$ 9,841,130	$ 9,248,871	$ 8,570,741

The effect of reinsurance on claims and other policy benefits as follows (dollars in thousands):

Years ended December 31,	2017	2016	2015
Direct	$ 104,447	$ 105,435	$ 82,942
Reinsurance assumed	9,281,590	8,621,647	8,205,308
Reinsurance ceded	(867,120)	(733,707)	(798,868)
Net claims and other policy benefits	$ 8,518,917	$ 7,993,375	$ 7,489,382

The effect of reinsurance on life insurance in force is shown in the following schedule (dollars in millions):

	Direct	Assumed	Ceded	Net	Assumed/Net %
December 31, 2017	$ 1,462	$ 3,297,275	$ 205,529	$ 3,093,208	106.6%
December 31, 2016	1,576	3,062,525	214,727	2,849,374	107.5
December 31, 2015	1,686	2,995,079	222,388	2,774,377	108.0

At December 31, 2017 and 2016, respectively, the Company provided approximately $16.2 billion and $10.8 billion 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.

Reinsurance agreements, whether facultative or automatic, may provide for recapture rights on the part of the ceding company. Recapture rights permit the ceding company to reassume all or a portion of the risk formerly ceded to the reinsurer after an agreed-upon period of time, generally 10 years, or in some cases due to changes in the financial condition or ratings of the reinsurer. Recapture of business previously ceded does not affect premiums ceded prior to the recapture of such business, but would reduce premiums in subsequent periods. Additionally, some treaties give the ceding company the right to request the Company to place assets in trust for their benefit to support their reserve credits, in the event of a downgrade of the Company's ratings to specified levels, generally non-investment grade levels, or if minimum levels of financial condition are not maintained. As of December 31, 2017 and 2016, these treaties had approximately $2,901.1 million and $1,935.0 million, respectively, in statutory reserves. Assets placed in trust continue to be owned by the Company, but their use is restricted based on the terms of the trust agreement. Securities with an amortized cost of $2,214.1 million and $2,372.1 million were held in trust to satisfy collateral requirements for reinsurance business for the benefit of certain RGA subsidiaries at December 31, 2017 and 2016, respectively. In addition, the Company's collateral financing operations have asset in trust requirements. See Note 14 – "Collateral Finance and Securitization Notes" for additional information. Securities with an amortized cost of $15,584.3 million and $12,135.3 million, as of December 31, 2017 and 2016, respectively, were held in trust to satisfy collateral requirements under certain third-party reinsurance treaties. Under

certain conditions, RGA may be obligated to move reinsurance from one RGA subsidiary company to another or make payments under the treaty. These conditions include change in control or ratings of the subsidiary, insolvency, nonperformance under a treaty, or loss of reinsurance license of such subsidiary.

Note 8 DEFERRED POLICY ACQUISITION COSTS

The following reflects the amounts of policy acquisition costs deferred and amortized (dollars in thousands):

Years ended December 31,	2017	2016	2015
Balance, beginning of year	$ 3,338,605	$ 3,392,437	$ 3,342,575
Capitalization	348,470	350,233	352,260
Amortization (including interest)	(432,474)	(341,115)	(288,630)
Change in value of embedded derivatives	(70,392)	(40,077)	58,754
Attributed to unrealized investment gains (losses)	(8,220)	(3,541)	17,510
Foreign currency translation	63,835	(19,332)	(90,032)
Balance, end of year	$ 3,239,824	$ 3,338,605	$ 3,392,437

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 9 INCOME TAX

The Tax Cuts and Jobs Act of 2017 (“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 percent to 21 percent; (2) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries; (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; (4) eliminating the corporate alternative minimum tax (“AMT”) and changing how existing AMT credits can be realized; (5) creating the base erosion anti-abuse tax (“BEAT”), a new minimum tax; (6) establishing a new provision designed to tax global intangible low-taxed income (“GILTI”), which allows for the possibility of using foreign tax credits and a deduction of up to 50 percent to offset the income tax liability (subject to some limitations); and (7) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017.

In connection with the Company’s initial analysis of the impact of U.S. Tax Reform, it recorded a discrete provisional net tax benefit of $1,033.8 million in the period ending December 31, 2017. This estimated net benefit primarily consists of the U.S. federal rate reduction from 35 percent to 21 percent 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 $58.9 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 U.S. 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, and may change due to future further clarification of the new law regulatory 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 provisional impact of the enactment of U.S. Tax Reform is reflected in the tables below.

Pre-tax income for the years ended December 31, 2017, 2016 and 2015 consists of the following (dollars in thousands):

	2017	2016	2015
Pre-tax income - U.S.	$ 870,532	$ 758,496	$ 493,328
Pre-tax income - foreign	272,283	285,450	251,467
Total pre-tax income	$ 1,142,815	$ 1,043,946	$ 744,795

The provision for income tax expense for the years ended December 31, 2017, 2016 and 2015 consists of the following (dollars in thousands):

	2017	2016	2015
Current income tax expense (benefit):			
U.S.	$ 131,108	$ 1,020	$ 1,588
Foreign	36,830	47,706	92,045
Total current	167,938	48,726	93,633
Deferred income tax expense (benefit):			
U.S.	159,853	273,928	193,204
U.S. Tax Reform provisional estimate	(1,033,755)	—	—
Foreign	26,598	19,849	(44,208)
Total deferred	(847,304)	293,777	148,996
Total provision for income taxes	$ (679,366)	$ 342,503	$ 242,629

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, 2016 and 2015 (dollars in thousands):

	2017	2016	2015
Tax provision at U.S. statutory rate	$ 399,985	$ 365,381	$ 260,678
Increase (decrease) in income taxes resulting from:			
U.S. Tax Reform provisional estimate	(1,033,755)	—	—
Foreign tax rate differing from U.S. tax rate	(21,867)	(13,974)	(9,950)
Differences in tax basis in foreign jurisdictions	(23,324)	(17,770)	(32,472)
Deferred tax valuation allowance	29,458	10,963	19,157
Amounts related to audit contingencies	(7,184)	111	88
Equity compensation excess benefit	(10,532)	—	—
Corporate rate changes	(6,065)	—	—
Subpart F for non-full inclusion companies	1,528	1,783	3,473
Foreign tax Credits	(1,681)	(1,683)	(1,936)
Return to provision Adjustments	(4,674)	(1,473)	1,482
Other, net	(1,255)	(835)	2,109
Total provision for income taxes	$ (679,366)	$ 342,503	$ 242,629
Effective tax rate	(59.4)%	32.8%	32.6%

Total income taxes for the years ended December 31, 2017, 2016 and 2015 were as follows (dollars in thousands):

	2017	2016	2015
Provision for income taxes	$ (679,366)	$ 342,503	$ 242,629
Income tax from OCI and additional paid-in-capital:			
Net unrealized holding gain (loss) on debt and equity securities recognized for financial reporting purposes	306,849	157,929	(339,889)
Exercise of stock options	—	(162)	(2,963)
Foreign currency translation	(42,153)	21,081	16,478
Unrealized pension and post retirement	404	1,772	1,726
Total income taxes provided	$ (414,266)	$ 523,123	$ (82,019)

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:		
Nondeductible accruals	$ 80,905	$ 125,879
Differences between tax and financial reporting amounts concerning certain reinsurance transactions	96,043	87,688
Differences in the tax basis of cash and invested assets	557	775
Investment income differences	43,230	35,192
Deferred acquisition costs capitalized for tax	88,531	143,003
Net operating loss carryforward	535,374	325,806
Capital loss and tax credit carryforwards	102,143	101,223
Subtotal	946,783	819,566
Valuation allowance	(226,884)	(133,354)
Total deferred income tax assets	719,899	686,212
Deferred income tax liabilities:		
Deferred acquisition costs capitalized for financial reporting	627,378	1,013,642
Differences between tax and financial reporting amounts concerning certain reinsurance transactions	1,547,101	1,773,929
Differences in the tax basis of cash and invested assets	674,569	505,841
Investment income differences	1,858	5,635
Differences in foreign currency translation	33,803	91,067
Prepaid expenses	—	—
Total deferred income tax liabilities	2,884,709	3,390,114
Net deferred income tax liabilities	$ 2,164,810	$ 2,703,902
Balance sheet presentation of net deferred income tax liabilities:		
Included in other assets	$ 33,499	$ 66,738
Included in deferred income taxes	2,198,309	2,770,640
Net deferred income tax liabilities	$ 2,164,810	$ 2,703,902

As of December 31, 2017, a valuation allowance against deferred tax assets was approximately $226.9 million. During 2017, a valuation allowance was established on the U.S. Foreign tax credit carryforwards of $65.1 million, RGA Reinsurance Company of Australia Limited's, ("RGA Australia") net operating losses of $20.1 million, as well as on the deferred tax assets of other jurisdictions of $3.3 million. Further movement in the valuation allowance includes foreign currency translation and reclassifications with other deferred tax assets of $10.6 million and ($5.6) 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 the foreign tax credit carryforwards in RGA International Reinsurance Company dac ("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 $133.4 million was provided on the total deferred tax assets in certain jurisdictions. The valuation allowance is primarily related to numerous branches and legal entities for which there is no history of earnings in recent years. Further there is a partial valuation allowance on RGA South Africa, RGA Australia, and Aurora National net operating losses, 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.

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. 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 $1,442.9 million and $1,147.2 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.

During 2017, 2016 and 2015, the Company received federal and foreign income tax refunds of approximately $11.6 million, $6.9 million and $136.8 million, respectively. The Company made cash income tax payments of approximately $48.7 million, $68.0 million and $178.4 million in 2017, 2016 and 2015, respectively. At December 31, 2017 and 2016, the Company recognized gross deferred tax assets associated with net operating losses of approximately $2,715.8 million and $1,353.6 million, respectively. The earliest expiration date for any significant net operating losses is 2029. Net operating losses of $181.2 million, $451.4 million, and $1,557.1 million would expire in 2029, 2030, and 2032, respectively if unutilized. The remaining losses where a valuation allowance has not been established that are subject to expiration are $48.0 million and would expire between 2034 and 2036. These 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.

At December 31, 2017 and 2016, the Company also has foreign tax credit carryforwards of $152.0 million and $100.9 million, respectively, in the U.S. and Ireland. During 2017 the Company established a valuation allowance of $65.1 million on the U.S. foreign tax credits and the remaining U.S. foreign tax credits of $57.0 million reduced the uncertain tax liabilities. The Ireland foreign tax credit of $29.9 million has a full valuation allowance. The Company also has AMT carryforwards of $25.9 million and $21.3 million, respectively. As a result of U.S. Tax Reform, the AMT credits are fully refundable if unutilized by 2021. The Company has recorded these credits as deferred tax assets.

The Company files income tax returns in the U.S. federal jurisdiction and various state 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 tax 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.

As of December 31, 2017, the Company's total amount of unrecognized tax benefits was $321.2 million and the total amount of unrecognized tax benefits that would affect the effective tax rate, if recognized, was $10.9 million. Management believes there will be no material impact to the Company's effective tax rate related to unrecognized tax benefits over the next 12 months.

A reconciliation of the beginning and ending amount of unrecognized tax benefits for the years ended December 31, 2017, 2016 and 2015, is as follows (dollars in thousands):

	Total Unrecognized Tax Benefits		
	2017	2016	2015
Beginning balance, January 1	$ 297,290	$ 296,213	$ 274,661
Additions for tax positions of prior years	247,596	226,720	26,170
Reductions for tax positions of prior years	(246,894)	(229,719)	(7,820)
Additions for tax positions of current year	36,438	4,186	3,396
Settlements with tax authorities	(13,206)	(110)	(194)
Ending balance, December 31	$ 321,224	$ 297,290	$ 296,213

The Company recognized interest expense (benefit) associated with uncertain tax positions in 2017, 2016 and 2015 of $(5.0) million, $(8.4) million and $8.2 million, respectively. Additionally, the Company recognized penalties of $0.3 million in 2016. As of December 31, 2017 and 2016, the Company had $15.1 million and $20.4 million, respectively, of accrued interest related to unrecognized tax benefits. There are no penalties accrued as of December 31, 2017.

Note 10 EMPLOYEE BENEFIT PLANS

Certain subsidiaries of the Company are sponsors or administrators of both qualified and non-qualified defined benefit pension plans ("Pension Plans"). The largest of these plans is a non-contributory qualified defined benefit pension plan sponsored by RGA Reinsurance that covers U.S. employees. The benefits under the Pension Plans are generally based on years of service and compensation levels.

The Company also provides select health care and life insurance benefits for certain retired employees. The health care benefits are provided through a self-insured welfare benefit plan. Employees become eligible for these benefits if they meet minimum age and service requirements. The retiree's cost for health care benefits varies depending upon the credited years of service. The Company recorded benefits expense of approximately $5.3 million, $6.3 million and $9.1 million in 2017, 2016 and 2015, respectively, that are related to these postretirement plans. Effective January 1, 2017, employees hired in the U. S. are not eligible for retiree health care benefits. Virtually all retirees, or their beneficiaries, contribute a portion of the total cost of postretirement health benefits. Prepaid benefit costs and accrued benefit liabilities are included in other assets and other liabilities, respectively, in the Company's consolidated balance sheets.

A December 31 measurement date is used for all of the defined benefit and postretirement plans. The status of these plans as of December 31, 2017 and 2016 is summarized below (dollars in thousands):

	December 31,			
	Pension Benefits		Other Benefits	
	2017	2016	2017	2016
Change in benefit obligation:				
Benefit obligation at beginning of year	$ 161,955	$ 142,239	$ 60,524	$ 63,307
Service cost	10,686	10,319	2,543	2,883
Interest Cost	5,326	4,790	2,118	2,259
Participant contributions	—	—	354	305
Amendments[1]	159	—	—	(13,743)
Actuarial (gains) losses	11,336	9,973	5,510	6,228
Settlement (gains) losses	(438)	258	—	—
Settlements	(12,907)	(3,152)	—	—
Benefits paid	(5,974)	(3,047)	(851)	(715)
Foreign exchange translations and other adjustments	2,000	575	—	—
Benefit obligation at end of year	$ 172,143	$ 161,955	$ 70,198	$ 60,524

(1) Reflects effect of the amendment to RGA’s U.S. retiree health care benefit plan announced in 2016, effective January 1, 2017 and other administrative amendments to the pension plans. The amounts were recorded in AOCI and will be amortized through prior service cost.

	December 31,			
	Pension Benefits		Other Benefits	
	2017	2016	2017	2016
Change in plan assets:				
Fair value of plan assets at beginning of year	$ 84,770	$ 68,435	$ —	$ —
Actual return on plan assets	14,481	6,584	—	—
Employer contributions	22,866	15,950	497	410
Participant contributions	—	—	354	305
Disbursement for settlements	(12,907)	(3,152)	—	—
Benefits paid and expenses	(5,974)	(3,047)	(851)	(715)
Fair value of plan assets at end of year	$ 103,236	$ 84,770	$ —	$ —
Funded status at end of year	$ (68,907)	$ (77,185)	$ (70,198)	$ (60,524)

	December 31,					
	Qualified Plans		Non-Qualified Plans[1]		Total	
	2017	2016	2017	2016	2017	2016
Aggregate fair value of plan assets	$ 103,236	$ 84,770	$ —	$ —	$ 103,236	$ 84,770
Aggregate projected benefit obligations	107,072	96,418	65,071	65,537	172,143	161,955
Under funded	$ (3,836)	$ (11,648)	$ (65,071)	$ (65,537)	$ (68,907)	$ (77,185)

(1) For non-qualified plans, there are no required funding levels.

	December 31,			
	Pension Benefits		Other Benefits	
	2017	2016	2017	2016
Amounts recognized in accumulated other comprehensive income:				
Net actuarial loss	$ 40,058	$ 46,119	$ 35,672	$ 32,156
Net prior service cost (credit)	804	703	(11,806)	(13,121)
Total	$ 40,862	$ 46,822	$ 23,866	$ 19,035

The following table presents information for qualified and non-qualified pension plans 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	$ 172,143	$ 161,955
Fair value of plan assets	103,236	84,770

The following table presents information for pension plans 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	$ 169,705	$ 158,580
Fair value of plan assets	103,236	84,770

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			Other Benefits		
	2017	2016	2015	2017	2016	2015
Net periodic benefit cost:						
Service cost	$ 10,686	$ 10,319	$ 9,222	$ 2,543	$ 2,883	$ 4,062
Interest cost	5,326	4,790	5,035	2,118	2,259	2,572
Expected return on plan assets	(6,215)	(5,138)	(4,897)	—	—	—
Amortization of prior actuarial losses	4,382	4,323	3,429	1,992	1,827	2,465
Amortization of prior service cost (credit)	344	294	309	(1,315)	(622)	—
Settlements	4,785	1,026	—	—	—	—
Net periodic benefit cost	19,308	15,614	13,098	5,338	6,347	9,099
Other changes in plan assets and benefit obligations recognized in other comprehensive income:						
Net actuarial (gains) losses	2,633	8,785	5,774	5,507	6,228	(2,729)
Amortization of actuarial (gains) losses	(4,382)	(4,323)	(3,429)	(1,992)	(1,827)	(2,465)
Amortization of prior service cost (credit)	(344)	(294)	(309)	1,315	622	—
Settlements	(4,785)	(1,026)	—	—	—	—
Prior service cost (credit) [(1)]	159	—	—	—	(13,743)	—
Foreign exchange translations and other adjustments	759	707	(1,797)	—	—	—
Total recognized in other comprehensive income	(5,960)	3,849	239	4,830	(8,720)	(5,194)
Total recognized in net periodic benefit cost and other comprehensive income	$ 13,348	$ 19,463	$ 13,337	$ 10,168	$ (2,373)	$ 3,905

(1) Reflects effect of the amendment to RGA's U.S. retiree health care benefit plan announced in 2016, effective January 1, 2017 and other administrative amendments to the pension plans. The amounts were recorded in AOCI and will be amortized through prior service cost.

During 2018, the Company expects to contribute $14.5 million and $1.2 million to the pension plans and other benefit plans, respectively.

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

	Pension Benefits	Other Benefits
2018	$ 9,315	$ 1,238
2019	9,765	1,495
2020	10,885	1,842
2021	11,102	2,188
2022	13,184	2,521
2023-2027	69,285	18,205

The estimated net loss and prior service cost for the defined benefit pension plans and post-retirement plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost over the next fiscal year are $3.4 million and $1.1 million, respectively.

Assumptions

Weighted average assumptions used to determine the accumulated benefit obligation and net benefit cost or income were as follows:

	Pension Benefits			Other Benefits		
	2017	2016	2015	2017	2016	2015
Discount rate used to determine benefit obligation	3.40%	3.80%	3.99%	3.56%	4.10%	4.43%
Discount rate used to determine net benefit cost or income	3.81%	3.95%	3.77%	4.10%	4.43%	4.05%
Expected long-term rate of return on plan assets	7.35%	7.35%	7.35%	—%	—%	—%
Rate of compensation increases	4.16%	4.08%	4.08%	—%	—%	—%

The expected rate of return on plan assets is based on anticipated performance of the various asset sectors in which the plan invests, weighted by target allocation percentages. Anticipated future performance is based on long-term historical returns of the plan assets by sector, adjusted for the long-term expectations on the performance of the markets. While the precise expected return derived using this approach may fluctuate from year to year, the policy is to hold this long-term assumption constant as long as it remains within reasonable tolerance from the derived rate. This process is consistent for all plan assets as all the assets are invested in mutual funds.

The assumed health care cost trend rates used in measuring the accumulated non-pension post-retirement benefit obligation were as follows:

	December 31,	
	2017	2016
Pre-Medicare eligible claims	9% down to 5% in 2024	10% down to 5% in 2024
Medicare eligible claims	9% down to 5% in 2024	10% down to 5% in 2024

Assumed health care cost trend rates may have a significant effect on the amounts reported for health care plans. A one-percentage point change in assumed health care cost trend rates would have the following effects (dollars in thousands):

	One Percent Increase	One Percent Decrease
Effect on total of service and interest cost components	$ 7,941	$ (7,104)
Effect on accumulated postretirement benefit obligation	$ 447	$ (359)

Plan Assets

Target allocations of U.S. qualified pension plan assets are determined with the objective of maximizing returns and minimizing volatility of net assets through adequate asset diversification and partial liability immunization. Adjustments are made to target allocations based on the Company’s assessment of the effect of economic factors and market conditions. The target allocations for plan assets are 60% equity securities and 40% debt securities as of December 31, 2017 and 2016. The Company’s plan assets are primarily invested in mutual funds. The mutual funds include holdings of S&P 500 securities, large-cap securities, mid-cap securities, small-cap securities, international securities, corporate debt securities, U.S. and other government securities, mortgage-related securities and cash.

Equity and debt securities are exposed to various risks, such as interest rate risk, credit risk and overall market volatility. Due to the level of risk associated with certain investment securities, changes in the values of investment securities will occur and any change would affect the amounts reported in the financial statements.

The fair values of the Company’s qualified pension plan assets as of December 31, 2017 and 2016 are summarized below (dollars in thousands):

	December 31, 2017			
		Fair Value Measurement Using:		
	Total	Level 1	Level 2	Level 3
Mutual Funds[(1)]	$ 103,106	$ 103,106	$ —	$ —
Cash	130	130	—	—
Total	$ 103,236	$ 103,236	$ —	$ —

(1) Mutual funds were invested 27% in U.S. equity funds, 36% in U.S. fixed income funds, 22% in non-U.S. equity funds and 15% in other.

	December 31, 2016			
		Fair Value Measurement Using:		
	Total	Level 1	Level 2	Level 3
Mutual Funds[2]	$ 84,671	$ 84,671	$ —	$ —
Cash	99	99	—	—
Total	$ 84,770	$ 84,770	$ —	$ —

(2) Mutual funds were invested 28% in U.S. equity funds, 37% in U.S. fixed income funds, 20% in non-U.S. equity funds and 15% in other.

As of December 31, 2017 and 2016, the Company classified all of its qualified pension plan assets in the Level 1 category as quoted prices in active markets are available for these assets. See Note 6 – "Fair Value of Asset and Liabilities" for additional detail on the fair value hierarchy.

Savings and Investment Plans

Certain subsidiaries of RGA also sponsor savings and investment plans under which a portion of employee contributions are matched. Subsidiary contributions to these plans were $14.2 million, $9.9 million and $9.0 million in 2017, 2016 and 2015, respectively.

Note 11 FINANCIAL CONDITION AND NET INCOME ON A STATUTORY BASIS – SIGNIFICANT SUBSIDIARIES

The domestic and foreign insurance subsidiaries of RGA prepare their statutory financial statements in conformity with statutory accounting practices prescribed or permitted by the applicable state insurance department or local regulatory authority, which vary materially from statements prepared in accordance with GAAP. Prescribed statutory accounting practices in the U.S. include publications of the National Association of Insurance Commissioners ("NAIC"), as well as state laws, local regulations and general administrative rules. The differences between statutory financial statements and financial statements prepared in accordance with GAAP vary between jurisdictions. The principal differences between GAAP and NAIC are that statutory financial statements do not reflect deferred policy acquisition costs and limit deferred tax assets, life benefit reserves predominately use interest rate and mortality assumptions prescribed by the NAIC and local regulatory agencies, bonds are generally carried at amortized cost and reinsurance assets and liabilities are presented net of reinsurance.

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

	Statutory Capital & Surplus		Statutory Net Income (Loss)		
	2017	2016	2017	2016	2015
RGA Reinsurance (U.S.)	$ 1,584,007	$ 1,521,644	$ 138,359	$ 148,576	$ (23,615)
Reinsurance Company of Missouri	1,557,453	1,651,274	(183,136)	272,038	51,041
RGA Life Reinsurance Company of Canada	1,006,190	915,134	25,971	13,947	113,526
RGA Reinsurance Company (Barbados) Ltd.	1,278,006	957,051	309,346	95,859	113,049
RGA Australia	476,528	370,039	78,497	(7,694)	(18,128)
RGA Atlantic Reinsurance Company Ltd.	812,307	596,016	213,511	110,172	132,192
RGA Americas Reinsurance Company, Ltd. [1]	4,833,890	3,752,910	624,145	282,226	264,518
Other reinsurance subsidiaries	2,694,317	2,224,833	65,658	130,289	300,847

(1) In 2017, the Company contributed to RGA Americas Reinsurance Company, Ltd. all of the outstanding shares of its wholly-owned subsidiary, RGA Australia. Periods prior to 2017 have been adjusted to reflect this contribution.

Each U.S. domestic insurance subsidiary's state of domicile imposes minimum risk-based capital ("RBC") requirements that were developed by the NAIC. The formulas for determining the amount of RBC specify various weighting factors that are applied to financial balances or various levels of activity based on the perceived degree of risk. Regulatory compliance is determined by a ratio of total adjusted capital, as defined by the NAIC, to authorized control level RBC, as defined by the NAIC. Companies below specific trigger points or ratios are classified within certain levels, each of which requires specified corrective action. Each of RGA's U.S. domestic insurance subsidiaries exceeded the minimum RBC requirements for all periods presented herein. These requirements do not represent a significant constraint for the payment of dividends by RGA's U.S. domestic insurance companies.

The licensing orders of the Company's special purpose companies stipulate a minimum amount of capital required based on the purpose of the entity and the underlying business. These companies are subject to enhanced oversight by the regulator which includes filing detailed plans of operations before commencing operations or making material changes to existing agreements or entering into new agreements. Each of the Company's Special Purpose Life Reinsurance Captives ("SPLRC") exceeded the minimum capital requirements for all periods presented herein.

The Company's foreign insurance subsidiaries prepare financial statements in accordance with local regulatory requirements. 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.

The state of domicile of certain of the Company's SPLRCs follow prescribed accounting practices differing from NAIC statutory accounting practices ("NAIC SAP") applicable to their statutory financial statements. Specifically, these prescribed practices require that surplus note interest accrued but not approved for payment be reported as a direct reduction of surplus and an addition to the surplus note balance. Under NAIC SAP, surplus note interest is not to be reported until approved for payment and is reported as a reduction of net investment income in the Summary of Operations. In addition, these prescribed practices allow the SPLRC to reflect letters of credit issued for its benefit as an admitted asset and a direct credit to unassigned surplus. Under NAIC SAP, letters of credit issued on behalf of the reporting company are not reported on the balance sheet.

A reconciliation of the Company's surplus between NAIC SAP and practices prescribed by the state of domicile is shown below (dollars in thousands):

	December 31,	
	2017	2016
Prescribed practice – surplus note	$ 726,531	$ 574,574
Prescribed practice – letters of credit	(960,100)	(615,100)
Surplus (deficit) – NAIC SAP	$ (233,569)	$ (40,526)

Reinsurance Company of Missouri ("RCM"), RGA Reinsurance and Chesterfield Reinsurance Company ("Chesterfield Re") are subject to Missouri statutory provisions that restrict the payment of dividends. They may not pay dividends in any 12-month period in excess of the greater of the prior year's statutory net gain from operations or 10% of statutory capital and surplus at the preceding year-end, without regulatory approval. Aurora National is subject to California statutory provisions that are identical to those imposed by Missouri regarding the ability of Aurora National to pay dividends to RGA Reinsurance. The applicable statutory provisions only permit an insurer to pay a shareholder dividend from unassigned surplus. As of January 1, 2018, RGA Reinsurance could pay maximum dividends, without prior approval, of approximately $158.4 million. Any dividends paid by RGA Reinsurance would be paid to RCM, its parent company, which in turn has restrictions related to its ability to pay dividends to RGA.

Chesterfield Re would pay dividends to its immediate parent Chesterfield Financial Holdings LLC, ("Chesterfield Financial"), which would in turn pay dividends to RCM, subject to the terms of the indenture for the embedded value securitization transaction, in which Chesterfield Financial cannot declare or pay any dividends so long as any private placement notes are outstanding. The Missouri Department of Insurance, Financial Institution and Professional Registration, allows RCM to pay a dividend to RGA to the extent RCM received the dividend from its subsidiaries, without limitation related to the level of unassigned surplus. Dividend payments from other subsidiaries are subject to regulations in the jurisdiction of domicile, which are generally based on their earnings and/or capital level.

Dividend payments from non-U.S. operations are subject to similar restrictions established by local regulators. The non-U.S. regulatory regimes also commonly limit the dividend payments to the parent to a portion of the prior year's statutory income, as determined by the local accounting principles. The regulators of the Company's non-U.S. operations may also limit or prohibit profit repatriations or other transfers of funds to the U.S. if such transfers are deemed to be detrimental to the solvency or financial strength of the non-U.S. operations, or for other reasons. Most of the non-U.S. operating subsidiaries are second tier subsidiaries which are owned by various non-U.S. holding companies. The capital and rating considerations applicable to the first tier subsidiaries may also impact the dividend flow to RGA.

There are no regulatory restrictions that limit the payment of dividends by RGA, except those generally applicable to Missouri corporations. Dividends are payable by Missouri corporations only under the circumstances specified in The General and Business Corporation Law of Missouri. RGA would not be permitted to pay common stock dividends if there is any accrued and unpaid interest on its subordinated debentures and its junior subordinated debentures. Furthermore, the ability of RGA to pay dividends is dependent on business conditions, income, cash requirements of the Company, receipt of dividends from its subsidiaries, financial covenant provisions and other relevant factors.

Note 12 COMMITMENTS, CONTINGENCIES AND GUARANTEES

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	$ 485,197	$ 332,169
Commercial mortgage loans	40,815	126,248
Bank loans and private placements	60,472	58,318
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 any time at the request of the counterparties. Bank loans and private placements are included in fixed maturity securities available-for-sale.

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):

	Operating Leases
2018	$ 11,157
2019	7,108
2020	4,879
2021	3,076
2022	2,421
Thereafter	9,466

Rent expenses amounted to approximately $15.7 million, $13.7 million and $12.1 million for the years ended December 31, 2017, 2016 and 2015, respectively.

Off-Balance Sheet Arrangements

In 2013, the Company executed a series of incentive agreements with the County of St. Louis, Missouri (the "County"). Under these agreements, the Company transferred its newly constructed world headquarters to the County in exchange for taxable industrial revenue bonds (the "bonds"), in a series of bond issuances during 2013 and 2014, with a maximum amount of $150.0 million. As a result, the Company was able to reduce the cost of constructing and operating its world headquarters by reducing certain state and local tax expenditures. The Company simultaneously leased the world headquarters from the County and has an option to purchase the world headquarters for a nominal fee upon tendering the bonds back to the County. The payments due to the Company under the terms of the bonds and the amounts owed by the Company under the terms of the lease agreement qualify for the right of offset under GAAP. As such, neither the bonds nor the lease obligation is recorded on the consolidated balance sheets as an asset or liability, respectively. The world headquarters is recorded as an asset of the Company in "Other assets" on the consolidated balance sheets.

Contingencies

Litigation

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

Other Contingencies

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

Guarantees

Statutory Reserve Support

RGA, through wholly-owned subsidiaries, has committed to provide statutory reserve support to third-parties, in exchange for a fee, by funding loans if certain defined events occur. Such statutory reserves are required under the U.S. Valuation of Life Policies Model Regulation (commonly referred to as Regulation XXX for term life insurance policies and Regulation A-XXX for universal life secondary guarantees). The third-parties have recourse to RGA should the subsidiary fail to provide the required funding, however, as of December 31, 2017, the Company does not believe that it will be required to provide any funding under these commitments as the occurrence of the defined events is considered remote. The following table presents the maximum potential obligation for these commitments as of December 31, 2017 (dollars in millions):

Commitment Period	Maximum Potential Obligation
2023	$ 500.0
2033	450.0
2034	2,000.0
2035	1,314.2
2036	2,932.0
2037	5,750.0

Other Guarantees

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

	2017	2016
Treaty guarantees	$ 1,047,449	$ 902,216
Treaty guarantees, net of assets in trust	926,393	780,786
Securities borrowing and repurchase arrangements	294,325	263,820
Financing arrangements	86,183	119,073
Lease obligations	1,662	2,428

Note 13 DEBT

Long-Term Debt

The Company's long-term debt consists of the following as of December 31, 2017 and 2016 (dollars in thousands):

	2017	2016
$300 million 5.625% Senior Notes due 2017	$ —	$ 299,945
$400 million 6.45% Senior Notes due 2019	399,873	399,805
$400 million 5.00% Senior Notes due 2021	399,245	399,025
$400 million 4.70% Senior Notes due 2023	399,138	398,986
$400 million 3.95% Senior Notes due 2026	399,987	399,985
$100 million 4.09% Promissory Note due 2039	91,787	94,370
$400 million 6.20% Subordinated Debentures due 2042	400,000	400,000
$400 million 5.75% Subordinated Debentures due 2056	400,000	400,000
$400 million Variable Rate Junior Subordinated Debentures due 2065	318,740	318,737
Sub-total	2,808,770	3,110,853
Unamortized issuance costs	(20,405)	(22,218)
Long-term Debt	$ 2,788,365	$ 3,088,635

In June 2016, RGA issued 3.95% Senior Notes due September 15, 2026 with a face amount of $400.0 million and 5.75% Fixed-To-Floating Rate Subordinated Debentures due June 15, 2056 with a face amount of $400.0 million. These securities have been registered with the Securities and Exchange Commission. The net proceeds from these offerings were approximately $791.2

million and were used in part to repay upon maturity the Company's $300.0 million 5.625% Senior Notes that matured in March 2017. The remainder was used for general corporate purposes. Capitalized issue costs were approximately $8.8 million.

In December 2015, the interest rate on RGA's Junior Subordinated Debentures with a face amount of $400.0 million converted from a fixed rate of 6.75% to a floating rate equal to the three-month LIBOR plus 266.5 basis points. The Company entered into an interest rate swap that commenced in December 2017, effectively fixing the interest rate on these securities at 4.82% until December 2037.

Certain of the Company's debt agreements contain financial covenant restrictions related to, among others, liens, the issuance and disposition of stock of restricted subsidiaries, minimum requirements of consolidated net worth, maximum ratios of debt to capitalization and change of control provisions. A material ongoing covenant default could require immediate payment of the amount due, including principal, under the various agreements. Additionally, the Company's debt agreements contain cross-default covenants, which would make outstanding borrowings immediately payable in the event of a material uncured covenant default under any of the agreements, including, but not limited to, non-payment of indebtedness when due for an amount in excess of the amounts set forth in those agreements, bankruptcy proceedings, or any other event which results in the acceleration of the maturity of indebtedness. As of December 31, 2017 and 2016, the Company had $2,808.8 million and $3,110.9 million, respectively, in outstanding borrowings under its debt agreements and was in compliance with all covenants under those agreements. As of December 31, 2017 and 2016, the average interest rate on long-term debt outstanding was 5.24% and 5.16%, respectively.

The ability of the Company to make debt principal and interest payments depends on the earnings and surplus of subsidiaries, investment earnings on undeployed capital proceeds, and the Company's ability to raise additional funds. Future principal payments due on long-term debt, excluding discounts, as of December 31, 2017, were as follows (dollars in thousands):

	Calendar Year					
	2018	2019	2020	2021	2022	Thereafter
Long-term debt	$ 2,690	$ 402,802	$ 2,919	$ 403,040	$ 3,167	$ 1,996,972

Credit and Committed Facilities

The Company has obtained bank letters of credit in favor of various affiliated and unaffiliated insurance companies from which the Company assumes business. These letters of credit represent guarantees of performance under the reinsurance agreements and allow ceding companies to take statutory reserve credits. Certain of these letters of credit contain financial covenant restrictions. At December 31, 2017 and 2016, there were approximately $120.1 million and $189.4 million, respectively, of undrawn outstanding bank letters of credit in favor of third parties. Additionally, the Company utilizes letters of credit primarily to secure reserve credits when it retrocedes business to its affiliated subsidiaries. The Company cedes business to its affiliates to help reduce the amount of regulatory capital required in certain jurisdictions such as the U.S. and the United Kingdom. As of December 31, 2017 and 2016, $1,492.2 million and $1,010.8 million, respectively, in undrawn letters of credit from various banks were outstanding, primarily backing reinsurance between the various subsidiaries of the Company. The banks providing letters of credit to the Company are included on the NAIC list of approved banks.

The Company maintains nine committed credit facilities, a syndicated revolving credit facility with a capacity of $850.0 million and eight letter of credit facilities with a combined capacity of $1,266.5 million. The Company may borrow cash and obtain letters of credit in multiple currencies under its syndicated revolving credit facility. The following table provides additional information on the Company's existing committed credit facilities as of December 31, 2017 and 2016 (dollars in thousands):

		Amount Utilized[(1)] December 31,		
Current Capacity	Maturity Date	2017	2016	Basis of Fees
$180,403 [(2)]	November 2018	$ 8,638	$ 31,382	Fixed
5,952 [(2)]	March 2019	5,952	17,513	Fixed
850,000	September 2019	96,564	96,095	Senior unsecured long-term debt rating
188,000	October 2019	188,000	270,000	Fixed
117,135 [(2)]	December 2019	117,135	72,080	Fixed
100,000	June 2020	75,573	70,690	Fixed
100,000	May 2021	100,000	—	Fixed
75,000	June 2021	61,900	85,040	Fixed
500,000	May 2022	500,000	—	Fixed

(1) Represents issued but undrawn letters of credit. There was no cash borrowed for the periods presented.
(2) Foreign currency denominated facility, amounts presented are in U.S. dollars.

Fees associated with the Company's other letters of credit are not fixed for periods in excess of one year and are based on the Company's ratings and the general availability of these instruments in the marketplace. Total fees expensed associated with the

Company's letters of credit were $10.5 million, $7.9 million and $10.9 million for the years ended December 31, 2017, 2016 and 2015, respectively, and are included in policy acquisition costs and other insurance expenses.

Note 14 COLLATERAL FINANCE AND SECURITIZATION NOTES

Collateral Finance Notes

In June 2006, RGA's subsidiary, Timberlake Financial L.L.C. ("Timberlake Financial"), issued $850.0 million of Series A Floating Rate Insured Notes, due June 2036, in a private placement. The notes were issued to fund the collateral requirements for statutory reserves required by Regulation XXX on specified term life insurance policies reinsured by RGA Reinsurance and retroceded to Timberlake Re. Proceeds from the notes, along with a $112.8 million direct investment by RGA, were deposited into a series of accounts that collateralize the notes and are not available to satisfy the general obligations of the Company. As of December 31, 2017 and 2016, respectively, the Company held assets in trust and in custody of $841.5 million and $893.8 million, of which $39.7 million and $24.1 million were held in a Debt Service Coverage account to cover interest payments on the notes. Interest on the notes accrues at an annual rate of 1-month LIBOR plus a base rate margin, payable monthly, and totaled $6.4 million, $4.2 million and $3.8 million in 2017, 2016 and 2015, respectively.

In May 2015, RGA's subsidiary, RGA Reinsurance Company (Barbados) Ltd. ("RGA Barbados") obtained CAD$200.0 million of collateral financing from a third party through 2020, enabling RGA Barbados to support collateral requirements for Canadian reinsurance transactions. Capitalized issuance costs were approximately $1.3 million. The obligation is reflected on the consolidated balance sheets in collateral finance and securitization notes. Interest on the collateral financing is payable quarterly and accrues at 3-month Canadian Dealer Offered Rate plus a margin and totaled $4.2 million, $4.0 million and $2.3 million in 2017, 2016 and 2015, respectively.

In October 2015, RGA's subsidiary, RGA Americas Reinsurance Company, Ltd. ("RGA Americas"), entered into a collateral financing transaction pursuant to which it issued a CAD$150 million note and, in return, obtained a CAD$150 million demand note issued by a designated series of a Delaware master trusts. The demand note matures in October 2020 and is used to support collateral requirements for Canadian reinsurance transactions.

The demand note is secured by a portfolio of specified assets that have an aggregate market value at least equal to the principal amount of the demand note and a payment obligation pledged by a third party financial institution. The principal amount of the demand note is payable upon demand by the holder, which creates a corresponding payment under the note issued by RGA Americas. The note issued by RGA Americas bears interest at a rate equal to the rate on the corresponding demand note, plus an amount representing fees payable to the applicable third party financial institution. Through December 31, 2017, no principal payments have been received or are currently due on the demand note and, as a result, there was no payment obligation under the note issued by RGA Americas. Accordingly, the notes are not reflected in the Company's consolidated balance sheet or the table below, as of that date. Capitalized issuance costs were approximately $2.4 million.

Securitization Notes

In December 2014, RGA's subsidiary, Chesterfield Financial Holdings LLC, ("Chesterfield Financial"), issued $300.0 million of asset-backed notes due December 2024 in a private placement. The notes were issued as part of an embedded value securitization transaction covering a closed block of policies assumed by RGA Reinsurance and retroceded to Chesterfield Re. Proceeds from the notes, along with a direct investment by the Company, were applied by Chesterfield Financial to (i) pay certain transaction-related expenses, (ii) establish a reserve account owned by Chesterfield Financial and pledged to the indenture trustee for the benefit of the holders of the notes (primarily to cover interest payments on the notes), and (iii) to fund an initial stock purchase from and capital contribution to Chesterfield Re to capitalize Chesterfield Re and to finance the payment of a ceding commission by Chesterfield Re to RGA Reinsurance under the retrocession agreement. Capitalized issuance costs were approximately $5.4 million. As of December 31, 2017 and 2016, the Company held deposits in trust of $19.4 million and $22.1 million, respectively, to cover interest payments on the notes, which are not available to satisfy the general obligations of the Company. Interest on the notes accrues at an annual rate of 4.50%, payable quarterly, and totaled $11.3 million, $13.1 million and $14.0 million in 2017, 2016 and 2015, respectively. The notes represent senior, secured indebtedness of Chesterfield Financial. Limited support is provided by RGA for temporary potential liquidity events at Chesterfield Financial and for temporary potential statutory capital and surplus events at Chesterfield Re. Otherwise, there is no legal recourse to RGA or its other subsidiaries. The notes are not insured or guaranteed by any other person or entity.

The Company’s collateral finance and securitization notes consist of the following as of December 31, 2017 and 2016 (dollars in thousands):

	2017	2016
Timberlake Financial	$ 411,951	$ 451,880
RGA Barbados	159,100	148,820
Chesterfield Financial	217,800	246,300
Unamortized issuance costs	(4,913)	(6,300)
Total	$ 783,938	$ 840,700

Note 15 SEGMENT INFORMATION

The Company has geographic-based and business-based operational segments. Geographic-based operations are further segmented into traditional and financial solutions businesses.

The U.S. and Latin America Traditional segment provides individual and group life and health reinsurance to domestic clients for a variety of products through yearly renewable term agreements, coinsurance, and modified coinsurance. The U.S. and Latin America Financial Solutions segment includes asset-intensive products that concentrate on the investment risk within underlying annuities and corporate-owned life insurance policies, and financial reinsurance that assists ceding companies in meeting applicable regulatory requirements while enhancing their financial strength and regulatory surplus position.

The Canada Traditional segment is primarily engaged in individual life reinsurance, as well as creditor, group life and health, critical illness and disability reinsurance, through yearly renewable term and coinsurance agreements. The Canada Financial Solutions segment concentrates on assisting clients with longevity risk transfer structures within underlying annuities and pension benefit obligations, and on assisting clients in meeting applicable regulatory requirements while enhancing their financial strength and regulatory surplus position through financial reinsurance structures.

The Europe, Middle East and Africa Traditional segment provides individual and group life and health products through yearly renewable term and coinsurance agreements, reinsurance of critical illness coverage that provides a benefit in the event of the diagnosis of a pre-defined critical illness and underwritten annuities. The Europe, Middle East and Africa Financial Solutions segment provides longevity, asset-intensive and financial reinsurance. Longevity reinsurance takes the form of closed block annuity reinsurance and longevity swap structures.

The Asia Pacific Traditional segment provides individual and group life and health reinsurance, critical illness coverage, disability and superannuation through yearly renewable term and coinsurance agreements. The Asia Pacific Financial Solutions segment provides financial reinsurance, asset-intensive and certain disability and life blocks.

Corporate and Other operations include investment income from invested assets not allocated to support segment operations and proceeds from the Company’s capital-raising efforts that have not been deployed yet, in addition to investment related gains or losses. Additionally, Corporate and Other includes results associated with the Company’s collateral finance and securitization notes and results from certain wholly-owned subsidiaries and joint ventures that, among other activities, develop and market technology solutions for the insurance industry.

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

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

Information related to revenues, income (loss) before income taxes, interest expense, depreciation and amortization, and assets of the Company's operations are summarized below (dollars in thousands):

For the years ended December 31,	2017	2016	2015
Revenues:			
U.S. and Latin America:			
Traditional	$ 6,100,171	$ 5,964,968	$ 5,465,026
Financial Solutions	1,150,378	840,446	643,865
Total	7,250,549	6,805,414	6,108,891
Canada:			
Traditional	1,103,520	1,118,004	1,023,012
Financial Solutions	48,938	46,938	45,034
Total	1,152,458	1,164,942	1,068,046
Europe, Middle East and Africa:			
Traditional	1,362,075	1,195,149	1,190,742
Financial Solutions	311,071	340,518	286,666
Total	1,673,146	1,535,667	1,477,408
Asia Pacific:			
Traditional	2,210,686	1,771,150	1,638,357
Financial Solutions	73,775	63,382	56,581
Total	2,284,461	1,834,532	1,694,938
Corporate and Other	155,155	180,956	68,895
Total	$ 12,515,769	$ 11,521,511	$ 10,418,178

For the years ended December 31,	2017	2016	2015
Income (loss) before income taxes:			
U.S. and Latin America:			
Traditional	$ 373,434	$ 371,101	$ 235,771
Financial Solutions	401,584	283,380	207,963
Total	775,018	654,481	443,734
Canada:			
Traditional	120,218	134,705	124,175
Financial Solutions	16,643	7,945	13,902
Total	136,861	142,650	138,077
Europe, Middle East and Africa:			
Traditional	70,486	30,059	48,410
Financial Solutions	123,514	138,007	108,445
Total	194,000	168,066	156,855
Asia Pacific:			
Traditional	148,786	113,928	105,654
Financial Solutions	13,130	4,063	19,619
Total	161,916	117,991	125,273
Corporate and Other	(124,980)	(39,242)	(119,144)
Total	$ 1,142,815	$ 1,043,946	$ 744,795

For the years ended December 31,	2017	2016	2015
Interest expense:			
Corporate and Other	$ 146,025	$ 137,623	$ 142,863
Total	$ 146,025	$ 137,623	$ 142,863

For the years ended December 31,	2017	2016	2015
Depreciation and amortization:			
U.S. and Latin America:			
Traditional	$ 284,959	$ 271,732	$ 218,974
Financial Solutions	208,790	155,560	44,275
Total	493,749	427,292	263,249
Canada:			
Traditional	24,057	22,170	23,887
Financial Solutions	10	11	—
Total	24,067	22,181	23,887
Europe, Middle East and Africa:			
Traditional	35,000	46,562	60,193
Financial Solutions	91	72	—
Total	35,091	46,634	60,193
Asia Pacific:			
Traditional	114,333	45,562	31,955
Financial Solutions	1,448	1,492	217
Total	115,781	47,054	32,172
Corporate and Other	37,276	13,894	16,495
Total	$ 705,964	$ 557,055	$ 395,996

The table above includes amortization of DAC, including the effect from investment related gains and losses.

For the years ended December 31,	2017	2016
Assets:		
U.S. and Latin America:		
Traditional	$ 18,603,423	$ 18,140,825
Financial Solutions	15,959,206	13,712,106
Total	34,562,629	31,852,931
Canada:		
Traditional	4,161,452	3,846,682
Financial Solutions	126,372	85,405
Total	4,287,824	3,932,087
Europe, Middle East and Africa:		
Traditional	3,099,495	2,559,124
Financial Solutions	5,274,993	3,876,131
Total	8,374,488	6,435,255
Asia Pacific:		
Traditional	4,915,442	3,968,081
Financial Solutions	1,198,585	676,281
Total	6,114,027	4,644,362
Corporate and Other	7,175,850	6,233,244
Total	$ 60,514,818	$ 53,097,879

Companies in which RGA has significant influence over the operating and financing decisions but are not required to be consolidated, are reported on the equity basis of accounting. The equity in the net income of such investments is not material to the results of operations or financial position of individual segments or the Company taken as a whole. Capital expenditures of each reporting segment were immaterial in the periods noted.

No individual client generated 10% or more of the Company’s total gross premiums on a consolidated basis in 2017, 2016 and 2015. For the purpose of this disclosure, companies that are within the same insurance holding company structure are combined.

Note 16 SHORT-DURATION CONTRACTS

The Company uses several actuarial methods to compute incurred-but-not reported liabilities. These methods use historical claim reporting patterns to develop a triangle of reported claim amounts. The claim triangle is then used to develop the ultimate claims amount and the incurred-but-not reported liabilities. Expected claim methods use exposure data such as premiums to develop the ultimate claim amount. The final method blends the estimates from the development and the expected claim methods. The Company did not make significant changes to the methods used to compute the incurred-but-not reported liabilities in 2017.

The following tables provide information on incurred and paid claims development, net of retrocession, for short-duration reinsurance contracts for the Company's U.S. and Latin America and Asia Pacific Traditional segments, which primarily relate to group life and health (including disability) business. The short-duration business for the Company's other segments is immaterial. Liabilities for claims and claims adjustment expenses, net of reinsurance equals total incurred claims less cumulative paid claims plus outstanding liabilities prior to 2012.

The Company provides reinsurance on large quota share transactions. It is common industry practice for cedants to provide loss information on a bulk basis without comprehensive claim details. Additionally, a claim under aggregate stop loss coverage may be the result of thousands of claims, but the Company only pays the excess amount. Therefore, it is impractical to provide meaningful claim count detail by accident year in the tables shown below.

U.S. and Latin America

(in thousands)

	Incurred Claims and Allocated Claim Adjustments, Net of Reinsurance [1]						As of December 31, 2017
	For the Years Ended December 31,						
Accident Year	2012	2013	2014	2015	2016	2017	Total of Incurred-but-Not-Reported Liabilities Plus Expected Development on Reported Claims
2012	$ 322,579	$ 309,119	$ 297,037	$ 298,262	$ 299,098	$ 297,688	$ 24
2013		349,262	332,907	338,977	336,552	336,436	164
2014			407,953	411,373	396,383	397,151	1,597
2015				459,524	460,917	465,167	3,809
2016					500,843	499,785	23,149
2017						485,442	200,109
					Total	$ 2,481,669	

	Cumulative Paid Claims and Allocated Claim Adjustment Expense, Net of Reinsurance [1]					
	For the Years Ended December 31,					
Accident Year	2012	2013	2014	2015	2016	2017
2012	$ 109,323	$ 222,139	$ 243,890	$ 252,018	$ 258,297	$ 263,565
2013		114,457	248,828	277,130	285,817	292,067
2014			128,813	304,578	337,081	349,078
2015				146,196	360,658	407,282
2016					184,940	392,517
2017						189,853
					Total	$ 1,894,362
					All outstanding claims prior to 2012, net of reinsurance	208,874
					Liabilities for claims and claim adjustment expense, net of reinsurance	$ 796,181

(1) 2012-2016 Unaudited.

Asia Pacific

(in thousands)

	Incurred Claims and Allocated Claim Adjustments, Net of Reinsurance [1]						As of December 31, 2017
	For the Years Ended December 31,						
Accident Year	2012	2013	2014	2015	2016	2017	Total of Incurred-but-Not-Reported Liabilities Plus Expected Development on Reported Claims
2012	$ 230,295	$ 309,090	$ 313,862	$ 317,536	$ 325,992	$ 336,901	$ 13,196
2013		324,334	346,886	336,531	333,639	347,865	21,310
2014			306,919	332,718	294,049	300,025	27,113
2015				308,517	284,871	277,166	44,713
2016					252,197	228,342	62,959
2017						235,146	140,159
					Total	$ 1,725,445	

Cumulative Paid Claims and Allocated Claim Adjustment Expense, Net of Reinsurance [1]						
	For the Years Ended December 31,					
Accident Year	2012	2013	2014	2015	2016	2017
2012	$ 54,638	$ 149,912	$ 205,303	$ 247,028	$ 269,808	$ 287,941
2013		55,175	159,799	231,919	261,359	289,472
2014			38,241	150,295	196,570	228,405
2015				54,241	131,364	185,393
2016					42,440	108,310
2017						39,262
					Total	$ 1,138,783
					All outstanding claims prior to 2012, net of reinsurance	144,984
					Liabilities for claims and claim adjustment expense, net of reinsurance	$ 731,646

(1) 2012-2016 Unaudited.

The reconciliation of the net incurred and paid claims development tables to the liability for claims and claim adjustment expense in the consolidated balance sheets as of December 31, 2017 and 2016, are as follows:

	2017
Liabilities for claims and claim adjustment expense, net of reinsurance:	
U.S. and Latin America	$ 796,181
Asia Pacific	731,646
Liabilities for claims and claim adjustment expense, net of reinsurance	1,527,827
Adjustments to reconcile to total policy claims and future policy benefits:	
Reinsurance recoverable	17,940
Effect of discounting and unallocated claims adjustment expense	(146,331)
Total adjustments	(128,391)
Other short-duration contracts:	
Canada	150,248
Europe, Middle East and Africa	346,916
Other	122,690
Total short-duration contracts	2,019,290
Other than short-duration contracts	25,336,025
Total future policy benefits and other policy claims and benefits	$ 27,355,315

The following is unaudited supplementary information about average historical claims duration as of December 31, 2017:

Average Annual Payout of Incurred Claims by Age, Net of Reinsurance						
Years	1	2	3	4	5	6
U.S. and Latin America	35.1%	41.9%	8.5%	2.8%	2.0%	1.8%
Asia Pacific	16.5%	30.3%	18.0%	10.5%	7.6%	5.4%

Note 17 EARNINGS PER SHARE

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

	2017	2016	2015
Earnings:			
Net income (numerator for basic and diluted calculations)	$ 1,822,181	$ 701,443	$ 502,166
Shares:			
Weighted average outstanding shares (denominator for basic calculations)	64,427	64,274	66,553
Equivalent shares from outstanding stock options	1,326	715	739
Diluted shares (denominator for diluted calculations)	65,753	64,989	67,292
Earnings per share:			
Basic	$ 28.28	$ 10.91	$ 7.55
Diluted	27.71	10.79	7.46

The calculation of common equivalent shares does not include the impact of options having a strike or conversion price that exceeds the average stock price for the earnings period, as the result would be antidilutive. The calculation of common equivalent

shares also excludes the impact of outstanding performance contingent shares, as the conditions necessary for their issuance have not been satisfied as of the end of the reporting period. Approximately 0.2 million and 0.3 million outstanding stock options were not included in the calculation of common equivalent shares during 2017 and 2015, respectively. During 2016, all outstanding options were included in the calculation of common equivalent shares. Approximately 0.3 million, 0.4 million and 0.4 million performance contingent shares were excluded from the calculation of common equivalent shares during 2017, 2016 and 2015, respectively.

Note 18 EQUITY

Common stock

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

	Issued	Held In Treasury	Outstanding
Balance, December 31, 2014	79,137,758	10,364,797	68,772,961
Common Stock acquired	—	4,145,440	(4,145,440)
Stock-based compensation (1)	—	(577,005)	577,005
Balance, December 31, 2015	79,137,758	13,933,232	65,204,526
Common Stock acquired	—	1,356,892	(1,356,892)
Stock-based compensation (1)	—	(454,868)	454,868
Balance, December 31, 2016	79,137,758	14,835,256	64,302,502
Common Stock acquired	—	208,680	(208,680)
Stock-based compensation (1)	—	(358,273)	358,273
Balance, December 31, 2017	79,137,758	14,685,663	64,452,095

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

Common stock held in treasury

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

During 2015, RGA's board of directors authorized and amended a share repurchase program, with no expiration date, to repurchase up to $450.0 million of RGA's outstanding common stock. In connection with this authorization, the board of directors terminated the stock repurchase authority granted in 2014. During 2015, RGA repurchased 4,145,440 shares of common stock under this program for $375.3 million.

During 2016, RGA's board of directors authorized and amended a share repurchase program, with no expiration date, to repurchase up to $400.0 million of RGA's outstanding common stock. In connection with this authorization, the board of directors terminated the stock repurchase authority granted in 2015. During 2016, RGA repurchased 1,356,892 shares of common stock under this program for $116.5 million.

During 2017, RGA's board of directors authorized and amended a share repurchase program, with no expiration date, to repurchase up to $400.0 million of RGA's outstanding common stock. In connection with this authorization, the board of directors terminated the stock repurchase authority granted in 2016. During 2017, RGA repurchased 208,680 shares of common stock under this program for $26.9 million.

Accumulated other comprehensive income (loss)

The following table presents the components of the Company's other comprehensive income (loss) for the years ended December 31, 2017, 2016 and 2015 (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	$ 74,926	$ 25,369	$ 100,295
Foreign currency swap	(47,953)	16,784	(31,169)
Net foreign currency translation adjustments	26,973	42,153	69,126
Unrealized gains on investments:(1)			
Unrealized net holding gains arising during the year	1,029,591	(313,729)	715,862
Less: Reclassification adjustment for net gains realized in net income	25,039	(7,011)	18,028
Net unrealized gains	1,004,552	(306,718)	697,834
Change in unrealized OTTI on fixed maturity securities	375	(131)	244
Unrealized pension and postretirement benefits:			
Net prior service cost arising during the year	11,717	(4,095)	7,622
Net gain arising during the period	(10,587)	3,691	(6,896)
Unrealized pension and postretirement benefits, net	1,130	(404)	726
Other comprehensive income (loss)	$ 1,033,030	$ (265,100)	$ 767,930

For the year ended December 31, 2016:

	Before-Tax Amount	Tax (Expense) Benefit	After-Tax Amount
Foreign currency translation adjustments:			
Change arising during year	$ 39,925	$ (24,663)	$ 15,262
Foreign currency swap	(10,234)	3,582	(6,652)
Net foreign currency translation adjustments	29,691	(21,081)	8,610
Unrealized gains on investments:(1)			
Unrealized net holding gains arising during the year	641,606	(180,448)	461,158
Less: Reclassification adjustment for net gains realized in net income	65,798	(23,029)	42,769
Net unrealized gains	575,808	(157,419)	418,389
Change in unrealized OTTI on fixed maturity securities	1,457	(510)	947
Unrealized pension and postretirement benefits:			
Net prior service cost arising during the year	444	(149)	295
Net gain arising during the period	4,427	(1,623)	2,804
Unrealized pension and postretirement benefits, net	4,871	(1,772)	3,099
Other comprehensive income (loss)	$ 611,827	$ (180,782)	$ 431,045

For the year ended December 31, 2015:

	Before-Tax Amount	Tax (Expense) Benefit	After-Tax Amount
Foreign currency translation adjustments:			
Change arising during year	$ (342,539)	$ 17,129	$ (325,410)
Foreign currency swap	96,019	(33,607)	62,412
Net foreign currency translation adjustments	(246,520)	(16,478)	(262,998)
Unrealized losses on investments:(1)			
Unrealized net holding losses arising during the year	(1,084,732)	359,407	(725,325)
Less: Reclassification adjustment for net losses realized in net income	(55,767)	19,518	(36,249)
Net unrealized losses	(1,028,965)	339,889	(689,076)
Unrealized pension and postretirement benefits:			
Net prior service cost arising during the year	337	(107)	230
Net loss arising during the period	4,618	(1,619)	2,999
Unrealized pension and postretirement benefits, net	4,955	(1,726)	3,229
Other comprehensive income (loss)	$ (1,270,530)	$ 321,685	$ (948,845)

(1) Includes cash flow hedges. See Note 5 for additional information on cash flow hedges.

A summary of the components of net unrealized appreciation (depreciation) of balances carried at fair value is as follows (dollars in thousands):

For the years ended December 31,	2017	2016	2015
Change in net unrealized appreciation (depreciation) on:			
Fixed maturity securities available-for-sale	$ 987,570	$ 561,906	$ (1,055,458)
Other investments[1]	25,577	18,900	8,983
Effect on unrealized appreciation on:			
Deferred policy acquisition costs	(8,220)	(3,541)	17,510
Net unrealized appreciation (depreciation)	$ 1,004,927	$ 577,265	$ (1,028,965)

(1) Includes cash flow hedges. See Note 5 for additional information on cash flow hedges.

The balance of and changes in each component of AOCI were as follows (dollars in thousands):

	Accumulated Currency Translation Adjustments	Unrealized Appreciation (Depreciation) of Investments [1]	Pension and Postretirement Benefits	Accumulated Other Comprehensive Income (Loss)
Balance, December 31, 2014	$ 81,847	$ 1,624,773	$ (49,491)	$ 1,657,129
OCI before reclassifications	(246,520)	(1,101,760)	(1,248)	(1,349,528)
Amounts reclassified from AOCI	—	72,795	6,203	78,998
Deferred income tax benefit (expense)	(16,478)	339,889	(1,726)	321,685
Balance, December 31, 2015	(181,151)	935,697	(46,262)	708,284
OCI before reclassifications	29,691	646,887	(951)	675,627
Amounts reclassified from AOCI	—	(69,622)	5,822	(63,800)
Deferred income tax benefit (expense)	(21,081)	(157,929)	(1,772)	(180,782)
Balance, December 31, 2016	(172,541)	1,355,033	(43,163)	1,139,329
OCI before reclassifications	26,973	1,039,387	(4,273)	1,062,087
Amounts reclassified from AOCI	—	(34,460)	5,403	(29,057)
Deferred income tax benefit (expense)	42,153	(306,849)	(404)	(265,100)
Adoption of new accounting standard	17,065	147,550	(8,243)	156,372
Balance, December 31, 2017	$ (86,350)	$ 2,200,661	$ (50,680)	$ 2,063,631

(1) Includes cash flow hedges of $2,619, $(2,496) and $(29,397) as of December 31, 2017, 2016 and 2015, respectively. See Note 5 for additional information on cash flow hedges.

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 Income
	2017	2016	
Net unrealized investment gains (losses):			
Net unrealized gains and losses on available-for-sale securities	$ 25,039	$ 65,798	Investment related gains (losses), net
OTTI on fixed maturity securities	—	74	Investment related gains (losses), net
Cash flow hedges - Interest rate	(79)	—	(1)
Cash flow hedges - Currency/Interest rate	380	510	(1)
Cash flow hedges - Forward bond purchase commitments	900	(301)	(1)
Deferred policy acquisition costs attributed to unrealized gains and losses	8,220	3,541	(2)
Total	34,460	69,622	
Provision for income taxes	(10,308)	(17,672)	
Net unrealized gains (losses), net of tax	$ 24,152	$ 51,950	
Amortization of defined benefit plan items:			
Prior service cost (credit)	$ 971	$ 328	(3)
Actuarial gains/(losses)	(6,374)	(6,150)	(3)
Total	(5,403)	(5,822)	
Provision for income taxes	1,891	2,038	
Amortization of defined benefit plans, net of tax	$ (3,512)	$ (3,784)	
Total reclassifications for the period	$ 20,640	$ 48,166	

(1) See Note 5 for information on cash flow hedges.
(2) See Note 8 for information on deferred policy acquisition costs.
(3) See Note 10 for information on employee benefit plans.

Equity Based Compensation

The Company adopted the RGA Flexible Stock Plan (the “Plan”) in February 1993, as amended, and the Flexible Stock Plan for Directors (the “Directors Plan”) in January 1997, as amended, (collectively, the “Stock Plans”). The Stock Plans provide for the award of benefits (collectively “Benefits”) of various types, including stock options, stock appreciation rights (“SARs”), restricted stock, performance shares, cash awards, and other stock-based awards, to key employees, officers, directors and others performing significant services for the benefit of the Company or its subsidiaries. As of December 31, 2017, shares authorized for the granting of Benefits under the Plan and the Directors Plan totaled 14,960,077 and 412,500 respectively. The Company uses treasury shares or shares made available from authorized but unissued shares to support the future exercise of options or settlement of awards granted under its stock plans.

Equity-based compensation expense of $22.3 million, $33.1 million, and $16.0 million related to grants or awards under the Stock Plans was recognized in 2017, 2016 and 2015, respectively. Equity-based compensation expense is principally related to the issuance of stock options, performance contingent restricted units, stock appreciation rights and restricted stock.

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 grant and expire 10 years after the date of grant. There are no options outstanding under the Directors Plan during the periods presented. Information with respect to grants under the Stock Plans follows.

Stock Options

The following table presents a summary of stock option activity:

	Number of Options	Weighted-Average Exercise Price	Aggregate Intrinsic Value (in millions)
Outstanding December 31, 2016	2,573,223	$ 68.70	
Granted	171,388	$ 129.72	
Exercised	(430,429)	$ 58.07	
Forfeited	(4,413)	$ 87.15	
Outstanding December 31, 2017	2,309,769	$ 75.17	$ 186.5
Options exercisable	1,700,629	$ 66.04	$ 152.9

The intrinsic value of options exercised was $42.1 million, $41.4 million, and $26.2 million for 2017, 2016 and 2015, respectively.

Range of Exercise Prices	Options Outstanding: Number Outstanding as of 12/31/2017	Options Outstanding: Weighted-Average Remaining Contractual Life (years)	Options Outstanding: Weighted-Average Exercise Price	Options Exercisable: Number Exercisable as of 12/31/2017	Options Exercisable: Weighted-Average Exercise Price
$0.00 - $49.99	245,264	1.7	$ 40.54	245,264	$ 40.54
$50.00 - $59.99	902,246	4.4	$ 58.23	902,246	$ 58.23
$60.00 - $69.99	839	5.2	$ 60.24	839	$ 60.24
$70.00 - $79.99	190,137	6.2	$ 78.48	190,137	$ 78.48
$90.00 +	971,283	8.1	$ 99.02	362,143	$ 96.22
Totals	2,309,769	5.8	$ 75.17	1,700,629	$ 66.04

The following table presents the weighted average assumptions used to determine the fair value of stock options issued:

For the years ended December 31,	2017	2016	2015
Dividend yield	1.26%	1.58%	1.47%
Risk-free rate of return	2.32%	1.69%	2.04%
Expected volatility	22.8%	28.1%	35.0%
Expected life (years)	7.0	7.0	7.0
Weighted average exercise price of stock options granted	$ 129.72	$ 93.53	$ 91.65
Weighted average fair value of stock options granted	$ 31.57	$ 24.52	$ 30.50

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.

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 paid in the Company’s common stock. Each PCU represents the right to receive up to two shares of Company 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 the Company’s common stock during the performance period.

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.

The following table presents a summary of Performance Share and Restricted Stock Unit activity:

	Performance Contingent Units	Restricted Stock Units
Outstanding December 31, 2016	585,971	96,628
Granted	115,176	22,971
Paid	(137,083)	(38,843)
Forfeited	(100,805)	(3,398)
Outstanding December 31, 2017	463,259	77,358

During 2017, the Company issued 115,176 PCUs to key employees at a weighted average fair value per unit of $129.72. In May 2017 and May 2016, RGA’s board of directors approved a 0.75 and 0.40 share payout for each PCU granted in 2014 and 2013, resulting in the issuance of 137,083 and 94,436 shares of common stock from treasury, respectively.

As of December 31, 2017, the total compensation cost of non-vested awards not yet recognized in the financial statements was $26.3 million. It is estimated that these costs will vest over a weighted average period of 1.5 years.

The majority of the awards granted each year under the board-approved incentive compensation package and Directors Plan are made in the first quarter of each year.

Note 19 QUARTERLY RESULTS OF OPERATIONS (UNAUDITED)

Years Ended December 31,

(in thousands, except per share data)

2017	First	Second	Third	Fourth
Total Revenues	$ 3,008,740	$ 3,129,276	$ 3,145,310	$ 3,232,443
Total benefits and expenses	2,800,896	2,789,961	2,805,148	2,976,949
Income before income taxes	207,844	339,315	340,162	255,494
Net Income	145,512	232,190	227,591	1,216,888
Earnings Per Share:				
Basic earnings per share	$ 2.26	$ 3.60	$ 3.53	$ 18.89
Diluted earnings per share	2.22	3.54	3.47	18.49
2016	First	Second	Third	Fourth
Total Revenues	$ 2,512,568	$ 3,039,068	$ 2,900,577	$ 3,069,298
Total benefits and expenses	2,404,988	2,685,845	2,612,977	2,773,755
Income before income taxes	107,580	353,223	287,600	295,543
Net Income	76,472	236,103	198,719	190,149
Earnings Per Share:				
Basic earnings per share	$ 1.18	$ 3.68	$ 3.10	$ 2.96
Diluted earnings per share	1.17	3.64	3.07	2.92

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Reinsurance Group of America, Incorporated
Chesterfield, Missouri

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Reinsurance Group of America, Incorporated and subsidiaries (the "Company") as of December 31, 2017 and 2016, and the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2017, and the related notes, and the schedules listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements 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 each of the three years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on the criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 27, 2018 expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements and financial statement schedules are the responsibility of the Company's management. Our responsibility is to express an opinion on the financial statements and financial statement schedules based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ DELOITTE & TOUCHE LLP

St. Louis, Missouri
February 27, 2018

We have served as the Company's auditor since 2000.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

Item 9A. CONTROLS AND PROCEDURES

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

There was no change in the Company's internal control over financial reporting as defined in Exchange Act Rule 13a-15(f) during the quarter ended December 31, 2017, that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Annual Report on Internal Control Over Financial Reporting

Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting. In fulfilling this responsibility, estimates and judgments by management are required to assess the expected benefits and related costs of control procedures. The objectives of internal control include providing management with reasonable, but not absolute, assurance that assets are safeguarded against loss from unauthorized use or disposition, and that transactions are executed in accordance with management's authorization and recorded properly to permit the preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America.

Financial management has documented and evaluated the effectiveness of the internal control of the Company as of December 31, 2017 pertaining to financial reporting in accordance with the criteria established in "Internal Control – Integrated Framework (2013)" by the Committee of Sponsoring Organizations of the Treadway Commission.

In the opinion of management, the Company maintained effective internal control over financial reporting as of December 31, 2017.

Deloitte & Touche LLP, an independent registered public accounting firm, has issued an attestation report on the effectiveness of the Company's internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Reinsurance Group of America, Incorporated
Chesterfield, Missouri

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Reinsurance Group of Americas Incorporated and subsidiaries (the "Company") as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2017, of the Company and our report dated February 27, 2018, expressed an unqualified opinion on those consolidated financial statements and financial statement schedules.

Basis of Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Annual Report on Internal Control over Financial Reporting*. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

St. Louis, Missouri
February 27, 2018

Item 9B. OTHER INFORMATION

None.

Part III

Item 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

Information with respect to Directors of the Company is incorporated by reference to the Proxy Statement under the captions “Nominees and Continuing Directors” and “Section 16(a) Beneficial Ownership Reporting Compliance”. The Proxy Statement will be filed pursuant to Regulation 14A within 120 days of the end of the Company’s fiscal year.

Executive Officers

The following is certain additional information concerning each individual who is an executive officer of the Company or its primary U.S.-based operating subsidiary, RGA Reinsurance Company.

John W. Hayden, 51, is Senior Vice President, Controller. Mr. Hayden joined the Company in March 2000 and held the position of Vice President, SEC Reporting and Investor Relations prior to his current role. Before coming to RGA, Mr. Hayden served in a finance position at General American Life Insurance Company and prior to that position, he was a senior manager at KPMG LLP, in the financial services audit practice, specializing in the insurance industry. Mr. Hayden also serves as a director and officer of several RGA subsidiaries.

William L. Hutton, 58, is Executive Vice President, General Counsel and Secretary of the Company. He is responsible for legal services provided throughout the RGA enterprise. Mr. Hutton joined the Company in 2001 and held several positions in the legal function before becoming General Counsel in 2011. Prior to joining the Company, he served as counsel at General American Life Insurance Company and was in private practice with two law firms in St. Louis, Missouri. Mr. Hutton also serves as an officer of several RGA subsidiaries.

Todd C. Larson, 54, is Senior Executive Vice President, Chief Financial Officer. Mr. Larson joined the Company in May 1995 as Controller and held several positions in the finance function, including the position of Executive Vice President, Corporate Finance and Treasurer, before becoming Global Chief Risk Officer in July 2014. Mr. Larson assumed the role of Chief Financial Officer in May 2016. Mr. Larson previously was Assistant Controller at Northwestern Mutual Life Insurance Company from 1994 through 1995 and prior to that position was an accountant for KPMG LLP from 1985 through 1993. Mr. Larson also serves as a director and officer of several RGA subsidiaries.

John P. Laughlin, 63, is Executive Vice President of Global Financial Solutions (“GFS”). He is also a member of the Company’s Executive Council. Mr. Laughlin joined the Company in 1995 through a joint venture acquisition that ultimately became RGA Financial Group, L.L.C. Mr. Laughlin heads the Company’s GFS unit, which is responsible for all of RGA’s financial reinsurance, asset-intensive reinsurance and bulk longevity business worldwide. Prior to joining the Company, Mr. Laughlin worked at ITT Financial Corporation and Liberty Financial Management. Mr. Laughlin also serves as a director and officer of several RGA subsidiaries.

Anna Manning, 59, is President and Chief Executive Officer of the Company. Prior to her current role, Ms. Manning held the position of Senior Executive Vice President, Structured Solutions, which includes the Company’s Global Financial Solutions and Global Acquisitions businesses. She is a member of RGA’s Executive Council. Ms. Manning joined the Company in 2007 as Executive Vice President and Chief Operating Officer for RGA International Corporation, followed by four years as Executive Vice President of U.S. Markets. Prior to joining the Company, Ms. Manning spent 19 years in actuarial consulting at Tillinghast Towers Perrin, following an actuarial career in the Canadian marketplace at Manulife Financial from 1981 through 1988. She is a Fellow of the Canadian Institute of Actuaries (“FCIA”), and a Fellow of the Society of Actuaries (“FSA”).

Timothy Matson, 59, is Executive Vice President, Chief Investment Officer. He is also a member of the Company’s Executive Council. Mr. Matson joined the Company in August, 2014 and is responsible for directing RGA’s investment policy and strategy, and for managing the company’s global asset portfolio. Before joining the Company, he held investment management positions with Aetna and ING, in both the U.S. and Asia, and was the Chief Investment Officer of Cathay Conning Asset Management (“CCAM”), a joint venture based in Hong Kong. He is a Chartered Financial Analyst and a member of the CFA Society of St. Louis. Mr. Matson also serves as a director and officer of several RGA subsidiaries.

Alain Néemeh, 50, is Senior Executive Vice President, Chief Operating Officer. He is also a member of the Company’s Executive Council. Prior to his current role, Mr. Néemeh was Senior Executive Vice President, Global Life and Health, a position he held since 2014. From 2006 to 2014, Mr. Néemeh was President and Chief Executive Officer of RGA Life Reinsurance Company of Canada (“RGA Canada”). In addition, from 2012, Mr. Néemeh had executive responsibility for the Company’s Australia and

New Zealand operations. Prior to this, he served as Executive Vice President, Operations, and Chief Financial Officer of RGA Canada from 2001, having joined the finance area in 1997 from KPMG LLP, where he provided audit and other services to a variety of clients in the financial services, manufacturing and retail sectors. Mr. Néemeh also serves as a director and officer of several RGA subsidiaries.

Jonathan Porter, 47, is Executive Vice President and Global Chief Risk Officer. Mr. Porter is responsible for the Company's global enterprise risk management and corporate pricing oversight. Prior to his current role, Mr. Porter previously served in positions of Senior Vice President, Global Analytics and In-Force Management and Chief Pricing Actuary of International Markets. Before joining the Company in 2008, Mr. Porter worked for Manulife Financial as Chief Financial Officer, U.S. Life Insurance. Mr. Porter holds FSA and FCIA designations. Mr. Porter also serves as a director and officer of several RGA subsidiaries.

Corporate Governance

The Company has adopted a Principles of Ethical Business Conduct (the "Principles"), a Directors' Code of Conduct (the "Directors' Code"), and a Financial Management Code of Professional Conduct (the "Financial Management Code"). The Principles apply to all employees and officers of the Company and its subsidiaries. The Directors' Code applies to directors of the Company and its subsidiaries. The Financial Management Code applies to the Company's chief executive officer, chief financial officer, corporate controller, primary financial officers in each business unit, and all professionals in finance and finance-related departments. The Company intends to satisfy its disclosure obligations under Item 5.05 of Form 8-K by posting on its website information about amendments to, or waivers from a provision of the Financial Management Code that applies to the Company's chief executive officer, chief financial officer, and corporate controller. Each of the three Codes described above is available on the Company's website at www.rgare.com.

Also available on the Company's website are the following other items: Corporate Governance Guidelines, Audit Committee Charter, Compensation Committee Charter, Nominating and Governance Committee Charter and Finance, Investment and Risk Management Committee Charter (collectively "Governance Documents").

The Company will provide without charge upon written or oral request, a copy of any of the Codes of Conduct or Governance Documents. Requests should be directed to Investor Relations, Reinsurance Group of America, Incorporated, 16600 Swingley Ridge Road, Chesterfield, MO 63017, by electronic mail (investrelations@rgare.com) or by telephone (636-736-2068).

In accordance with the Securities Exchange Act of 1934, the Company's board of directors has established a standing audit committee. The board of directors has determined, in its judgment, that all of the members of the audit committee are independent within the meaning of SEC regulations and the listing standards of the New York Stock Exchange ("NYSE"). The board of directors has determined, in its judgment, that Messrs. Boot and Danahy and Ms. Guinn are qualified as audit committee financial experts within the meaning of SEC regulations and the board has determined that each of them has accounting and related financial management expertise within the meaning of the listing standards of the NYSE. The audit committee charter provides that members of the audit committee may not simultaneously serve on the audit committee of more than two other public companies unless such member demonstrates that he or she has the ability to devote the time and attention that are required to serve on multiple audit committees.

Additional information with respect to Directors and Executive Officers of the Company is incorporated by reference to the Proxy Statement under the captions "Nominees and Continuing Directors", "Board of Directors and Committees", and "Section 16(a) Beneficial Ownership Reporting Compliance."

Item 11. EXECUTIVE COMPENSATION

Information on this subject is found in the Proxy Statement under the captions “Compensation Discussion and Analysis”, “Executive Compensation,” “Compensation Committee Report” and “Director Compensation” and is incorporated herein by reference. The Proxy Statement will be filed pursuant to Regulation 14A within 120 days of the end of the Company’s fiscal year.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDERS MATTERS

Information of this subject is found in the Proxy Statement under the captions “Securities Ownership of Directors, Management and Certain Beneficial Owners”, and is incorporated herein by reference. The Proxy Statement will be filed pursuant to Regulations 14A within 120 days of the end of the Company’s fiscal year.

The following table summarizes information regarding securities authorized for issuance under equity compensation plans:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	2,893,715 (1)	$75.17 (2) (3)	2,435,314 (4)
Equity compensation plans not approved by security holders	—	—	—
Total	2,893,715 (1)	$75.17 (2) (3)	2,435,314 (4)

(1) Includes the number of securities to be issued upon exercises under the following plans: Flexible Stock Plan - 2,850,386; and Phantom Stock Plan for Directors – 43,329.

(2) Does not include 463,259 performance contingent units outstanding under the Flexible Stock Plan or 43,329 phantom units outstanding under the Phantom Stock Plan for Directors because those securities do not have an exercise price (i.e. a unit is a hypothetical share of Company common stock with a value equal to the fair market value of the common stock).

(3) Reflects the blended weighted-average exercise price of outstanding options under the Flexible Stock Plan $75.17.

(4) Includes the number of securities remaining available for future issuance under the following plans: Flexible Stock Plan– 2,328,032; Flexible Stock Plan for Directors – 74,378; and Phantom Stock Plan for Directors – 32,904.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information on this subject is found in the Proxy Statement under the captions “Certain Relationships and Related Person Transactions” and “Director Independence” and incorporated herein by reference. The Proxy Statement will be filed pursuant to Regulation 14A within 120 days of the end of the Company’s fiscal year.

Item 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information on this subject is found in the Proxy Statement under the caption “Ratification of Appointment of the Independent Auditor” and incorporated herein by reference. The Proxy Statement will be filed pursuant to Regulation 14A within 120 days of the end of the Company’s fiscal year.

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) 1. Financial Statements

The following consolidated statements are included within Item 8 under the following captions:

Index	Page
Consolidated Balance Sheets	85
Consolidated Statements of Income	86
Consolidated Statements of Comprehensive Income	87
Consolidated Statements of Stockholders' Equity	88
Consolidated Statements of Cash Flows	89
Notes to Consolidated Financial Statements	90-156
Report of Independent Registered Public Accounting Firm	157

2. Schedules, Reinsurance Group of America, Incorporated and Subsidiaries

Schedule		Page
I	Summary of Investments	164
II	Condensed Financial Information of the Registrant	165-166
III	Supplementary Insurance Information	167-168
IV	Reinsurance	169
V	Valuation and Qualifying Accounts	170

All other schedules specified in Regulation S-X are omitted for the reason that they are not required, are not applicable, or that equivalent information has been included in the consolidated financial statements, and notes thereto, appearing in Item 8.

3. Exhibits

See the Index to Exhibits on page 172.

Item 16. FORM 10-K SUMMARY

None.

REINSURANCE GROUP OF AMERICA, INCORPORATED
SCHEDULE I-SUMMARY OF INVESTMENTS-OTHER THAN INVESTMENTS IN RELATED PARTIES
December 31, 2017

(in millions)

Type of Investment	Cost	Fair Value	Amount at Which Shown in the Balance Sheets[1]
Fixed maturity securities:			
Bonds:			
United States government and government agencies and authorities	$ 1,953	$ 1,944	$ 1,944
State and political subdivisions	648	703	703
Foreign governments[2]	6,098	7,621	7,621
Public utilities	2,454	2,649	2,649
Mortgage-backed and asset-backed securities	4,615	4,672	4,672
All other corporate bonds	19,513	20,562	20,562
Total fixed maturity securities	35,281	38,151	38,151
Equity securities:			
Non-redeemable preferred stock	42	40	40
Other equity securities	61	60	60
Total equity securities	103	100	100
Mortgage loans on real estate	4,401		4,401
Policy loans	1,358		1,358
Funds withheld at interest	6,083		6,083
Short-term investments	93		93
Other invested assets	1,505		1,505
Total investments	$ 48,824		$ 51,691

(1) Fixed maturity securities are classified as available-for-sale and carried at fair value.

(2) Includes fixed maturities directly issued by foreign governments, supranational and foreign government-sponsored enterprises.

REINSURANCE GROUP OF AMERICA, INCORPORATED
SCHEDULE II—CONDENSED FINANCIAL INFORMATION OF THE REGISTRANT
December 31,
(dollars in thousands)

	2017	2016	2015
CONDENSED BALANCE SHEETS			
Assets:			
Fixed maturity securities available-for-sale, at fair value	$ 710,303	$ 1,154,559	
Short-term and other investments	54,517	245,478	
Cash and cash equivalents	15,176	43,718	
Investment in subsidiaries	12,043,911	9,209,700	
Loans to subsidiaries	1,010,000	1,050,000	
Other assets	234,707	258,379	
Total assets	$ 14,068,614	$ 11,961,834	
Liabilities and stockholders' equity:			
Long-term debt - unaffiliated[(1)]	$ 2,775,579	$ 3,073,249	
Long-term debt - affiliated[(2)]	500,000	500,000	
Other liabilities	1,223,500	1,295,503	
Stockholders' equity	9,569,535	7,093,082	
Total liabilities and stockholders' equity	$ 14,068,614	$ 11,961,834	
CONDENSED STATEMENTS OF INCOME			
Interest / dividend income[(3)]	$ 131,067	$ 602,830	$ 321,645
Investment related gains (losses), net	(5,187)	203	(324)
Operating expenses	(20,517)	(20,742)	(13,652)
Interest expense	(177,417)	(168,924)	(176,364)
Income (loss) before income tax and undistributed earnings of subsidiaries	(72,054)	413,367	131,305
Income tax expense (benefit)	65,882	(23,911)	(19,465)
Net income (loss) before undistributed earnings of subsidiaries	(137,936)	437,278	150,770
Equity in undistributed earnings of subsidiaries	1,960,117	264,165	351,396
Net income	1,822,181	701,443	502,166
Other comprehensive income (loss)	(7,672)	5,531	44,073
Total comprehensive income	$ 1,814,509	$ 706,974	$ 546,239

The condensed financial information of RGA (the "Parent Company") should be read in conjunction with the consolidated financial statements of RGA and its subsidiaries and the notes thereto (the "Consolidated Financial Statements"). These condensed unconsolidated financial statements reflect the results of operations, financial position and cash flows for RGA. Investments in subsidiaries are accounted for using the equity method of accounting.

(1) Long-term debt - unaffiliated consists of the following:

	2017	2016
$300 million 5.625% Senior Notes due 2017	$ —	$ 299,945
$400 million 6.45% Senior Notes due 2019	399,873	399,805
$400 million 5.00% Senior Notes due 2021	399,245	399,025
$400 million 4.70% Senior Notes due 2023	399,138	398,986
$400 million 3.95% Senior Notes due 2026	399,987	399,985
$400 million 6.20% Subordinated Debentures due 2042	400,000	400,000
$400 million 5.75% Subordinated Debentures due 2056	400,000	400,000
$400 million Variable Rate Junior Subordinated Debentures due 2065	398,670	398,667
Subtotal	2,796,913	3,096,413
Unamortized debt issue costs	(21,334)	(23,164)
Total	$ 2,775,579	$ 3,073,249

Repayments of long-term debt—unaffiliated due over the next five years total $400,000 in 2019 and $400,000 in 2021.

(2) Long-term debt—affiliated in 2017 and 2016 and consists of $500,000 of subordinated debt issued to various operating subsidiaries.

(3) Interest/Dividend income includes $478,602 and $196,445 of cash dividends received from consolidated subsidiaries in 2016 and 2015, respectively. In 2017 there were no cash dividends received from consolidated subsidiaries.

REINSURANCE GROUP OF AMERICA, INCORPORATED
SCHEDULE II—CONDENSED FINANCIAL INFORMATION OF THE REGISTRANT (continued)
December 31,
(dollars in thousands)

	2017	2016	2015
CONDENSED STATEMENTS OF CASH FLOWS			
Operating activities:			
Net income	$ 1,822,181	$ 701,443	$ 502,166
Equity in earnings of subsidiaries	(1,960,117)	(264,165)	(351,396)
Other, net	57,677	(63,795)	486,159
Net cash (used in) provided by operating activities	(80,259)	373,483	636,929
Investing activities:			
Sales of fixed maturity securities available-for-sale	514,508	228,383	100,734
Purchases of fixed maturity securities available-for-sale	(75,000)	(984,397)	(52,698)
Repayments/issuances of loans to subsidiaries	40,000	20,000	(10,000)
Purchase of a business, net of cash acquired of $529	—	—	(3,701)
Change in short-term investments	—	102,508	(102,508)
Change in other invested assets	125,506	(109,914)	(7,542)
Capital contributions to subsidiaries	(62,500)	(314,142)	(103,832)
Net cash (used in) provided by investing activities	542,514	(1,057,562)	(179,547)
Financing activities:			
Dividends to stockholders	(117,291)	(100,371)	(93,381)
Purchases of treasury stock	(43,508)	(122,916)	(384,519)
Exercise of stock options, net	7,292	15,321	11,151
Net change in cash collateral for loaned securities	(37,290)	105,093	—
Principal payments on debt	(300,000)	—	—
Proceeds from unaffiliated long-term debt issuance	—	799,984	—
Debt issuance costs	—	(8,766)	—
Net cash (used in) provided by financing activities	(490,797)	688,345	(466,749)
Net change in cash and cash equivalents	(28,542)	4,266	(9,367)
Cash and cash equivalents at beginning of year	43,718	39,452	48,819
Cash and cash equivalents at end of year	$ 15,176	$ 43,718	$ 39,452
Supplementary information:			
Cash paid for interest	$ 185,554	$ 169,860	$ 165,775
Cash paid for income taxes, net of refunds	$ 8,248	$ 1,500	$ (120,680)

REINSURANCE GROUP OF AMERICA, INCORPORATED
SCHEDULE III—SUPPLEMENTARY INSURANCE INFORMATION
(dollars in thousands)

	As of December 31,		
	Deferred Policy Acquisition Costs	Future Policy Benefits and Interest-Sensitive Contract Liabilities	Other Policy Claims and Benefits Payable
2017			
U.S. and Latin America operations:			
Traditional operations	$ 1,818,572	$ 11,343,921	$ 1,814,018
Financial Solutions operations	405,623	15,127,529	17,876
Canada operations:			
Traditional operations	212,345	3,041,790	206,655
Financial Solutions operations	—	27,908	1,040
Europe, Middle East and Africa operations:			
Traditional operations	229,150	1,075,786	882,744
Financial Solutions operations	—	4,741,983	38,044
Asia Pacific operations:			
Traditional operations	552,947	1,611,633	2,017,920
Financial Solutions operations	21,187	1,118,012	6,885
Corporate and Other	—	502,321	6,892
Total	$ 3,239,824	$ 38,590,883	$ 4,992,074
2016			
U.S. and Latin America operations:			
Traditional operations	$ 1,818,211	$ 10,990,560	$ 1,659,473
Financial Solutions operations	582,031	13,074,231	20,352
Canada operations:			
Traditional operations	201,149	2,713,510	200,246
Financial Solutions operations	—	29,531	4,599
Europe, Middle East and Africa operations:			
Traditional operations	206,837	913,351	740,218
Financial Solutions operations	—	3,457,196	46,761
Asia Pacific operations:			
Traditional operations	512,123	1,288,642	1,563,707
Financial Solutions operations	18,254	641,614	19,643
Corporate and Other	—	502,292	8,027
Total	$ 3,338,605	$ 33,610,927	$ 4,263,026

REINSURANCE GROUP OF AMERICA, INCORPORATED
SCHEDULE III—SUPPLEMENTARY INSURANCE INFORMATION (continued)
(dollars in thousands)

	Year ended December 31,				
	Premium Income	Net Investment Income	Policyholder Benefits and Interest Credited	Amortization of DAC	Other Operating Expenses
2017					
U.S. and Latin America operations:					
Traditional operations	$ 5,356,321	$ 728,073	$ 4,842,412	$ 191,725	$ 692,600
Financial Solutions operations	23,683	778,473	458,368	185,280	105,146
Canada operations:					
Traditional operations	901,976	189,018	757,912	12,426	212,964
Financial Solutions operations	38,229	5,115	29,639	—	2,656
Europe, Middle East and Africa operations:					
Traditional operations	1,301,640	55,511	1,096,211	20,570	174,808
Financial Solutions operations	163,720	123,258	153,874	—	33,683
Asia Pacific operations:					
Traditional operations	2,053,029	91,675	1,635,728	91,477	334,695
Financial Solutions operations	2,419	34,529	40,467	1,388	18,790
Corporate and Other	113	148,999	6,346	—	273,789
Total	$ 9,841,130	$ 2,154,651	$ 9,020,957	$ 502,866	$ 1,849,131
2016					
U.S. and Latin America operations:					
Traditional operations	$ 5,249,571	$ 699,833	$ 4,717,850	$ 177,255	$ 698,762
Financial Solutions operations	24,349	631,097	333,107	133,501	90,458
Canada operations:					
Traditional operations	928,642	178,927	707,428	10,621	265,250
Financial Solutions operations	38,701	2,692	36,275	—	2,718
Europe, Middle East and Africa operations:					
Traditional operations	1,140,062	50,301	999,005	33,795	132,290
Financial Solutions operations	180,271	125,282	178,014	—	24,497
Asia Pacific operations:					
Traditional operations	1,681,505	83,049	1,345,951	24,597	286,674
Financial Solutions operations	5,428	23,648	37,976	1,423	19,920
Corporate and Other	342	117,057	2,460	—	217,738
Total	$ 9,248,871	$ 1,911,886	$ 8,358,066	$ 381,192	$ 1,738,307
2015					
U.S. and Latin America operations:					
Traditional operations	$ 4,806,706	$ 636,779	$ 4,444,196	$ 131,439	$ 653,620
Financial Solutions operations	22,177	566,180	310,464	40,416	85,022
Canada operations:					
Traditional operations	838,894	182,621	670,477	11,299	217,061
Financial Solutions operations	37,969	1,436	29,251	—	1,881
Europe, Middle East and Africa operations:					
Traditional operations	1,121,540	51,370	979,225	39,164	123,943
Financial Solutions operations	171,830	73,432	161,917	—	16,304
Asia Pacific operations:					
Traditional operations	1,551,586	80,549	1,208,984	7,373	316,346
Financial Solutions operations	19,474	18,678	20,766	185	16,011
Corporate and Other	565	123,450	1,066	—	186,973
Total	$ 8,570,741	$ 1,734,495	$ 7,826,346	$ 229,876	$ 1,617,161

REINSURANCE GROUP OF AMERICA, INCORPORATED
SCHEDULE IV—REINSURANCE
(in millions)

	As of or for the Year ended December 31,				
	Gross Amount	Ceded to Other Companies	Assumed from Other Companies	Net Amounts	Percentage of Amount Assumed to Net
2017					
Life insurance in force	$ 1,462	$ 205,529	$ 3,297,275	$ 3,093,208	106.6%
Premiums					
U.S. and Latin America operations:					
Traditional operations	$ 30.5	$ 610.4	$ 5,936.2	$ 5,356.3	110.8%
Financial Solutions operations	4.3	—	19.4	23.7	81.9
Canada operations:					
Traditional operations	—	38.1	940.1	902.0	104.2
Financial Solutions operations	—	—	38.2	38.2	100.0
Europe, Middle East and Africa operations:					
Traditional operations	26.6	34.9	1,310.0	1,301.7	100.6
Financial Solutions operations	0.2	125.0	288.5	163.7	176.2
Asia Pacific operations:					
Traditional operations	—	54.5	2,107.5	2,053.0	102.7
Financial Solutions operations	—	—	2.4	2.4	100.0
Corporate and Other	—	—	0.1	0.1	100.0
Total	$ 61.6	$ 862.9	$ 10,642.4	$ 9,841.1	108.1
2016					
Life insurance in force	$ 1,576	$ 214,727	$ 3,062,525	$ 2,849,374	107.5%
Premiums					
U.S. and Latin America operations:					
Traditional operations	$ 31.6	$ 616.0	$ 5,834.0	$ 5,249.6	111.1%
Financial Solutions operations	1.6	40.2	63.0	24.4	258.2
Canada operations:					
Traditional operations	—	36.5	965.1	928.6	103.9
Financial Solutions operations	—	—	38.7	38.7	100.0
Europe, Middle East and Africa operations:					
Traditional operations	24.1	30.9	1,146.9	1,140.1	100.6
Financial Solutions operations	0.3	84.4	264.4	180.3	146.6
Asia Pacific operations:					
Traditional operations	—	50.3	1,731.8	1,681.5	103.0
Financial Solutions operations	—	—	5.4	5.4	100.0
Corporate and Other	—	—	0.3	0.3	100.0
Total	$ 57.6	$ 858.3	$ 10,049.6	$ 9,248.9	108.7
2015					
Life insurance in force	$ 1,686	$ 222,388	$ 2,995,079	$ 2,774,377	108.0%
Premiums					
U.S. and Latin America operations:					
Traditional operations	$ 29.4	$ 607.0	$ 5,384.3	$ 4,806.7	112.0%
Financial Solutions operations	2.9	38.8	58.1	22.2	261.7
Canada operations:					
Traditional operations	—	42.3	881.2	838.9	105.0
Financial Solutions operations	—	—	38.0	38.0	100.0
Europe, Middle East and Africa operations:					
Traditional operations	10.7	25.5	1,136.3	1,121.5	101.3
Financial Solutions operations	0.1	89.1	260.8	171.8	151.8
Asia Pacific operations:					
Traditional operations	—	41.0	1,592.6	1,551.6	102.6
Financial Solutions operations	—	—	19.5	19.5	100.0
Corporate and Other	—	—	0.5	0.5	100.0
Total	$ 43.1	$ 843.7	$ 9,371.3	$ 8,570.7	109.3

REINSURANCE GROUP OF AMERICA, INCORPORATED
SCHEDULE V—VALUATION AND QUALIFYING ACCOUNTS
(in millions)

Description	Balance at Beginning of Period	Additions: Charged to Costs and Expenses	Additions: Charged to Other Accounts	Deductions	Balance at End of Period
2017					
Valuation allowance for deferred income taxes	$ 133.4	$ 88.5	$ 10.6	$ 5.6	$ 226.9
Valuation allowance for mortgage loans	7.7	1.7	—	—	9.4
2016					
Valuation allowance for deferred income taxes	$ 127.1	$ 11.0	$ (4.7)	$ —	$ 133.4
Valuation allowance for mortgage loans	6.8	0.9	—	—	7.7
2015					
Valuation allowance for deferred income taxes	$ 112.0	$ 23.7	$ (8.6)	$ —	$ 127.1
Valuation allowance for mortgage loans	6.5	0.3	—	—	6.8

SIGNATURES

Pursuant to the requirements of Section 13 or 15 (d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Reinsurance Group of America, Incorporated.

By: /s/ Anna Manning
Anna Manning
President and Chief Executive Officer

Date: February 27, 2018

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities indicated on February 27, 2018.

Signatures		Title
/s/ J. Cliff Eason J. Cliff Eason	February 27, 2018*	Chairman of the Board and Director
/s/ Anna Manning Anna Manning	February 27, 2018	President, Chief Executive Officer and Director (Principal Executive Officer)
/s/ William J. Bartlett William J. Bartlett	February 27, 2018*	Director
/s/ Arnoud W.A. Boot Arnoud W.A. Boot	February 27, 2018*	Director
/s/ John F. Danahy John F. Danahy	February 27, 2018*	Director
/s/ Christine R. Detrick Christine R. Detrick	February 27, 2018*	Director
/s/ Patricia L. Guinn Patricia L. Guinn	February 27, 2018*	Director
/s/ Alan C. Henderson Alan C. Henderson	February 27, 2018*	Director
/s/ Frederick J. Sievert Frederick J. Sievert	February 27, 2018*	Director
/s/ Stanley B. Tulin Stanley B. Tulin	February 27, 2018*	Director
/s/ Todd C. Larson Todd C. Larson	February 27, 2018	Senior Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)

* By: /s/ Todd C. Larson February 27, 2018
Todd C. Larson Attorney-in-fact

Index to Exhibits

Exhibit Number	Description
3.1	Amended and Restated Articles of Incorporation, incorporated by reference to Exhibit 3.1 to Current Report on Form 8-K filed on November 25, 2008 (File No. 1-11848)
3.2	Amended and Restated Bylaws, incorporated by reference to Exhibit 3.1 to Current Report on Form 8-K filed on July 18, 2014 (File No. 1-11848)
4.1	Form of stock certificate for RGA's common stock, incorporated by reference to Exhibit 4 to RGA's Registration Statement on Form 8-A filed on November 17, 2008
4.2	Form of Senior Indenture between RGA and The Bank of New York, as Trustee, incorporated by reference to Exhibit 4.1 to Registration Statement on Form S-3 (File Nos. 333-55304), filed on February 9, 2001, as amended (the "Original S-3")
4.3	Second Supplemental Senior Indenture, dated as of March 9, 2007, between RGA and The Bank of New York Trust Company, N.A., as successor trustee to The Bank of New York, incorporated by reference to Exhibit 4.2 to Current Report on Form 8-K filed on March 12, 2007 (File No. 1-11848)
4.4	Third Supplemental Senior Indenture, dated as of November 6, 2009, between RGA and The Bank of New York Mellon Trust Company, N.A., as successor trustee to The Bank of New York, incorporated by reference to Exhibit 4.2 to Current Report on Form 8-K filed on November 9, 2009 (File No. 1-11848)
4.5	Fourth Supplemental Senior Indenture, dated as of May 27, 2011, between RGA and The Bank of New York Mellon Trust Company, N.A., as successor trustee to The Bank of New York, incorporated by reference to Exhibit 4.2 to Current Report on Form 8-K filed on May 31, 2011 (File No. 1-11848)
4.6	Indenture, dated as of August 21, 2012, between RGA and The Bank of New York Mellon Trust Company, N.A., as Trustee, incorporated by reference to Exhibit 4.1 to Current Report on Form 8-K filed on August 21, 2012 (File No. 1-11848)
4.7	First Supplemental Indenture, dated as of August 21, 2012, between RGA and The Bank of New York Mellon Trust Company, N.A., as Trustee, incorporated by reference to Exhibit 4.2 to Current Report on Form 8-K filed on August 21, 2012 (File No. 1-11848)
4.8	Second Supplemental Indenture, dated as of September 24, 2013, between RGA and The Bank of New York Trust Company, N.A., as Trustee, incorporated by reference to Exhibit 4.2 to Current Report on Form 8-K filed on September 24, 2013 (File No. 1-11848)
4.9	Third Supplemental Indenture, dated as of June 8, 2016, between RGA and The Bank of New York Mellon Trust Company, N.A., as Trustee, incorporated by reference to Exhibit 4.2 to Current Report on Form 8-K filed on June 8, 2016 (File No. 1-11848)
4.10	Fourth Supplemental Indenture, dated as of June 8, 2016, between the Company and The Bank of New York Mellon Trust Company, N.A., as Trustee, incorporated by reference to Exhibit 4.3 to Current Report on Form 8-K filed on June 8, 2016 (File No. 1-11848)
4.11	Form of Junior Subordinated Indenture between RGA and The Bank of New York, as Trustee, incorporated by reference to Exhibit 4.3 of the Original S-3

4.12	Form of Second Supplemental Junior Subordinated Indenture between RGA and The Bank of New York, as Trustee, incorporated by reference to Exhibit 4.2 to Current Report on Form 8-K filed on December 9, 2005 (File No. 1-11848)
10.1	Credit Agreement, dated as of September 25, 2014, among RGA, the lenders named therein, JPMorgan Chase Bank, N.A., as Administrative Agent, Swing Line Lender and L/C Issuer, Bank of America, N.A., U.S. Bank National Association and Wells Fargo Bank, National Association as Joint Syndication Agents and Barclays Bank PLC, HSBC Bank USA, National Association, KeyBank National Association, Mizuho Bank, Ltd., Royal Bank of Canada, The Bank of Tokyo-Mitsubishi UFJ, Ltd. and UBS AG, Stamford Branch as Co-Documentation Agents, incorporated by reference to Exhibit 10.1 to Current Report on Form 8-K filed on September 29, 2014 (File No. 1-11848)
10.2	Letter of Credit Reimbursement Agreement, dated as of May 17, 2017, by and between RGA and Crédit Agricole Corporate and Investment Bank, incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K filed May 19, 2017 (File No. 1-11848)
10.3	RGA Annual Bonus Plan, effective May 21, 2008, as amended and restated, incorporated by reference to Exhibit 10.5 to Annual Report on Form 10-K for the fiscal year ended December 31, 2012 (file No. 1-11848), filed on March 1, 2013*
10.4	RGA Flexible Stock Plan as amended and restated effective July 1, 1998 and as further amended by Amendment on March 16, 2000, Second Amendment on May 28, 2003, Third Amendment on May 26, 2004, Fourth Amendment on May 23, 2007, Fifth Amendment on May 21, 2008, Sixth Amendment on May 8, 2011, Seventh Amendment on May 18, 2011, and Eighth Amendment on May 15, 2013, incorporated by reference to Exhibit 10.1 to Quarterly Report on Form 10-Q for the period ended June 30, 2013 (File No. 1-11848), filed on August 5, 2013*
10.5	Form of RGA Flexible Stock Plan Non-Qualified Stock Option Agreement, incorporated by reference to Exhibit 10.1 to Current Report on Form 8-K filed on September 10, 2004 (File No. 1-11848)*
10.6	Form of RGA Flexible Stock Plan Performance Contingent Share Agreement, incorporated by reference to Exhibit 10.2 to Quarterly Report on Form 10-Q for the period ended March 31, 2012 (File No. 1-11848), filed on May 7, 2012*
10.7	Form of Flexible Stock Plan Stock Appreciation Right Award Agreement, incorporated by reference to Exhibit 10.1 to Current Report on Form 8-K filed on February 25, 2011 (File No. 1-11848)*
10.8	Form of Flexible Stock Plan Stock Appreciation Right Award Agreement, incorporated by reference to Exhibit 10.1 to Quarterly Report on Form 10-Q for the period ended March 31, 2012 (File No. 1-11848), filed on May 7, 2012*
10.9	RGA Flexible Stock Plan, as amended and restated effective May 23, 2017*
10.10	RGA Flexible Stock Plan for Directors, as amended and restated effective May 28, 2003, incorporated by reference to Proxy Statement on Schedule 14A for the annual meeting of shareholders on May 28, 2003, filed on April 10, 2003*
10.11	RGA Flexible Stock Plan for Directors, as amended and restated effective May 23, 2017*
10.12	RGA Phantom Stock Plan for Directors, as amended effective January 1, 2003, incorporated by reference to Proxy Statement on Schedule 14A for the annual meeting of shareholders on May 28, 2003, filed on April 10, 2003*
10.13	RGA Phantom Stock Plan for Directors, as amended and restated effective January 1, 2016, incorporated by reference to Exhibit 10.1 to Quarterly Report on Form 10-Q for the period ended September 30, 2015 (File No. 1-11848), filed on November 4, 2015*

10.14	RGA Phantom Stock Plan for Directors, as amended and restated effective May 23, 2017*
10.15	Offer Letter, dated October 29, 2015, between RGA and Anna Manning, incorporated by reference to Exhibit 10.1 to Current Report on Form 8-K filed on November 24, 2015 (File No. 1-11848)*
10.16	Form of Stock Appreciation Right Award Agreement, effective December 1, 2015, between RGA and Anna Manning, incorporated by reference to Exhibit 10.2 to Current Report on Form 8-K filed on November 24, 2015 (File No. 1-11848)*
10.17	Form of Stock Appreciation Right Award Agreement, effective December 1, 2015, between RGA and Alain Néemeh, incorporated by reference to Exhibit 10.3 to Current Report on Form 8-K filed on November 24, 2015 (File No. 1-11848)*
10.18	Form of Performance Contingent Share Agreement between RGA and A. Greig Woodring, effective March 4, 2016, incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K filed on March 8, 2016 (File No. 1-11848)*
10.19	Letter Agreement, dated December 21, 2016, between RGA and A. Greig Woodring, incorporated by reference to Exhibit 10.2 of Current Report on Form 8-K filed on December 22, 2016 (File No. 1-11848)*
10.20	RGA Reinsurance Company Augmented Benefit Plan, as amended*
10.21	RGA Reinsurance Company Executive Deferred Savings Plan, as amended*
10.22	Canadian Supplemental Executive Retirement Plan for Executive Employees of RGA Life Reinsurance Company of Canada, as amended and restated as of August 1, 2015*
10.23	Directors’ Compensation Summary Sheet*
10.24	Form of Directors’ Indemnification Agreement*
12.1	Ratio of Earnings to Fixed Charges
21.1	Subsidiaries of RGA
23.1	Consent of Deloitte & Touche LLP
24.1	Powers of Attorney for Messrs. Bartlett, Boot, Danahy, Eason, Henderson, Sievert and Tulin and Mses. Detrick and Guinn
31.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002

31.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

* Represents a management contract or compensatory plan or arrangement required to be filed as an exhibit to this form pursuant to Item 15 of this Report.

Exhibit 10.9

REINSURANCE GROUP OF AMERICA, INCORPORATED

FLEXIBLE STOCK PLAN

As Amended and Restated Effective May 23, 2017

REINSURANCE GROUP OF AMERICA, INCORPORATED
FLEXIBLE STOCK PLAN

ARTICLE I

NAME AND PURPOSE

1.1 Name. The name of this Plan is the “Reinsurance Group of America, Incorporated Flexible Stock Plan.”

1.2 Purpose. The Company has established this Plan to attract, retain, motivate and reward Employees and other individuals, to encourage ownership of the Company's Common Stock by Employees and other individuals, and to promote and further the best interests of the Company by granting cash and other awards. The Plan is hereby amended and restated as provided herein.

ARTICLE II

DEFINITIONS OF TERMS AND RULES OF CONSTRUCTION

2.1 General Definitions. The following words and phrases, when used in the Plan, unless otherwise specifically defined or unless the context clearly otherwise requires, shall have the following respective meanings:

(a) Affiliate. Any corporation that is a Subsidiary of the Company or a Subsidiary of a Parent and, for purposes other than the grant of ISOs, any limited liability company, partnership, corporation, joint venture, or any other entity in which the Company or any such Subsidiary owns an equity interest.

(b) Agreement. A written contract entered into between the Company or an Affiliate and a Participant or, in the discretion of the Committee, a written certificate issued by the Company or an Affiliate to a Participant, in either case, containing or incorporating the terms and conditions of a Benefit in such form (not inconsistent with this Plan) as the Committee approves from time to time, together with all amendments thereof, which amendments may be made unilaterally by the Company (with the approval of the Committee) unless such amendments are deemed by the Committee to be materially adverse to the Participant and are not required as a matter of law, or such other relevant written contract entered into between the Company or an Affiliate and a Participant and approved by the Committee.

(c) Benefit. Any benefit granted to a Participant under the Plan.

(d) Board. The Board of Directors of the Company.

(e) Cash Award. A Benefit payable in the form of cash.

(f) Change of Control. The acquisition, without the approval of the Board, by any person or entity, other than the Company or a Related Entity, of more than 20% of the outstanding Shares through a tender offer, exchange offer or otherwise; the liquidation or dissolution of the Company following a sale or other disposition of all or substantially all of its assets; a merger or consolidation involving the Company which results in the Company not being the surviving parent corporation; or any time during any two-year period in which individuals who constituted the Board at the start of such period (or whose election was approved by at least two-thirds of the then members of the Board who were members at the start of the two-year period) do not constitute at least 50% of the Board for any reason. A “Related Entity” is the Parent, a Subsidiary

or any employee benefit plan (including a trust forming a part of such a plan) maintained by the Parent, the Company or a Subsidiary.

(g) Code. The Internal Revenue Code of 1986, as amended and in effect from time to time, or any successor statute. Any reference to the Code includes the regulations promulgated pursuant to the Code.

(h) Company. Reinsurance Group of America, Incorporated, a Missouri corporation, or any successor to all or substantially all of its business by merger, consolidation, purchase of assets or otherwise.

(i) Committee. The Committee described in Section 5.1.

(j) Common Stock. Any class of the Company's common stock or any securities issued in respect thereof by the Company or any successor to the Company as a result of an event described in Section 3.3 or ARTICLE IX hereof.

(k) Effective Date. The date that the Plan, as amended and restated herein, is approved by the shareholders of the Company which must occur within one year before or after approval by the Board.

(l) Employee. Any person employed as either a regular full-time employee or part-time employee by the Employer.

(m) Employer. The Company and all Affiliates.

(n) Exchange Act. The Securities Exchange Act of 1934, as amended.

(o) Fair Market Value. The closing price of a Share on the New York Stock Exchange on a given date, or, in the absence of sales on a given date, the closing price on the New York Stock Exchange on the last day on which a sale occurred prior to such date. If the Shares are not listed on the New York Stock Exchange, Fair Market Value shall be what the Committee determines in good faith to be 100% of the fair market value of a Share on that date. In the case of an ISO, if such determination of Fair Market Value is not consistent with the then current regulations of the Secretary of the Treasury, Fair Market Value shall be determined in accordance with said regulations. The determination of Fair Market Value shall be subject to adjustment as provided in Section 3.3 and ARTICLE IX hereof.

(p) Fiscal Year. The taxable year of the Company which is the calendar year.

(q) ISO. An Incentive Stock Option as defined in Section 422 of the Code, or any successor to such section.

(r) NQSO. A Non-Qualified Stock Option, which is an Option that does not qualify as an ISO.

(s) Option. An option to purchase Shares granted under the Plan.

(t) Parent. Any corporation that is a “parent corporation,” as that term is defined in Section 424(e) of the Code, or any successor provision.

(u) Participant. An individual who is granted a Benefit under the Plan. Benefits may be granted to Employees, consultants and independent contractors of the Company or an Affiliate, in the sole discretion of the Committee.

(v) Performance Share. A Share awarded to a Participant under ARTICLE XVI of the Plan.

(w) Plan. The Reinsurance Group of America, Incorporated Flexible Stock Plan, as amended and restated herein, and all further amendments and supplements to it.

(x) Restricted Stock. Shares issued under ARTICLE XV of the Plan.

(y) RSU. A restricted stock unit, which represents the Participant’s right to receive one Share for each RSU held on the scheduled vesting date or other specified payment date.

(z) Rule 16b-3. Rule 16b-3 promulgated by the SEC under the Exchange Act, as amended, or any successor rule in effect from time to time.

(aa) SEC. The Securities and Exchange Commission.

(ab) Share. A share of Common Stock.

(ac) SAR. A stock appreciation right, which is the right to receive an amount equal to the appreciation, if any, in the Fair Market Value of a Share from the date of the grant of the right to the date of its payment.

(ad) Stock Based Award. An award under ARTICLE XVIII that is valued in whole or in part by reference to, or is otherwise based on, Common Stock.

(ae) Subsidiary. Any corporation that is a "subsidiary corporation," as that term is defined in Section 424(f) of the Code, or any successor provision.

2.2 Other Definitions. In addition to the above definitions, certain words and phrases used in the Plan and any Agreement may be defined in other portions of the Plan or in such Agreement.

2.3 Conflicts in Plan. In the case of any conflict in the terms of the Plan relating to a Benefit, the provisions in the ARTICLE of the Plan which specifically provides for such Benefit shall control those in a different ARTICLE.

ARTICLE III

COMMON STOCK

3.1 Number of Shares. The number of Shares which may be issued or sold or for which Options, SARs, Restricted Stock, RSUs, Performance Shares or other Stock Based Awards may be granted under the Plan shall be 14,960,077 Shares, determined as 1,600,000 Shares available on and after the Effective Date plus the 13,360,077 Shares that were available under the terms of the Plan prior to the Effective Date to the extent such Shares remain outstanding and available or become outstanding and available again hereunder. Such Shares may be authorized but unissued Shares (subject to payment of any required par value), Shares held in the treasury, or both.

3.2 Reusage. If an Option or SAR expires or is terminated, surrendered or cancelled without having been fully exercised, if Restricted Stock, RSUs or Performance Shares are forfeited, or if any other grant results in any Shares not being issued, the Shares covered by such Option or SAR, grant of Restricted Stock, RSUs, Performance Shares or other grant, as the case may be, shall again be available for use under the Plan. In addition, Shares tendered or withheld in payment of the exercise price for an Option or SAR or in satisfaction of withholding taxes for any Benefit shall be available again for use under the Plan.

3.3 Adjustments. If there is any change in the Common Stock of the Company by reason of any extraordinary dividend, stock dividend, spin-off, split-up, spin-out, recapitalization, warrant or rights issuance or combination, exchange or reclassification of shares, merger, consolidation, reorganization, sale of substantially all assets or, in the Committee's sole discretion, other similar or relevant event, then the number, kind and class of shares available for grants of Options, SARs, Restricted Stock, RSUs, Performance Shares and Other Stock Based Awards and the number, kind and class of shares subject to outstanding Options, SARs, grants of Restricted Stock, RSUs and Performance Shares which are not vested, and Other Stock Based Awards, and the price thereof, as applicable, shall be appropriately adjusted by the Committee. The adjustment provisions of this Section 3.3 shall apply to individual limitations under the Plan (e.g., limitations on the number of shares covered by any type of Benefit in any one year period).

3.4 Exclusions from Share Limitation. The following will not be applied to the Share limitations of Section 3.1 above: (a) dividends or dividend equivalents paid in cash in connection with outstanding Benefits, (b) Benefits which by their terms may be settled only in cash, (c) any Shares subject to a Benefit under the Plan which Benefit is forfeited, cancelled, terminated, expires or lapses for any reason, and (d) Shares and any Benefits that are granted through the settlement, assumption, or substitution of

outstanding awards previously granted, or through obligations to grant future awards, as the result of a merger, consolidation, or acquisition of the employing company with or by the Company.

ARTICLE IV

ELIGIBILITY

4.1 Determined By Committee. The Participants and the Benefits they receive under the Plan shall be determined solely by the Committee. In making its determinations, the Committee shall consider past, present and expected future contributions of Participants and potential Participants to the Employer, including, without limitation, the performance of, or the refraining from the performance of, services.

ARTICLE V

ADMINISTRATION

5.1 Committee. The Plan shall be administered by the Compensation Committee of the Board, its successor or such other committee as the Board may designate (the "Committee"). The members of the Committee shall be appointed by and shall serve at the pleasure of the Board, which may from time to time appoint members in substitution for members previously appointed and fill vacancies, however caused, in the Committee. The Committee may select one of its members as its Chairman and shall hold its meetings at such times and places as it may determine. A majority of the Committee's members shall constitute a quorum. All determinations of the Committee shall be made by a majority of its members. Any decision or determination reduced to writing and signed by a majority of the members shall be fully as effective as if it had been made by a majority vote at a meeting duly called and held.

5.2 Authority. Subject to the terms of the Plan, the Committee shall have discretionary authority to:

(a) determine the individuals to whom Benefits are granted, the type and amounts of Benefits to be granted and the time of all such grants;
(b) determine the terms, conditions, provisions and restrictions that may apply to each Benefit granted, which determinations of the terms, conditions, provisions and restrictions need not be uniform among all Participants;
(c) interpret and construe the Plan and all Agreements;
(d) prescribe, amend and rescind rules and regulations relating to the Plan;
(e) determine the content and form of all Agreements;
(f) determine all questions relating to Benefits under the Plan;
(g) make all determinations as to the right to Benefits under the Plan, including the authority to review and approve or deny Participant claims for benefits;
(h) maintain accounts, records and ledgers relating to Benefits;
(i) maintain records concerning its decisions and proceedings;
(j) employ agents, attorneys, accountants or other persons for such purposes as the Committee considers necessary or desirable;
(k) take, at any time, any action permitted by Section 9.1 irrespective of whether any Change of Control has occurred or is imminent;
(l) do and perform all acts which it may deem necessary or appropriate for the administration of the Plan and carry out the purposes of the Plan; and
(m) correct any defect, supply any omission or reconcile any inconsistency in this Plan or in any Benefit in the manner and to the extent it shall deem desirable.

All determinations of the Committee in the administration of this Plan, as described herein, shall be final, binding and conclusive, including, without limitation, as to any adjustments pursuant to Section 3.3.

5.3 Delegation. Except as required by Rule 16b-3 with respect to grants of Options, SARs, Restricted Stock, RSUs, Performance Shares, other Stock Based Awards, or other Benefits to individuals who are subject to Section 16 of the Exchange Act or as otherwise required for compliance with Rule 16b-3, Code Section 162(m), or other applicable law, the Committee may delegate all or any part of its authority under the Plan to any Employee, Employees or committee and may authorize further delegation by such committees to senior managers of the Company, in each case to the extent permitted by Missouri law; provided that, determinations regarding the timing, pricing, amount and terms of any Benefit to a "reporting person" for purposes of Section 16 of the Exchange Act shall be made only by the Committee; and provided further that, no such delegation may be made that would cause Benefits or other transactions under this Plan to cease to be exempt from Section 16(b) of the Exchange Act or cause a Benefit intended to qualify for favorable treatment under Section 162(m) of the Code not to qualify for, or to cease to qualify for, the favorable treatment under Section 162(m) of the Code. Any such delegation may be revoked by the Committee at any time.

5.4 Board Authority. Any authority granted to the Committee may also be exercised by the Board or another committee of the Board, except to the extent that the grant or exercise of such authority would cause any Benefit intended to qualify for favorable treatment under Section 162(m) of the Code to cease to qualify for the favorable treatment under Section 162(m) of the Code. To the extent that any permitted action taken by the Board conflicts with action taken by the Committee, the Board action shall control. Without limiting the generality of the foregoing, to the extent the Board has delegated any authority under this Plan to another committee of the Board, such authority shall not be exercised by the Committee unless expressly permitted by the Board in connection with such delegation.

ARTICLE VI

AMENDMENT

6.1 Power of Board. Except as hereinafter provided, the Board shall have the sole right and power to amend the Plan at any time and from time to time. Except as provided in this ARTICLE VI, the Committee may at any time alter or amend any or all Agreements under this Plan to the extent permitted by law and subject to the requirements of Section 2.1(b), in which event, as provided in Section 2.1(b), the term "Agreement" shall mean the Agreement as so amended. No termination, suspension or modification of this Plan may materially and adversely affect any right acquired by any Participant (or a Participant's legal representative) or any successor or permitted transferee under a Benefit granted before the date of termination, suspension or modification, unless otherwise provided in an Agreement or otherwise or required as a matter of law. It is conclusively presumed that any adjustment for changes in capitalization in accordance with Section 3.3 or Appendix A hereof does not adversely affect any right of a Participant or other person under a Benefit.

6.2 Limitation. The Board may not amend the Plan, without approval of the shareholders of the Company:

(a) in a manner which would cause Options which are intended to qualify as ISOs to fail to qualify;
(b) in a manner which would cause the Plan to fail to meet the requirements of Rule 16b-3 or Code Section 162(m); or
(c) in a manner which would violate applicable law, regulation or stock exchange requirement.

ARTICLE VII

TERM AND TERMINATION

7.1 Term. The original effective date of the Plan was January 1, 1997 and the Plan as Amended and Restated herein shall commence as of the Effective Date and, subject to the terms of the Plan, including those requiring approval by the shareholders of the Company and those limiting the period over which ISOs or any other Benefits may be granted, shall continue in full force and effect until terminated.

7.2 Termination. The Plan will terminate automatically on May 23, 2022. In addition, the Plan may be terminated at any time by the Board. The Plan will remain in effect with respect to outstanding Benefits until no Benefits remain outstanding.

ARTICLE VIII

MODIFICATION OR TERMINATION OF BENEFITS

8.1 General. Subject to the provisions of Section 8.2, the amendment or termination of the Plan shall not adversely affect a Participant's right to any Benefit granted prior to such amendment or termination.

8.2 Committee's Right. Any Benefit granted may be converted, modified, forfeited or cancelled, in whole or in part, by the Committee if and to the extent permitted in the Plan or applicable Agreement or with the consent of the Participant to whom such Benefit was granted. The Committee may, for such consideration (if any) as it may deem adequate and with the prior consent of the Participant, modify the terms of an outstanding Option or SAR; provided, however, that except to the extent permitted by Section 8.3, no Option or SAR may be repriced, replaced or regranted through cancellation, or by lowering the exercise price of such Benefit, and no such Benefit with an exercise price that exceeds Fair Market Value of a share of Common Stock shall be canceled, purchased or exchanged for a cash payment, without shareholder approval.

8.3 Special Modification in the Event of a Corporate Transaction. In the event of a corporate transaction (within the meaning of Treas. Reg. § 1.424-1(a)(3)), the Committee may provide for the assumption or substitution of outstanding Options or SARs, provided that the requirements of Treas. Reg. § 1.424- 1(a) are satisfied with respect to ISOs, and the requirements of Treas. Reg. § 1.409A- 1(b)(v)(D) are satisfied with respect to all other Options.

8.4 No Discounted Options or SARs; No Repricing. Options and SARs may not be granted with an exercise price lower than the Fair Market Value of the underlying Shares on the grant date (except to the extent awards are assumed or substituted in connection with a corporate transaction as described in Section 8.3). The exercise price of an Option or SAR shall not be reduced after grant, including by reason of cancellation, cash buyout or exchange of an underwater Option or SAR, without shareholder approval.

ARTICLE IX

CHANGE OF CONTROL

9.1 Right of Committee. In order to maintain a Participant's rights in the event of a Change in Control, the Committee, in its sole discretion, may, in any Agreement evidencing a Benefit, or at any time prior to, or simultaneously with or after a Change in Control, provide such protection as it may deem necessary.

Without, in any way, limiting the generality of the foregoing provisions or requiring any specific protection, the Committee may:

(a) provide for the acceleration of any time periods relating to the exercise or realization of such Benefit so that such Benefit may be exercised or realized in full on or before a date fixed by the Committee;

(b) provide for the purchase of such Benefit, upon the Participant's request, for an amount of cash equal to the amount which could have been attained upon the exercise or realization of such Benefit had such Benefit been currently exercisable or payable;

(c) make such adjustment to the Benefits then outstanding as the Committee deems appropriate to reflect such transaction or change; and/or

(d) cause the Benefits then outstanding to be assumed, or new Benefits substituted therefor, by the surviving corporation in such change.

ARTICLE X

AGREEMENTS AND CERTAIN BENEFITS

10.1 Grant Evidenced by Agreement. The grant of any Benefit under the Plan may be evidenced by an Agreement which shall describe the specific Benefit granted and the terms and conditions of the Benefit. The granting of any Benefit may be subject to, and conditioned upon, the recipient's execution of any Agreement to the extent required by the Committee. All capitalized terms used in an Agreement shall have the same meaning as in the Plan, except as otherwise provided in the Agreement. An Agreement shall be subject to all of the terms of the Plan.

10.2 Provisions of Agreement. Each Agreement shall contain such provisions that the Committee shall determine to be necessary, desirable and appropriate for the Benefit granted which may include, but not be limited to, the following with respect to any Benefit: description of the type of Benefit; the Benefit's duration; its transferability; if an Option, the exercise price, the exercise period and the person or persons who may exercise the Option; the effect upon such Benefit of the Participant's death or termination of employment; the Benefit's conditions; when, if, and how any Benefit may be forfeited, converted into another Benefit, modified, exchanged for another Benefit, or replaced; and the restrictions on any Shares purchased or granted under the Plan.

10.3 Certain Benefits. Except as otherwise expressly provided in an Agreement, any Benefit granted to an individual who is subject to Section 16 of the Exchange Act shall not be transferable other than by will or the laws of descent and distribution and shall be exercisable during his lifetime only by him, his guardian or his legal representative.

10.4 Minimum Vesting. Notwithstanding anything herein to the contrary, except with respect to an aggregate of up to 5% of the Shares available pursuant to Article III of the Plan for Benefits granted on or following May 23, 2017, no Benefit will become exercisable or otherwise nonforfeitable unless such Benefit has been outstanding for a minimum period of one year from its date of grant; provided, that all awards of Restricted Stock or Shares shall become nonforfeitable after a minimum period of one year from their dates of grant. Notwithstanding the foregoing, the vesting of a Benefit may be accelerated in the Committee’s sole discretion in the case of the Participant’s death, disability or retirement or upon a Change of Control.

ARTICLE XI

TANDEM AWARDS

11.1 Tandem Awards. Awards may be granted by the Committee in tandem. However, no Benefit may be granted in tandem with an ISO except SARs.

ARTICLE XII

PAYMENT, DIVIDENDS, DEFERRAL AND WITHHOLDING

12.1 Payment. Upon the exercise of an Option or in the case of any other Benefit that requires a payment to the Company, the amount due the Company is to be paid:

(a) in cash;
(b) by the tender to the Company of Shares owned by the Participant and registered in his name having a Fair Market Value equal to the amount due to the Company;
(c) in other property, rights and credits, including the Participant's promissory note if permitted under applicable law;
(d) by net exercise; or
(e) by any combination of the payment methods specified in (a), (b), (c) and (d) above.

Notwithstanding the foregoing, any method of payment other than cash may be used only with the consent of the Committee or if and to the extent so provided in an Agreement. The proceeds of the sale of Common Stock purchased pursuant to an Option and any payment to the Company for other Benefits shall be added to the general funds of the Company or to the Shares held in treasury, as the case may be, and used for the corporate purposes of the Company as the Board shall determine.

12.2 Dividend Equivalents. Grants of Benefits in Shares or Share equivalents may include dividend equivalent payments or dividend credit rights. The payment of dividend equivalents or dividend credits attributable to an unvested Benefit is not permitted during the period in which the Benefit is unvested. Dividend equivalents and dividend credits may be accumulated during the vesting period of the underlying Benefit and paid out only to the extent the Benefit has vested. Additionally, Participants holding Options or SARs shall not be granted dividend equivalents or dividend credits for any period prior to the exercise of such Option or SAR. While RSUs or other Benefits may be granted with dividend equivalent rights, any dividend equivalents with respect to RSUs or other Benefits that are earned based on the achievement of performance goals will be accumulated until the underlying stock units are earned, and such dividend equivalents will not be paid if the performance goals are not satisfied.

12.3 Deferral. The right to receive any Benefit under the Plan may, at the request of the Participant, be deferred for such period and upon such terms as the Committee shall determine, which may include crediting of interest on deferrals of cash and crediting of dividends on deferrals denominated in Shares.

12.4 Withholding. The Company, at the time any distribution is made under the Plan, whether in cash or in Shares, may withhold from such distribution any amount necessary to satisfy federal, state and local income tax withholding requirements with respect to such distribution. Such withholding may be in cash or in Shares.

ARTICLE XIII

OPTIONS

13.1 Types of Options. It is intended that both ISOs and NQSOs may be granted by the Committee under the Plan, with terms not in excess of ten years. In no event may Options known as “reload options” or other automatic grants to Participants be granted under the Plan.

13.2 Shares for ISOs. The number of Shares for which ISOs may be granted on or after the Effective Date shall not exceed 150,000 Shares.

13.3 Grant of ISOs and Option Price. Each ISO must be granted to an Employee and granted within ten years from the Effective Date. The purchase price for Shares under any ISO shall be no less than the Fair Market Value of the Shares at the time the Option is granted.

13.4 Other Requirements for ISOs. The terms of each Option which is intended to qualify as an ISO shall meet all requirements of Section 422 of the Code.

13.5 NQSOs. The terms of each NQSO shall provide that such Option will not be treated as an ISO. The purchase price for Shares under any NQSO shall be equal to or greater than the Fair Market Value of the Shares at the time the Option is granted.

13.6 Determination by Committee. Except as otherwise provided in Section 13.2 through Section 13.5, the terms of all Options shall be determined by the Committee.

13.7 Limitation on Shares Covered by Options. The maximum number of Shares with respect to which Options may be granted to any Participant in any one year period shall not exceed 200,000 shares. For purposes of the preceding sentence, the Shares covered by an Option that is cancelled shall count against the maximum number of Shares.

ARTICLE XIV

SARS

14.1 Grant and Payment. The Committee may grant SARs. Upon electing to receive payment of a SAR, a Participant shall receive payment in cash, in Common Stock or in any combination of cash and Common Stock, as the Committee shall determine.

14.2 Grant of Tandem Award. The Committee may grant SARs in tandem with an Option, in which case: the exercise of the Option shall cause a correlative reduction in SARs standing to a Participant's credit which were granted in tandem with the Option; and the payment of SARs shall cause a correlative reduction of the Shares under such Option.

14.3 ISO Tandem Award. When SARs are granted in tandem with an ISO, the SARs shall have such terms and conditions as shall be required for the ISO to qualify as an ISO.

14.4 Payment of Award. SARs shall be paid, to the extent payment is elected by the Participant (and is otherwise due and payable), as soon as practicable after the date on which such election is made.

14.5 Limitation on SARs. The maximum number of SARs which may be granted to any Participant in any one year period shall not exceed 200,000 SARs. For purposes of the preceding sentence, any SARs that are cancelled shall count against the maximum number of SARs.

ARTICLE XV

RESTRICTED STOCK

15.1 Description. The Committee may grant Benefits in Shares available under ARTICLE III of the Plan as Restricted Stock. Shares of Restricted Stock shall be issued and delivered at the time of the grant but shall be subject to forfeiture until provided otherwise in the applicable Agreement or the Plan. Each certificate representing Shares of Restricted Stock shall bear a legend referring to the Plan and the risk of forfeiture of the Shares and stating that such Shares are nontransferable until all restrictions have been satisfied and the legend has been removed. The recipient shall be entitled to full voting and dividend rights with respect to all shares of Restricted Stock from the date of grant; provided, however, that dividend payment amounts may be accumulated during the vesting period and paid out only to the extent the Restricted Stock has vested.

15.2 Non-Transferability. Shares of Restricted Stock shall not be transferable until after the removal of the legend with respect to such Shares.

15.3 Limitation on Restricted Stock. The maximum number of Shares with respect to which Restricted Stock may be granted to any Participant in any one year period shall not exceed 200,000 Shares.

ARTICLE XVI

RSUs

16.1 Description. An RSU represents the right to receive one Share of Common Stock on the scheduled vesting date or other specified payment date as provided for in the applicable award Agreement. A Participant receiving RSUs will have no rights of a shareholder as to such RSU until such time as Shares are issued to the Participant.

16.2 Grant. The Committee may grant an award of RSUs. The maximum number of Shares with respect to which RSUs may be granted to any Participant in any one year period shall not exceed 200,000 Shares.

ARTICLE XVII

PERFORMANCE SHARES

17.1 Description. Performance Shares are the right of an individual to whom a grant of such Shares is made to receive Shares or cash equal to the Fair Market Value of such Shares at a future date in accordance with the terms of such grant. Generally, such right shall be based upon the attainment of targeted profit and/or performance objectives.

17.2 Grant. The Committee may grant an award of Performance Shares. The number of Performance Shares and the terms and conditions of the grant shall be set forth in the applicable Agreement. The maximum number of Shares with respect to which Performance Shares may be granted to any Participant in any one year period shall not exceed 200,000 Shares.

ARTICLE XVIII

CASH AWARDS

18.1 Grant. The Committee may grant Cash Awards at such times and (subject to Section 18.2) in such amounts as it deems appropriate.

18.2 Limitation on Amount. The maximum amount of all Cash Awards that may be granted to any Participant in any one year period shall not exceed $2,000,000.

18.3 Restrictions. Cash Awards may be subject or not subject to conditions (such as an investment requirement), restricted or nonrestricted, vested or subject to forfeiture and may be payable currently or in the future or both.

ARTICLE XIX

STOCK BASED AWARDS AND OTHER BENEFITS

19.1 Stock Based Awards. The Committee shall have the right to grant other Stock Based Awards which may include, without limitation, the grant of Shares based on certain conditions, the payment of cash based on the performance of the Common Stock, and the grant of securities convertible into Shares.

19.2 Limitation on Other Stock Based Awards. The maximum number of Shares with respect to which any Other Stock Based Award may be granted to any Participant in any one year period is 200,000 Shares in the aggregate.

19.3 Other Benefits. The Committee shall have the right to provide types of Benefits under the Plan in addition to those specifically listed, if the Committee believes that such Benefits would further the purposes for which the Plan was established.

ARTICLE XX

MISCELLANEOUS PROVISIONS

20.1 Underscored References. The underscored references contained in the Plan are included only for convenience, and they shall not be construed as a part of the Plan or in any respect affecting or modifying its provisions.

20.2 Number and Gender. The masculine and neuter, wherever used in the Plan, shall refer to either the masculine, neuter or feminine; and, unless the context otherwise requires, the singular shall include the plural and the plural the singular.

20.3 Governing Law/Venue. This Plan shall be construed and administered in accordance with the laws of the State of Missouri, without giving regard to the conflict of laws provisions thereof. Any legal action against the Plan, the Company, an Affiliate, the Board, or the Committee may only be brought in the Circuit Court in St. Louis County and/or the United States District Court in St. Louis, Missouri.

20.4 Purchase for Investment. The Committee may require each person purchasing Shares pursuant to an Option or other award under the Plan to represent to and agree with the Company in writing that such person is acquiring the Shares for investment and without a view to distribution or resale. The certificates for such Shares may include any legend which the Committee deems appropriate to reflect any

restrictions on transfer. All certificates for Shares delivered under the Plan shall be subject to such stock-transfer orders and other restrictions as the Committee may deem advisable under all applicable laws, rules and regulations, and the Committee may cause a legend or legends to be put on any such certificates to make appropriate references to such restrictions.

20.5 No Employment Contract. The adoption of the Plan shall not confer upon any Employee any right to continued employment nor shall it interfere in any way with the right of the Employer to terminate the employment of any of its Employees at any time.

20.6 No Effect on Other Benefits. Payments and other benefits received by a Participant under a Benefit shall not be deemed a part of a Participant's regular, recurring compensation for purposes of any termination, indemnity or severance pay laws and shall not be included in, nor have any effect on, the determination of benefits under any other employee benefit plan, contract or similar arrangement provided by the Company or an Affiliate, unless expressly so provided by such other plan, contract or arrangement or the Committee determines that a Benefit or portion of a Benefit should be included to reflect competitive compensation practices or to recognize that a Benefit has been made in lieu of a portion of competitive cash compensation. The receipt by a Participant of one type of grant shall not entitle the Participant to receipt of any other type of grant.

20.7 Performance Benefits. The Committee, in its discretion, may condition any of the Benefits upon achievement of one or more performance goals, as further described in Appendix A hereto.

20.8 Clawback. If a Participant is or subsequently becomes subject to the Company's Executive Incentive Recoupment Policy, or a similar clawback policy that may be adopted in the future including, without limitation, any changes required to comply with the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Policy"), all or a portion of each Benefit granted to such Participant will be subject to potential recoupment upon the occurrence of certain recoupment events and the Committee shall have discretion regarding application of the Policy to Benefits granted under this Plan.

20.9 Rights as Shareholders. A Participant shall have no right as a shareholder with respect to any Shares covered by a Benefit until the date the Participant becomes the holder of record of such Shares.

20.10 Date of Grant. The date and time of approval by the Committee of the granting of a Benefit shall be considered the date and time at which such Benefit is made or granted, or such later effective date as determined by the Committee, notwithstanding the date of any Agreement with respect to such Benefit; provided, however, that the Committee may grant Benefits other than ISOs to Employees or to persons who are about to become Employees, to be effective and deemed to be granted on the occurrence of certain specified contingencies, provided that if the Benefit is granted to a non-Employee who is about to become an Employee, such specified contingencies shall include, without limitation, that such person becomes an Employee.

20.11 Beneficiary Upon Participant's Death. To the extent that the transfer of a Participant's Benefit at death is permitted by this Plan or under an Agreement, (a) a Participant's Benefit shall be transferable to the beneficiary, if any, designated on forms prescribed by and filed with the Committee and (b) upon the death of the Participant, such beneficiary shall succeed to the rights of the Participant to the extent permitted by law and this Plan. If no such designation of a beneficiary has been made, the Participant's legal representative shall succeed to the Benefits, which shall be transferable by will or pursuant to laws of descent and distribution to the extent permitted by this Plan or under an Agreement.

20.12 Unfunded Plan. This Plan shall be unfunded and the Company shall not be required to segregate any assets that may at any time be represented by Benefits under this Plan. Neither the Company, its Affiliates, the Committee, nor the Board shall be deemed to be a trustee of any amounts to be paid under this Plan nor shall anything contained in this Plan or any action taken pursuant to its provisions create or be construed to create a fiduciary relationship between the Company and/or its Affiliates and a Participant or successor. To the extent any person acquires a right to receive a Benefit under this Plan, such right shall be no greater than the right of an unsecured general creditor of the Company.

20.13 Severability. In the event any provision of this Plan shall be held illegal or invalid for any reason, the illegality or invalidity shall not affect the remaining parts of this Plan, and this Plan shall be construed and enforced as if the illegal or invalid provision had not been included.

20.14 Deferrals and Settlements. The Committee may require or permit Participants to elect to defer the issuance of Shares or the settlement of Benefits in cash under such rules and procedures as it may establish under this Plan. It may also provide that deferred settlements include the payment or crediting of interest on the deferral amounts.

20.15 Limits of Liability. Under the Plan: (a) any liability of the Company to any Participant with respect to a Benefit shall be based solely upon contractual obligations created by this Plan and the Agreement; (b) except as may be required by law, neither the Company nor any member or former member of the Board or the Committee, nor any other person participating (including participation pursuant to a delegation of authority under Section 5.3 hereof) in any determination of any question under this Plan, or in the interpretation, administration or application of this Plan, shall have any liability to any party for any action taken, or not taken, in good faith under this Plan; and (c) to the full extent permitted by law, each member and former member of the Committee and each person to whom the Committee delegates or has delegated authority under this Plan shall be entitled to indemnification by the Company against any loss, liability, judgment, damage, cost and reasonable expense incurred by such member, former member or other person by reason of any action taken, failure to act or determination made in good faith under or with respect to this Plan.

20.16 Employees Employed in Foreign Jurisdictions; Sub-Plans. In order to enable participants who are foreign nationals or employed outside the United States, or both, to receive Benefits under the Plan, the Committee may adopt such amendments, administrative policies, sub-plans and the like as are necessary or advisable, in the opinion of the Committee, to effectuate the purposes of the Plan and achieve favorable tax treatment or facilitate compliance under the laws of the applicable foreign jurisdiction without otherwise violating the terms of the Plan. Therefore, to the extent the Committee determines that the restrictions imposed by this Plan preclude the achievement of material purposes of the Benefits in jurisdictions outside of the United States, the Committee has the authority and discretion to modify those restrictions as the Committee determines to be necessary or appropriate to conform to applicable requirements or practices of jurisdictions outside of the United States. The Committee may from time to time establish sub-plans under the Plan for purposes of satisfying blue sky, securities, tax or other laws of various jurisdictions in which the Company intends to grant Awards. Any sub-plans shall contain such limitations and other terms and conditions as the Committee determines are necessary or desirable. All sub-plans shall be deemed a part of the Plan, but each sub-plan shall apply only to the Participants in the jurisdiction for which the sub-plan was designed.

Appendix A

All Performance Shares granted pursuant to Article XVI of this Plan, and any other compensation granted pursuant to this Plan that is intended to constitute performance based compensation within the meaning of Section 162(m)(4)(C) of the Code, shall be subject to attainment of one or more of the performance objectives as described in this Appendix A. This Appendix A sets forth all applicable performance objectives upon which a grant of Performance Shares under Sections 16.1 and 16.2 of the Plan or any other Benefit may be conditioned.

The performance objectives for a particular Benefit shall be established in writing in the applicable Agreement. The performance objectives may be expressed in terms of overall Company performance or the performance of a Subsidiary, division, business unit, or an individual. The performance objectives may be stated in terms of absolute levels or relative to another company or companies or to an index or indices or industry benchmarks, or relative to levels attained in prior years.

The performance objectives shall be based upon any one or more of the performance criteria set forth below and shall not be based on any other formal or informal performance criteria:

- operating earnings or income; operating earnings or income per share; net income; total or net revenues; operating revenue, gross or net premiums; shareholder return and/or value; retained earnings; book value or book value per share; gross or net margin; profit returns and margins; operating or net cash flow; financial return ratios; return on equity or operating return on equity; return on average adjusted equity; relative return on equity; cumulative operating revenue growth rate; return on assets; return on invested capital; earnings per share growth; change in embedded value; embedded value of new business;
- budget achievement; expenses; expense control; market capitalization; stock price; market share; working capital; cash available to Company from a subsidiary or subsidiaries; dividends; ratings; business trends; economic value added; and
- product development; client development; leadership; project progress; project completion; quality; customer satisfaction; diversity and corporate governance.

Any Benefits that the Committee determines, in its sole discretion, to grant subject to performance objectives under this Appendix A shall be granted in accordance with the following procedures: No later than the 90th day of each performance year, the Committee will establish an objective performance goal for that performance year and while the outcome of whether or not those goals will be achieved is substantially uncertain. However, in no event will such goals be established after 25% of the period of service to which the goals relate has elapsed. The Committee must certify the attainment of the applicable performance goal, to the extent achieved, before an award is made. The Committee may decrease the actual award amount paid to a Participant for any performance year based on such secondary goals and considerations as may be determined by the Committee in its sole discretion. The Committee will not change the material terms of the performance goals or the maximum amount payable with respect to any award to an individual covered by Section 162(m) of the Code, without first obtaining shareholder approval.

The Committee may determine, prior to the date the performance criteria are established in writing, to provide for adjustment of the performance criteria to the extent permitted under Code Section 162(m), to account for the effects of: (i) acquisitions; divestitures; extraordinary dividends; stock split-ups; stock dividends or distributions; recapitalizations; warrants or rights issuances or combinations; exchanges or reclassifications with respect to any outstanding class or series of the Company’s common stock; (ii) a corporate transaction, such as any merger of the Company with another corporation; any consolidation of the Company and another corporation into another corporation; any separation of the Company or its business

units (including a spin-off, split-off or other distribution of stock or property by the Company); any reorganization of the Company (whether or not such reorganization comes within the definition of such term in Code Section 368); (iii) any partial or complete liquidation by the Company; sale of all or substantially all of the assets of the Company; (iv) the impact of changes in tax rates or currency fluctuations; unusual or non-recurring accounting impacts or changes in accounting standards or treatment; (v) expenditures outside of annual business plans; events such as sales or closing of facilities or operations; business restructurings; and (vi) unusual or extraordinary items. The performance criteria may be applicable to the Company and/or any of its subsidiaries or individual business units and may differ from participant to participant.

Exhibit 10.11

REINSURANCE GROUP OF AMERICA, INCORPORATED
FLEXIBLE STOCK PLAN FOR DIRECTORS
As Amended and Restated Effective May 23, 2017

REINSURANCE GROUP OF AMERICA, INCORPORATED
FLEXIBLE STOCK PLAN FOR DIRECTORS

ARTICLE I

NAME AND PURPOSE

1.1 Name. The name of this plan shall be the Flexible Stock Plan for Directors of Reinsurance Group of America, Incorporated (the "Plan").

1.2 Purpose. The purpose of the Plan is to encourage the highest level of director performance by members of the Board of Directors of Reinsurance Group of America, Incorporated by providing certain outside directors with compensation based in part on the value of the Company's Common Stock. The Plan is hereby amended and restated as provided herein.

ARTICLE II

DEFINITIONS OF TERMS AND RULES OF CONSTRUCTION

2.1 General Definitions. The following words and phrases, when used in the Plan, unless otherwise specifically defined or unless the context clearly otherwise requires, shall have the following respective meanings:

(a) Affiliate. A Parent or Subsidiary of the Company, a Subsidiary of a Parent and any limited liability company, partnership, corporation, joint venture, or any other entity in which the Company or any such Subsidiary owns an equity interest.

(b) Agreement. A written contract entered into between the Company or an Affiliate and a Participant or, in the discretion of the Board, a written certificate issued by the Company or an Affiliate to a Participant, in either case, containing or incorporating the terms and conditions of a Benefit in such form (not inconsistent with this Plan) as the Board approves from time to time, together with all amendments thereof, which amendments may be made unilaterally by the Company (with the approval of the Board) unless such amendments are deemed by the Board to be materially adverse to the Participant and are not required as a matter of law, or such other relevant written contract entered into between the Company or an Affiliate and a Participant and approved by the Board.

(c) Benefit. Any benefit granted to a Participant under the Plan.

(d) Board. The Board of Directors of the Company.

(e) Change of Control. The acquisition, without the approval of the Board, by any person or entity, other than the Company or a Related Entity, of more than 20% of the outstanding Shares through a tender offer, exchange offer or otherwise; the liquidation or dissolution of the Company following a sale or other disposition of all or substantially all of its assets; a merger or consolidation involving the Company which results in the Company not being the surviving parent corporation; or any time during any two-year period in which individuals who constituted the Board at the start of such period (or whose election was approved by at least two-thirds of the then members of the Board who were members at the start of the two-year period) do not constitute at least 50% of the Board for any reason. A “Related Entity” is the Parent, a Subsidiary or any employee benefit plan (including a trust forming a part of such a plan) maintained by the Parent, the Company or a Subsidiary.

(f) Code. The Internal Revenue Code of 1986, as amended and in effect from time to time, or any successor statute. Any reference to the Code includes the regulations promulgated pursuant to the Code.

(g) Company. Reinsurance Group of America, Incorporated, a Missouri corporation, or any successor to all or substantially all of its business by merger, consolidation, purchase of assets or otherwise.

(h) Common Stock. The Company's common stock, par value $.01 per share, or any securities issued in respect thereof by the Company or any successor to the Company as a result of an event described in Section 3.3 or ARTICLE VII hereof.

(i) Date of Grant. The date on which a Benefit is granted under the Plan, which shall be no later than the date on which the Board approves such Benefit. If the Board approves the award of any Benefit that is to be granted on a future date or upon the occurrence of a future event (such as a Board meeting), the Date of Grant of such Benefit shall be such future date or the date on which such event occurs.

(j) Disability. A physical or mental condition arising on or after the effective date of the Plan which, in the opinion of a qualified doctor of medicine chosen by the Company, permanently prevents a Participant from carrying out his or her duties as a member of the Board.

(k) Effective Date. The date that the Plan, as amended and restated herein, is approved by the shareholders of the Company, which must occur within one year before or after approval by the Board.

(l) Exchange Act. The Securities Exchange Act of 1934, as amended.

(m) Fair Market Value. The closing price of a Share on the New York Stock Exchange on a given date, or, in the absence of sales on such date, the closing price on the New York Stock Exchange on the last day on which a sale occurred prior to such date. If the Shares are not listed on the New York Stock Exchange, Fair Market Value shall be what the Board determines in good faith to be 100% of the fair market value of a Share on that date. The determination of Fair Market Value shall be subject to adjustment as provided in Section 3.3 and ARTICLE VII hereof.

(n) Malfeasance. (1) Conduct, act or omissions which are contrary to a Participant's duties as a member of the Board or contrary to the best interests of the Company or any of its Affiliates, or which permit removal of a Participant from the Board for cause as provided in the Company's bylaws or (2) employment of a Participant by or association of a Participant with an organization which competes with the business of the Company or any of its Affiliates.

(o) Non-Employee Director. A member of the Board who is not an officer or employee of the Company or any of its Affiliates.

(p) Option. An option to purchase Shares granted under the Plan.

(q) Parent. Any corporation that is a “parent corporation,” as that term is defined in Section 424(e) of the Code, or any successor provision.

(r) Participant. An individual who is granted a Benefit under the Plan. Benefits may be granted only to persons who are Non-Employee Directors at the time of grant in the sole discretion of the Board.

(s) Performance Unit. A hypothetical Share of Common Stock allocated to a Participant on the Company's records based on the Fair Market Value of the Common Stock as of the Date of Grant. One Performance Unit entitles the individual to whom it is granted to receive one Share or cash equal to the Fair Market Value of one Share at a future date in accordance with the terms of such grant.

(t) Plan Year. The taxable year of the Company, which is currently the calendar year.

(u) Restricted Stock. Shares of Common Stock that are subject to forfeiture until provided otherwise in the applicable Agreement or the Plan or as legended on the certificate representing such Shares.

(v) Retirement. Retirement of a Participant as a member of the Board, other than for failure to be renominated or reelected due to Malfeasance.

(w) Rule 16b-3. Rule 16b-3 promulgated by the SEC under the Exchange Act, as amended, or any successor rule in effect from time to time.

(x) SEC. The Securities and Exchange Commission.

(y) Share. A share of Common Stock.

(z) Stock Based Award. An award of Common Stock (including Restricted Stock), Options, Performance Units, or other Benefit granted under ARTICLE XlIl that is valued in whole or in part by reference to, or is otherwise based on, Common Stock.

(aa) Subsidiary. Any corporation that is a "subsidiary corporation," as that term is defined in Section 424(f) of the Code, or any successor provision.

2.2 Other Definitions. In addition to the above definitions, certain words and phrases used in the Plan and any Agreement may be defined in other portions of the Plan or in such Agreement.

2.3 Conflicts in Plan. In the case of any conflict in the terms of the Plan relating to a Benefit, the provisions in the ARTICLE of the Plan which specifically provides for such Benefit shall control those in a different ARTICLE.

ARTICLE lIl

COMMON STOCK

3.1 Number of Shares. The number of Shares which may be issued or sold or for which other Stock Based Awards may be granted under the Plan shall be 282,500 Shares. Such Shares may be authorized but unissued Shares (subject to payment of any required par value), Shares held in the treasury, or both. The maximum dollar amount with respect to which Benefits may be granted to any Participant under the Plan in any one year period shall not exceed $900,000. Pursuant to Section 9.3 of the Plan, any Shares subject to a Participant's election pursuant to Section 9.3 of this Plan generally shall not be counted against the Share reserve of this Plan and shall, instead, count against Shares granted pursuant to the Phantom Stock Plan for Directors of Reinsurance Group of America, Incorporated as amended from time to time ("Phantom Plan").

3.2 Reusage. If an Option expires or is terminated, surrendered or canceled without having been fully exercised, if Restricted Stock or Performance Units are forfeited, or if any other grant results in any Shares not being issued, the Shares covered by such Option, grant of Restricted Stock, Performance Units or other grant, as the case may be, shall again be available for use under the Plan. In addition, Shares tendered or withheld in payment of the exercise price for Options or in satisfaction of withholding taxes for any Benefit shall be available again for use under the Plan.

3.3 Adjustments. If there is any change in the Common Stock of the Company by reason of any extraordinary dividend, stock dividend, spin-off, split-up, spin-out, recapitalization, warrant or rights issuance or combination, exchange or reclassification of shares, merger, consolidation, reorganization, sale of substantially all assets or in the Board's sole discretion, other similar or relevant event, then the number, kind and class of shares available for Stock Based Awards and the number, kind and class of shares subject to outstanding Stock Based Awards, and the price thereof, as applicable, shall be appropriately adjusted by the Board. The adjustment provisions of this Section 3.3 shall apply to individual limitations under the Plan (e.g., limitations on the number of shares covered by any type of Benefit in any one year period).

3.4 Exclusions from Share Limitation. The following will not be applied to the Share limitations of Section 3.1 above: (i) dividends or dividend equivalents paid in cash in connection with outstanding Benefits; (ii) Benefits which by their terms may be settled only in cash; (iii) any Shares subject to a Benefit under the Plan which Benefit is forfeited, cancelled, terminated, expires or lapses for any reason; and (iv) Shares and any Benefits that are granted through the settlement, assumption, or substitution of outstanding

awards previously granted, or through obligations to grant future awards, as the result of a merger, consolidation, or acquisition of the employing company with or by the Company.

ARTICLE IV

ADMINISTRATION

4.1 Board. The Plan shall be administered by the Board. All determinations of the Board, in its sole discretion, shall be conclusive.

4.2 Authority. Subject to the terms of the Plan, and in particular Section 4.3, the Board shall have the sole discretionary authority to:

(a) determine the individuals to whom Benefits are granted, the type and amounts of Benefits to be granted and the time of all such grants;

(b) determine the terms, conditions, provisions and restrictions that may apply to each Benefit granted, which determinations of the terms, conditions, provisions and restrictions need not be uniform among all Participants;

(c) interpret and construe the Plan and all Agreements;

(d) prescribe, amend and rescind rules and regulations relating to the Plan;

(e) determine the content and form of all Agreements;

(f) determine all questions relating to Benefits under the Plan;

(g) make all determinations as to the right to Benefits under the Plan, including the authority to review and approve or deny Participant claims for benefits;

(h) maintain accounts, records and ledgers relating to Benefits;

(i) maintain records concerning its decisions and proceedings;

(j) employ agents, attorneys, accountants or other persons for such purposes as the Board considers necessary or desirable;

(k) take, at any time, any action permitted by Section 7.1 irrespective of whether any Change of Control has occurred or is imminent;

(l) do and perform all acts which it may deem necessary or appropriate for the administration of the Plan and to carry out the purposes of the Plan; and

(m) correct any defect, supply any omission or reconcile any inconsistency in this Plan or in any Benefit in the manner and to the extent it shall deem desirable.

All determinations of the Board in the administration of this Plan, as described herein, shall be final, binding and conclusive, including, without limitation, as to any adjustments pursuant to Section 3.3. In exercising such authority, the Board may obtain such advice or assistance as it deems appropriate from persons not serving on the Board.

ARTICLE V

AMENDMENT

5.1 Power of Board. Except as hereinafter provided and subject to Section 5.2, the Board shall have the sole right and power to amend the Plan at any time and from time to time. Except as provided in this ARTICLE V, the Board may at any time alter or amend any or all Agreements under this Plan to the extent permitted by law and subject to the requirements of Section 2.1(b), in which event, as provided in Section 2.1(b), the term "Agreement" shall mean the Agreement as so amended. No termination, suspension or modification of this Plan may materially and adversely affect any right acquired by any Participant (or a Participant's legal representative) or any successor or permitted transferee under a Benefit granted before the date of termination, suspension or modification, unless otherwise provided in an Agreement or otherwise or required as a matter of law. It is conclusively presumed that any adjustment for changes in capitalization provided for in Sections 3.3 hereof does not adversely affect any right of a Participant or other person under a Benefit.

5.2 Limitation. The Board may not amend the Plan (i) without approval of the shareholders of the Company if shareholder approval would be required for such an amendment under the rules of the New York Stock Exchange or (ii) in a manner that would violate applicable law.

ARTICLE Vl

TERM. TERMINATION. MODIFICATION AND REPLACEMENT

6.1 Term. The original effective date of the Plan was January 1, 1997 and the Plan as Amended and Restated herein shall commence on the Effective Date, subject to the terms of the Plan, including those requiring approval by the shareholders of the Company and those limiting the period over which any Benefits may be granted, shall continue in full force and effect until terminated.

6.2 Termination. The Plan will terminate automatically on May 23, 2027. In addition, the Plan may be terminated at any time by the Board. The Plan will remain in effect with respect to outstanding Benefits until no Benefits remain outstanding.

6.3 Affect on Benefits. Subject to the provisions of Section 6.4, the amendment or termination of the Plan shall not adversely affect a Participant's right to any Benefit granted prior to such amendment or termination.

6.4 General Modification Rules. Any Benefit granted may be converted, modified, forfeited or canceled, in whole or in part, by the Board if and to the extent permitted in the Plan or applicable Agreement or with the consent of the Participant to whom such Benefit was granted. The Board, in its sole discretion, may accelerate the vesting of a Benefit at any time. The Board may, for such consideration (if any) as it may deem adequate and with the prior consent of the Participant, modify the terms of any outstanding Option or stock appreciation rights; provided, however, that except to the extent permitted by Section 6.5, no Option or stock appreciation right may be repriced, replaced or regranted through cancellation, or by lowering the exercise price of such Option or stock appreciation right, and no Option or stock appreciation right with an exercise price that exceeds Fair Market Value of a share of Common Stock shall be canceled, purchased or exchanged for a cash payment, without shareholder approval.

6.5 Special Modification in the Event of a Corporate Transaction. In the event of a corporate transaction (within the meaning of Treas. Reg. § 1.424-1(a)(3)), the Board may provide for the assumption

or substitution of outstanding Options or stock appreciation rights, provided that the requirements of Treas. Reg. § 1.409A- 1(b)(v)(D) are satisfied.

6.6 Replacement of Benefits. The Board may permit a Participant to elect to surrender a Benefit in exchange for a new Benefit. Options known as “reload stock options” and other automatic grants to Participants are prohibited under the Plan.

6.7 No Discounted Options; No Repricing. Options may not be granted with an exercise price lower than the Fair Market Value of the underlying Shares on the grant date (except to the extent awards are assumed or substituted in connection with a corporate transaction as described in Section 6.5). The exercise price of an Option shall not be reduced after grant, including by reason of cancellation, cash buyout or exchange of an underwater Option, without shareholder approval.

ARTICLE VII

CHANGE OF CONTROL

7.1 Right of Board. In order to maintain a Participant's rights in the event of a Change in Control, the Board, in its sole discretion, may, in any Agreement evidencing a Benefit, or at any time prior to, simultaneously with or after a Change in Control, provide such protection as it may deem necessary. Without, in any way, limiting the generality of the foregoing provisions or requiring any specific protection, the Board may:

(a) provide for the acceleration of any time periods relating to the exercise or realization of such Benefit so that such Benefit may be exercised or realized in full on or before a date fixed by the Board;

(b) provide for the purchase of such Benefit, upon the Participant's request, for an amount of cash equal to the amount which could have been attained upon the exercise or realization of such Benefit had such Benefit been currently exercisable or payable;

(c) make such adjustment to the Benefits then outstanding as the Board deems appropriate to reflect such transaction or change; and/or

(d) cause the Benefits then outstanding to be assumed, or new Benefits substituted therefor, by the surviving corporation in such change.

ARTICLE VIII

TERMS AND CONDITIONS OF BENEFITS

8.1 Grant Evidenced by Agreement. The grant of any Benefit under the Plan may be evidenced by an Agreement that describes the specific Benefit granted and the terms and conditions of the Benefit. The granting of any Benefit may be subject to, and conditioned upon, the recipient's execution of any Agreement to the extent required by the Board. All capitalized terms used in an Agreement shall have the same meaning as in the Plan, except as otherwise provided in the Agreement. An Agreement shall be subject to all of the terms of the Plan.

8.2 Provisions of Agreement. Each Agreement shall contain such provisions that the Board shall determine to be necessary, desirable and appropriate for the Benefit granted which may include, but not be limited to, the following with respect to any Benefit: description of the type of Benefit; the Benefit's duration;

its transferability; if an Option, the exercise price, the exercise period and the person or persons who may exercise the Option; the effect upon such Benefit of the Participant's death or termination of employment; the Benefit's conditions; when, if and how any Benefit may be forfeited, converted into another Benefit, modified, exchanged for another Benefit, replaced or transferred; and the restrictions on any Shares purchased or granted under the Plan.

8.3 Non-Transferability. Except as otherwise expressly provided in an Agreement, any Benefit granted to an individual who is subject to Section 16 of the Exchange Act shall be not transferable other than by will or the laws of descent and distribution and shall be exercisable during his lifetime only by him, his guardian or his legal representative.

8.4 Fair Market Value. If the number of any Stock Based Awards to be granted is determined based on the value of the Common Stock, such number shall be determined using a value not less than the Fair Market Value of a Share as of the Date of Grant, and the per share exercise price of any Option awarded under the Plan shall not be less than the Fair Market Value of a Share as of the Date of Grant (except to the extent awards are assumed or substituted in connection with a corporate transaction as described in Section 6.5 above).

8.5 Tandem Awards. Awards may be granted by the Board in tandem.

ARTICLE IX

PAYMENT, DIVIDENDS, DEFERRAL AND WITHHOLDING

9.1 Payment by Participant. Upon the exercise of an Option or in the case of any other Benefit that requires a payment to the Company, the amount due the Company is to be paid:

(a) in cash;

(b) by the tender to the Company of Shares owned by the Participant and registered in his name having a Fair Market Value equal to the amount due to the Company;

(c) in other property, rights and credits, including the Participant's promissory note if permitted under applicable law;

(d) by net exercise; or

(e) by any combination of the payment methods specified in (a), (b), (c) and (d) above.

Notwithstanding the foregoing, any method of payment other than cash may be used only with the consent of the Board or if and to the extent so provided in an Agreement or the terms of an award. The proceeds of the sale of Common Stock purchased pursuant to an Option and any payment to the Company for other Benefits shall be added to the general funds of the Company or to the Shares held in treasury, as the case may be, and used for the corporate purposes of the Company as the Board shall determine.

9.2 Dividend Equivalents. Grants of Stock Based Awards may include dividend equivalent payments or dividend credit rights. The payment of dividend equivalents or dividend credits attributable to an unvested Benefit is not permitted during the period in which the Benefit is unvested. Dividend equivalents and dividend credits may be accumulated during the vesting period of the underlying Benefit and paid out only to the extent the Benefit has vested. Additionally, Participants holding Options or stock appreciation

rights shall not be granted dividend equivalent or dividend credits for any period prior to the exercise of such Option or stock appreciation right.

9.3 Deferral. Unless otherwise specified by the Board, a Participant may elect, with respect to any Plan Year, to receive a grant of Performance Units in lieu of another Stock Based Award by making and filing with the Board a written irrevocable election prior to the beginning of such Plan Year (or, in the case of a person who becomes a Participant after the beginning of a Plan Year, within 30 calendar days after becoming a Participant). Unless otherwise specified by the Board, shares subject to a Participant's deferral election under this Section 9.3 shall count against Shares granted pursuant to the Phantom Plan and shall not be counted against the Share reserve of this Plan. Shares deferred pursuant to this Section 9.3 that are counted under the Phantom Plan shall be governed by the terms and conditions of the Phantom Plan.

9.4 Withholding. The Company, at the time any distribution is made under the Plan, whether in cash or in Shares, may withhold from such distribution any amount necessary to satisfy any federal, state and local income tax withholding requirements with respect to such distribution. Such withholding may be in cash or in Shares.

ARTICLE X

OPTIONS

10.1 Authorization. The Board may grant Options upon such terms and conditions as the Board may determine. Each Option shall be evidenced by an Agreement. In no event may Options known as "reload options" or other automatic grants to Participants be granted under the Plan.

10.2 Exercise Price. The per share exercise price of any Option awarded under the Plan shall not be less than the Fair Market Value of a Share of Common Stock as of the Date of Grant.

10.3 Payment of Exercise Price. The payment of the exercise price for Shares under an Option shall be made in accordance with Section 9.1.

ARTICLE Xl

RESTRICTED STOCK

11.1 Authorization. The Board may grant Benefits as Restricted Stock. Shares of Restricted Stock shall be issued and delivered at the time of the grant. Each certificate representing Shares of Restricted Stock shall bear a legend referring to the Plan and the risk of forfeiture of the Shares and stating that such Shares are nontransferable until all restrictions have been satisfied and the legend has been removed. The grantee shall be entitled to full voting and dividend rights with respect to all shares of Restricted Stock from the Date of Grant; provided, however, that dividend payments may be accumulated during the vesting period and paid out only to the extent the Restricted Stock has vested.

11.2 Non-Transferability. Shares of Restricted Stock shall not be transferable until after the removal of the legend with respect to such Shares.

ARTICLE Xll

PERFORMANCE UNITS

12.1 Authorization. The Board may grant Performance Units.

12.2 Number. Unless otherwise approved by the Board or as set forth in an Agreement, the number of Performance Units granted in lieu of the payment of a director's meeting fee or retainer shall equal the number of Shares of Common Stock determined by dividing the amount of the applicable meeting fee or retainer by the Fair Market Value of a Share on the Date of Grant, rounding up to the nearest whole Share.

12.3 Administration. Any Performance Units granted to a Participant shall be credited to a Performance Unit Account (the "Account") established and maintained for such Participant. A Participant's Account shall be the record of Performance Units granted to the Participant under the Plan, is solely for accounting and recordkeeping purposes and shall not require a segregation of any Company assets or the setting aside for registering in the name of a Participant any Common Stock. The Performance Units shall be allocated to a Participant's Account by the Board on the business day following the Date of Grant of such Performance Units. Each allocation of Performance Units under the Plan to a participant under the Plan and the number and value of such Performance Units as of the date of allocation shall be communicated by the Board in writing to the participant within thirty (30) days after the date of allocation.

12.4 Terms and Conditions. The grant of Performance Units shall be subject to the terms and conditions set forth in the applicable Agreement. If a Participant shall be determined, in the sole judgment of the Board, to be guilty of Malfeasance, such Participant shall forfeit all rights to the Performance Units.

12.5 Payment. At the end of any imposed restricted or deferral period, if applicable, the Participant shall be entitled to receive from the Company, with respect to each Performance Unit, either (i) cash equal to the Fair Market Value of a Share at that time, or (ii) one Share; provided that unless otherwise approved by the Board, a Performance Unit representing a partial Share shall be paid only in cash. A Participant will not be entitled to receive any earnings on the value of his or her Performance Units with respect to the period between the end of the applicable restricted or deferral period and the receipt of payment under the Plan.

ARTICLE Xlll

OTHER BENEFITS

13.1 Other Stock Based Awards. The Board shall have the right to grant other Stock Based Awards which may include, without limitation, the grant of Shares based on certain conditions, the payment of cash based on the performance of the Common Stock, and the grant of securities convertible into Shares.

13.2 Other Benefits. The Board shall have the right to provide types of Benefits under the Plan in addition to those specifically listed, if the Board believes that such Benefits would further the purposes for which the Plan was established.

ARTICLE XIV

MISCELLANEOUS PROVISIONS

14.1 Underscored References. The underscored references contained in the Plan are included only for convenience, and they shall not be construed as a part of the Plan or in any respect affecting or modifying its provisions.

14.2 Number and Gender. The masculine and neuter, wherever used in the Plan, shall refer to either the masculine, neuter or feminine; and, unless the context otherwise requires, the singular shall include the plural and the plural the singular.

14.3 Governing Law/Venue. This Plan shall be construed and administered in accordance with the laws of the State of Missouri, without giving regard to the conflict of laws provisions thereof. Any legal action against the Plan, the Company, an Affiliate, or the Board may only be brought in the Circuit Court in St. Louis County and/or the United States District Court in St. Louis, Missouri.

14.4 Purchase for Investment. The Board may require each person purchasing Shares pursuant to an Option or other award under the Plan to represent to and agree with the Company in writing that such person is acquiring the Shares for investment and without a view to distribution or resale. The certificates for such Shares may include any legend which the Board deems appropriate to reflect any restrictions on transfer. All certificates for Shares delivered under the Plan shall be subject to such stock-transfer orders and other restrictions as the Board may deem advisable under all applicable laws, rules and regulations, and the Board may cause a legend or legends to be put on any such certificates to make appropriate references to such restrictions.

14.5 No Effect on Other Benefits. Payments and other benefits received by a Participant under a Benefit pursuant to this Plan shall not have any effect on the determination of benefits under any other employee benefit plan (including any benefits awarded under the Company's Phantom Plan), contract or similar arrangement provided by the Company or an Affiliate, unless expressly so provided by such other plan, contract or arrangement.

14.6 Rights as Shareholders. A Participant shall have no right as a shareholder with respect to any securities covered by a Benefit until the date the Participant becomes the holder of record.

14.7 Date of Grant. The date and time of approval by the Board of the granting of a Benefit shall be considered the date and time at which such Benefit is made or granted, or such later effective date as determined by the Board, notwithstanding the date of any Agreement with respect to such Benefit.

14.8 Beneficiary Upon Participant’s Death. To the extent that the transfer of a Participant’s Benefit at death is permitted by this Plan or under an Agreement, (i) a Participant’s Benefit shall be transferable to the beneficiary, if any, designated on forms prescribed by and filed with the Board and (ii) upon the death of the Participant, such beneficiary shall succeed to the rights of the Participant to the extent permitted by law and this Plan. If no such designation of a beneficiary has been made, the Participant’s legal representative shall succeed to the Benefits, which shall be transferable by will or pursuant to laws of descent and distribution to the extent permitted by this Plan or under an Agreement.

14.9 Unfunded Plan. This Plan shall be unfunded and the Company shall not be required to segregate any assets that may at any time be represented by Benefits under this Plan. Neither the Company, its Affiliates, nor the Board shall be deemed to be a trustee of any amounts to be paid under this Plan nor shall anything contained in this Plan or any action taken pursuant to its provisions create or be construed to create a fiduciary relationship between the Company and/or its Affiliates, and a Participant or successor. To the extent any person acquires a right to receive a Benefit under this Plan, such right shall be no greater than the right of an unsecured general creditor of the Company.

14.10 Severability. In the event any provision of this Plan shall be held illegal or invalid for any reason, the illegality or invalidity shall not affect the remaining parts of this Plan, and this Plan shall be construed and enforced as if the illegal or invalid provision had not been included.

Exhibit 10.14

REINSURANCE GROUP OF AMERICA, INCORPORATED

PHANTOM STOCK PLAN FOR DIRECTORS

As Amended and Restated Effective May 23, 2017

REINSURANCE GROUP OF AMERICA, INCORPORATED

PHANTOM STOCK PLAN FOR DIRECTORS

ARTICLE I

NAME AND PURPOSE

1.1 Name. The name of this Plan is the "Reinsurance Group of America, Incorporated Phantom Stock Plan for Directors."

1.2 Purpose. The Company has established this Plan to encourage the highest level of director performance by members of the Board of Directors of the Company, by providing certain outside directors with deferred compensation based on the Company's success and progress. The Plan is hereby amended and restated as provided herein and this restatement shall be effective with respect to amounts deferred on or after May 23, 2017.

ARTICLE II

DEFINITIONS OF TERMS AND RULES OF CONSTRUCTION

2.1 General Definitions. The following words and phrases, when used in the Plan, unless otherwise specifically defined or unless the context clearly otherwise requires, shall have the following respective meanings:

(a) Account. Account shall have the meaning given such term in ARTICLE VI.
(b) Affiliate. A Parent or Subsidiary of the Company, a Subsidiary of a Parent and any limited liability company, partnership, corporation, joint venture, or any other entity in which the Company or any such Subsidiary owns an equity interest.
(c) Board. The Board of Directors of the Company.
(d) Code. The Internal Revenue Code of 1986, as amended and in effect from time to time, or any successor statute. Any reference to the Code includes the regulations promulgated pursuant to the Code.
(e) Common Stock. Any class of the Company's common stock or any securities issued in respect thereof by the Company or any successor to the Company as a result of an event described in ARTICLE X and Section 11.10 hereof.
(f) Company. Reinsurance Group of America, Incorporated, a Missouri corporation, or any successor to all or substantially all of its business by merger, consolidation, purchase of assets or otherwise.
(g) Deferral Period. Deferral Period shall have the meaning given such term in Section 5.3.
(h) Director. A duly elected and acting member of the Board who receives Director's Fees from the Company for his or her services as a member of the Board and who is not an officer or employee of the Company or any of its Affiliates.
(i) Director's Fees. Any and all of the following, whether payable in cash or Common Stock:
    (i) Annual retainer fees for services as a Director (including retainers paid to Board and Committee chairs);
    (ii) Board and Committee meeting attendance fees; and
    (iii) Any other form of compensation (including cash, equity grants or performance units) paid to a Director for service as a member of the Board, a Committee or a Board sub-group.

(j) Disability. A physical or mental condition which, in the opinion of a qualified doctor of medicine chosen by the Company, permanently prevents a Director from carrying out his or her duties as a member of the Board.

(k) Effective Date. The date that the Plan, as amended and restated herein, is approved by the shareholders of the Company which must occur within one year before or after approval by the Board.

(l) Fair Market Value. The closing price of a share of Common Stock on the New York Stock Exchange on a given date, or in the absence of market transactions on such date, the closing price of a share of Common Stock on the New York Stock Exchange on the last day on which a sale occurred prior to such date. If the shares are not listed on the New York Stock Exchange, Fair Market Value shall be what the Board determines in good faith to be 100% of the fair market value of a share on that date. The determination of Fair Market Value shall be subject to adjustment as provided in ARTICLE X.

(m) Parent. Any corporation that is a "parent corporation," as that term is defined in Section 424(e) of the Code, or any successor provision.

(n) Participant. A Director who has satisfied the eligibility requirements of Section 4 and who has Performance Units credited to his or her Account.

(o) Performance Unit. A hypothetical share of Common Stock allocated to a Participant on the Company's records based on the Fair Market Value of the Common Stock at the time of the grant.

(p) Plan. Plan shall have the meaning given such term in ARTICLE I.

(q) Plan Year. The calendar year.

(r) Retirement. Retirement of a Participant as a Director.

(s) Subsidiary. Any corporation that is a "subsidiary corporation," as that term is defined in Section 424(f) of the Code, or any successor provision.

2.2 Other Definitions. In addition to the above definitions, certain words and phrases used in the Plan may be defined in other portions of the Plan.

ARTICLE III

ADMINISTRATION

3.1 Board. The Board shall administer the Plan. Questions involving eligibility, benefits or the interpretation or operation of the Plan shall be referred to the Board. All determinations of the Board, in its sole discretion, shall be conclusive. The Board may obtain such advice or assistance as it deems appropriate from persons not serving on the Board.

3.2 Expenses. All costs and expenses incurred in the operation and administration of this Plan will be borne by the Company.

ARTICLE IV

ELIGIBILITY

4.1 Participants. Each Director who is a Participant on May 23, 2017 shall continue to be a Participant as of such date. Each individual who becomes a Director on or after May 23, 2017 shall be eligible to participate as of the beginning of the next Plan Year.

ARTICLE V

PERFOMANCE UNITS

5.1 Number of Performance Units. The total number of Performance Units that may be granted under this Plan shall not exceed 130,000.

5.2 Election to Receive and Defer Performance Units. With respect to each Plan Year, a Participant shall be eligible to receive a grant of Performance Units in lieu of all or any portion of his or her Director's Fees by making and filing with the Board a written election by the date specified by the Company, which shall be no later than the December 31 prior to the first day of the Plan Year in which such Director's Fees would otherwise be earned.

5.3 Deferral Period. A Participant who elects to receive a grant of Performance Units in lieu of his or her Director's Fees for any Plan Year under Section 5.2 shall also be eligible at such time to elect to defer payment of such Performance Units (i) for a period of five (5) or seven (7) years from the last day of the calendar year in which a Performance Unit is granted or (ii) to Retirement ("Deferral Period"). The Participant shall designate to receive payment of such Performance Units in a single payment or up to five substantially equal annual installment payments. With respect to each grant of Performance Units, a Participant may elect a different Deferral Period and manner of payment hereunder. A Participant who does not affirmatively elect a Deferral Period shall be deemed to have elected a Deferral Period until Retirement with distribution to be made in a single payment.

5.4 Irrevocability. Any election (or deemed election) under ARTICLE V with respect to a Performance Unit shall become irrevocable as of the December 31 prior to the first day of the calendar year in which such Performance Unit is granted.

5.5 Changes. In accordance with the provisions of this Section 5.5, a Participant may change the Deferral Period and/or the form of payment for Performance Units which relate to a particular year by making a re-deferral election and/or an election to have such Performance Units paid in a different form. Any election under this Section 5.5 must comply with all of the following requirements: (i) no prior election to change the Deferral Period or form of payment may have been made with respect to the same year's deferrals, (ii) the election is made at least one year prior to the date the distribution would otherwise have begun, (iii) the first payment with respect to which such election is made shall be deferred for a period of not less than five years from the date such payment would otherwise have been made, and (iv) any election related to a payment that was otherwise to be made at a specified time may not be made less than twelve months prior to the date of the first scheduled payment. For purposes of applying the provisions of this Section 5.5, installment payments shall be considered a single payment for purposes of applying these subsequent deferral election rules.

ARTICLE VI

ACCOUNTS

6.1 Performance Unit Accounts. Performance Units shall be credited to a Performance Unit Account (the "Account") established and maintained for a Participant. The Performance Units shall be allocated to a Participant's Account annually on the same day the annual equity grant is made to Directors, unless the Board approves a different allocation date. The number of Performance Units shall equal the number of full shares of Common Stock that the amount of the deferred Director's Fees would have purchased at Fair Market Value on the allocation date. Partial Performance Units will not be allocated, and standard

rounding will be applied to determine the number of full Performance Units. The Account of a Participant shall be the record of Performance Units granted to him or her under the Plan, is solely for accounting and record keeping purposes and shall not require a segregation of any Company assets or setting aside for or registering in the name of a Participant any Common Stock. In addition, the existence of such record and the Account shall not be deemed to create a trust of any kind or a fiduciary relationship between the Company and a Participant or his or her beneficiary. Each allocation of Performance Units under the Plan to a Participant and the number and value of such Performance Units as of the date of allocation shall be communicated annually to the Participant.

ARTICLE VII

RESTRICTIONS AND PAYMENTS

7.1 Restrictions. The Participant shall have no rights and privileges of a shareholder as to the Performance Units credited to his or her Account. Accordingly, the Participant shall have no right to receive dividends actually paid or distributed at the time declared and no right to vote on account of any allocation of Performance Units to his or her Account. In addition, no interest in the Performance Units or any Account may be sold, transferred, assigned, pledged or otherwise encumbered or disposed of at any time.

7.2 Payment of Performance Units. Except as otherwise provided under this ARTICLE VII, distribution of the Performance Units shall occur (or commence in the case of annual installments) on the date immediately following the last day of the applicable Deferral Period. Distribution shall be made in a single payment, unless at the time of deferral the Participant had elected to receive payment in annual installments. The Board shall have the sole discretion to determine whether such distribution shall be made in cash or in stock.

(a) Lump Sum Payments. If distribution shall be made in a single lump sum, the amount of the distribution shall equal (i) the Fair Market Value of a share of Common Stock as of the last day of the Deferral Period multiplied by the number of Performance Units credited to his or her account on such date, or (ii) one share of Common Stock in lieu of cash for each Performance Unit credited to his or her account on the last day of the Deferral Period.

(b) Annual Installments. If distribution shall be made in annual installments, the amount of each installment shall equal (i) the Fair Market Value of a share of Common Stock as of the last day of the Deferral Period (or the applicable annual anniversary thereof), multiplied by the number of Performance Units being distributed in such installment, or (ii) one share of Common Stock in lieu of cash for each Performance Unit being distributed in that installment.

7.2 End of Directorship. If a Participant ceases to be a Director prior to the end of the Deferral Period, distribution of all Performance Units allocated to such Participant's Account shall be made or commence at the time and in the form of payment elected or deemed to have been elected at the time of deferral. Payment shall be made to the Participant, the Participant's beneficiary in the event of death, or the Participant's estate in the case of Disability if there is no attorney-in-fact, as the case may be.

7.3 Tax. In all cases, for purposes of compliance with Section 409A of the Code, payment shall be deemed to be made upon the fixed date or payment event specified under Section 7.2(b) if the payment is made (a) thirty (30) days prior to the specified fixed payment date or event; (b) a later date within the same calendar year as the specified fixed payment date or event; or (c) if later, by the 15th day of the third calendar month following the specified fixed payment date or event. However, in no event shall a Participant be permitted, directly or indirectly, to designate the taxable year of the payment.

ARTICLE VIII

REGULATORY COMPLIANCE AND LISTING

8.1 Regulatory Compliance. If the Board decides to deliver Common Stock in lieu of cash under ARTICLE VII, the issuance or delivery of any Common Stock may be postponed by the Company for such period as may be required to comply with any applicable requirements under the federal securities laws, any applicable listing requirements of any national securities exchange and requirements under any other law or regulation applicable to the issuance or delivery of such shares, and the Company shall not be obligated to issue, purchase or deliver any Common Stock if the issuance, purchase or delivery of such shares shall constitute a violation of any provision of any law or of any regulation of any governmental authority or any national securities exchange. If the Company is unable to deliver Common Stock after a reasonable period of time, the Board shall direct the delivery of cash under ARTICLE VII to satisfy the distribution of Performance Units.

8.2 Other Agreements. As a condition to receipt of Common Stock, the Participant shall execute such agreements and other documents as the Company may reasonably request for securities law purposes.

ARTICLE IX

AMENDMENT, TERM AND TERMINATION

9.1 Amendment. Except as hereinafter provided, the Board shall have the sole right and power to amend the Plan at any time and from time to time. No termination, suspension or modification of this Plan may materially and adversely affect any right acquired by any Participant (or a Participant’s legal representative) or any successor or permitted transferee under a Performance Unit granted before the date of termination, suspension or modification, unless otherwise provided in a separate agreement or otherwise or required as a matter of law.

9.2 Limitation. The Board may not amend the Plan (i) without approval of the shareholders of the Company if shareholder approval would be required for such an amendment under the rules of the New York Stock Exchange or (ii) in a manner that would violate applicable law.

9.3 Term. The original effective date of the Plan was January 1, 1997 and the Plan as amended and restated herein shall commence as of the Effective Date and, subject to the terms of the Plan, including those requiring approval by the shareholders of the Company, shall continue in full force and effect until terminated.

9.4 Termination. The Plan will terminate automatically on May 23, 2027. In addition, the Board may at any time terminate the Plan unless otherwise required by law, the rights of a Participant with respect to Performance Units granted prior to such termination may not be impaired without the consent of such Participant.

ARTICLE X

ADJUSTMENTS

10.1 Adjustment. In the event of any change in the Common Stock of the Company by reason of any extraordinary dividend, stock dividend, spin-off, split-up, spin-out, recapitalization, warrant or rights issuance or combination, exchange or reclassification of shares, merger, consolidation, reorganization, sale of substantially all assets or, in the Board's sole discretion, other similar or relevant event, the Board shall

proportionately adjust, in an equitable manner, the total number of Performance Units which may be granted under the Plan under ARTICLE V and the number of Performance Units held by a Participant under the Plan and, if appropriate to reflect such event and preserve the value of such Performance Units, the number, kind and class of shares underlying the Performance Units.

ARTICLE XI

MISCELLANEOUS

11.1 Underscored References. The underscored references contained in the Plan are included only for convenience, and they shall not be construed as a part of the Plan or in any respect affecting or modifying its provisions.

11.2 Number and Gender. The masculine and neuter, wherever used in the Plan, shall refer to either the masculine, neuter or feminine; and, unless the context otherwise requires, the singular shall include the plural and the plural the singular.

11.3 Governing Law/Venue. This Plan shall be construed and administered in accordance with the laws of the State of Missouri, without giving regard to the conflict of laws provisions thereof. Any legal action against the Plan, the Company, an Affiliate, or the Board may only be brought in the Circuit Court in St. Louis County and/or the United States District Court in St. Louis, Missouri.

11.4 No Director Reelection. Nothing in the Plan shall be deemed to create any obligation on the part of the Board to nominate any Director for reelection by the Company's shareholders.

11.5 Limitations. Neither the adoption of this Plan by the Board nor the submission of the Plan to the Company's shareholders for approval shall be construed as creating any limitations on the power or authority of the Board to adopt such other additional incentive or other compensation arrangements as the Board may deem necessary or desirable

11.6 Deductions. The Company shall have the right to (i) deduct from all amounts paid pursuant to the Plan any taxes required by law to be withheld with respect to such amounts, and (ii) require, within three months after issuance or delivery of any Common Stock, payment by the Participant of any taxes required by law with respect to the issuance or delivery of such shares.

11.7 Designation of Beneficiary. Each Participant may designate one or more beneficiaries to receive all payments due to such Participant hereunder upon his or her death. Such beneficiary designation may be revoked or amended by such Participant, from time to time, by appropriate notice in writing delivered to the General Counsel of the Company. In the absence of any beneficiary designation or in the event that the designated beneficiaries shall not be living at the time of death of the Participant, the Account value on the date of death of the Participant shall be payable and delivered to the estate of such deceased Participant.

11.8 Common Stock. The shares of any Common Stock delivered under the Plan may be either authorized but unissued shares (subject to payment of any required par value) or treasury shares, as determined from time to time by the Board. In either case, the shares shall be fully registered and transferable without restriction.

11.9 Assignment. No rights, interests or benefits under this Plan may be assigned, transferred, pledged or hypothecated in any way. Such rights, interests or benefits shall not be subject to execution, attachment or similar process. Any attempted assignment, transfer, pledge or hypothecation, or other

disposition of such rights, interests or benefits contrary to the preceding provisions, or the levy of any attachment or similar process thereupon, shall be null and void and without effect.

11.10 Successors and Assigns. This Plan shall be binding upon and inure to the benefit of the successors and assigns of the Company, whether by way of merger, consolidation, operation of law, assignment, purchase or other acquisition of substantially all of the assets or business of the Company and any such successor or assign shall absolutely and unconditionally assume all of the Company's obligations hereunder.

11.11 No Equitable Rights. The payments to a Participant or his or her beneficiary hereunder shall be made from assets which shall continue, for all purposes, to be part of the general, unrestricted assets of the Company. No person shall have any interest in any such assets by virtue of the provisions of the Plan. The Company's obligation hereunder shall be an unfunded and unsecured promise to pay money in the future. To the extent that any person acquires a right to receive payments from the Company under the provisions hereof, such right shall be no greater than the right of any unsecured general creditor of the Company. No such person shall have nor acquire any legal or equitable right, interest or claim in or to any property or assets of the Company.

11.12 Tax Compliance. Payments and benefits under this Plan are intended to comply with Code Section 409A to the extent subject thereto, and, accordingly, to the maximum extent permitted, this Plan shall be interpreted and administered to be in compliance therewith. For purposes of Code Section 409A, a Participant's entitlement to annual installment payments shall be treated as an entitlement to a single payment. For purposes of this Plan, a termination of directorship or Retirement shall only be deemed to occur if such termination constitutes a "separation from service" within the meaning of Code Section 409A.

11.13 Severability. In the event any provision of this Plan shall be held illegal or invalid for any reason, the illegality or invalidity shall not affect the remaining parts of this Plan, and this Plan shall be construed and enforced as if the illegal or invalid provision had not been included.

Exhibit 10.20

RGA REINSURANCE COMPANY
AUGMENTED BENEFIT PLAN

Effective January 1, 2009, as amended January 29, 2010 and January 18, 2017

WHEREAS, RGA Reinsurance Company (“Company”) previously established the RGA Reinsurance Company Augmented Benefit Plan (“Plan”);

WHEREAS, the Company desires to amend the Plan to comply with Section 409A of the Internal Revenue Code of 1986, as amended;

NOW, THEREFORE, effective January 1, 2009, the Plan is amended in its entirety to read as follows:

RGA REINSURANCE COMPANY

AUGMENTED BENEFIT PLAN

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RGA REINSURANCE COMPANY

AUGMENTED BENEFIT PLAN

1. INTRODUCTION.

1.1 Purpose In order to attract and retain highly qualified management staff, the Company wishes to provide an arrangement under which such Managers may become eligible to receive substantial nonqualified retirement and/or welfare benefits. Further, the Company wishes to ensure that any Manager shall be made whole for any benefits limited by the application of law or as a result of such Manager's participation in certain plans maintained by the Company.

2. DEFINITIONS.

2.1 "Augmented Benefit" or "Benefit" means the sum of a Manager's Profit Sharing Plan Benefit, Pension Plan Benefit and Committee Approved Benefit.

2.2 "Beneficiary" means a person or persons (natural or otherwise) designated by a Manager in accordance with the provisions of Section 5 herein to receive any benefit which shall be payable under this Plan upon a Manager's death.

2.3 "Code" means the Internal Revenue Code of 1986, as amended.

2.4 "Committee" means the committee described in Section 14.

2.5 "Committee Approved Benefit" means any benefit not specified in this Plan which shall be provided to a Manager as may be determined by the Committee in the exercise of its sole discretion.

2.6 "Company" means RGA Reinsurance Company, a Missouri corporation.

2.7 "Deferred Compensation Plan" means a nonqualified salary reduction plan maintained by the Company.

2.8 "Employer" means the Company and any other entity affiliated with the Company which has, with the consent of the Board of Directors of the Company, adopted the Plan.

2.9 "Manager" means an individual classified by the Employer as an employee who is eligible to participate in the Plan in accordance with Section 3.

2.10 "Pension Plan" means the RGA Performance Pension Plan, as amended or renamed from time to time.

2.11 "Pension Plan Benefit" means the difference between:

(a) benefits which would have accrued on behalf of a Manager under the Pension Plan with the following adjustments:

(i) in the absence of the limitations provided by Sections 415 and 401(a)(17) of the Code, and

(ii) had such Manager not reduced his or her compensation pursuant to a Deferred Compensation Plan; and

(b) benefits actually accrued on behalf of a Manager under the Pension Plan.

2.12 “Plan” means this RGA Reinsurance Company Augmented Benefit Plan as it may be amended from time to time.

2.13 “Profit Sharing Plan”
means the RGA Profit Sharing Plan, as amended or renamed from time to time.

2.14 “Profit Sharing Plan Benefit” means the bookkeeping account maintained by the Employer on behalf of a Member reflecting an Opening Balance Credit (if applicable), Annual Credits and Investment Credits; provided however, that the existence of such book entries shall not be deemed to create a trust of any kind, or a fiduciary relationship between the Employer and a Manager or his or her Beneficiary.

a. A Manager’s Opening Balance Credit, if any, shall be an amount equal to the Manager’s Qualified Plan Benefit as determined under the terms of the Plan in effect on December 31, 2001, attributable to the Profit Sharing Plan.

b. For each calendar year on and after January 1, 2002, a Member’s Annual Credit shall be an amount equal to the excess (if any) of:

i. The total Employer contribution (matching and profit sharing) which would have been contributed to the Member’s account under the Profit Sharing Plan (A) in the absence of the limitations provided by Sections 415 and 401(a)(17) of the Code and (B) had such Manager not reduced his or her compensation pursuant to a Deferred Compensation Plan, over

ii. The total Employer contribution (matching and profit sharing) actually contributed to the Participant’s account under the Profit Sharing Plan and/or credited to the Member’s account under a Deferred Compensation Plan.

The Employer shall credit a Member’s account with an Annual Credit as soon as administratively practicable after the end of the calendar year to which it relates.

c. As of such dates as designated by the Committee from time to time, a Member’s account shall be credited or debited with an Interest Credit based upon a hypothetical investment in any one or more of the investment options made available under the Plan by the Committee and as elected by a Member.

2.15 “Qualified Retirement Plan” means both the Profit Sharing Plan and the Pension Plan.

2.16 “Specified Employee” means a key employee (as defined in Code Section 416(i) without regard to Code Section 416(i)(5)) determined in accordance with the meaning of such term under Code Section 409A and the regulations promulgated thereunder and the Company’s established methodology for determining specified employees.

2.17 “Termination Date” means the date the employment of the Member with the Company and any of its subsidiaries terminates. The determination as to whether a Member has had a termination of employment shall be made in accordance with the rules and procedures under Section 409A of the Code and the regulations promulgated thereunder.

3. **ELIGIBILITY.**

A Manager shall be eligible to participate in the Plan if he or she is (a) subject to the income tax laws of the United States, (b) a member of a select group of highly compensated or management employees of the Company, and (c) employed full-time in a position that is at the vice president level or above in the Company’s salary administration system; provided that, a non-resident alien is not eligible to participate in the Plan.

4. **PAYMENT OF AUGMENTED BENEFIT.**

4.1 Profit Sharing Plan Benefit and Committee Approved Benefit. A Participant’s Profit Sharing Plan Benefit and Committee Approved Benefit shall be paid in a lump sum upon his or her Termination Date.

4.2 Pension Plan Benefit.

(a) Group A Participant. With respect to a Manager who is a Group A Participant under the Pension Plan, his or her Pension Plan Benefit shall be paid in an annuity commencing as the latest of (1) January 1, 2009, (2) his or her normal retirement date under the Pension Plan or (3) the first day of the month following his or her Termination Date. Notwithstanding the above, a Manager may elect no later than December 31, 2008, to have his or her Pension Plan Benefit commence as of an earlier retirement date available under the Pension Plan. If a Manager makes such an election but is not eligible to commence benefits as of such earlier retirement date under the Pension Plan at the time of his or her Termination Date, the Manager’s Pension Plan Benefit shall commence as of his or her normal retirement date under the Pension Plan.

(b) Group B Participant. With respect to a Manager who is a Group B Participant under the Pension Plan, the portion of his or her Pension Plan Benefit which relates to the Performance Pension Account under the Pension Plan shall be paid in a lump sum upon his or her Termination Date, and the portion of his or her Pension Plan Benefit which relates to the Traditional Benefit under the Pension Plan shall be paid in accordance with Section 4.2(a) as if he or she were a Group A Participant under the Pension Plan.

(c) Group C Participant. With respect to a Manager who is a Group C Participant under the Pension Plan, his or her Pension Plan Benefit shall be paid in a lump sum upon his or her Termination Date.

(d) Special Accrual. The Managers listed on Exhibit A are Group C Participants under the Pension Plan. Any Pension Plan Benefit to which he or she is otherwise entitled under this Plan shall be paid in accordance with Section 4.2(c) above. In addition to such benefit (if any), such Manager shall also be entitled to a special accrual which shall be treated as a Traditional Benefit under the Pension Plan and shall be paid in an annuity commencing as of the later of (1) his or her normal retirement date under the Pension Plan or (2) the first day of the month following his or her Termination Date. Such accrual shall be equal to twenty-five percent (25%) of the accrual that would be due to such Manager under the Pension Plan and this Plan if he or she had accrued a year of service under the Traditional Benefit formula in 1995, based on his or her Final Average Compensation at the time of benefit commencement. For a Manager who is not actively employed on January 1, 2017 and is past his or her normal retirement date on such date, he or she shall receive a lump sum in 2017 equal to the monthly payments he or she would have received had monthly annuity payments commenced as of the later of his or her normal retirement date or his or her Termination Date, with monthly payments to continue thereafter in accordance with the terms of the annuity form of benefit. A reasonable rate of interest determined by the administrator shall be applied to determine the amount of such lump sum.

4.3 Specified Employees. Notwithstanding any provision in the Plan, payment of benefits shall not be made or commence under the Plan prior to the date which is 6 months after the date of a Member's date of termination of employment in the case of a Member who is determined to be a Specified Employee at the time of his or her Termination Date. In such case, any payments that would have been made during such six-month period shall be made in a single lump sum payment on the day after the last day of such six-month period and shall be adjusted for interest based on the applicable interest rate set forth in the Pension Plan for determining lump sum payments.

4.4 Death Benefits. Upon a Member's death prior to payment of benefits hereunder, his or her Profit Sharing Plan Benefit and Committee Approved Benefit shall be paid to his or her Beneficiary in a lump sum as of the first day of the month following his or her death. With respect to the Member's Pension Plan Benefit, the Beneficiary shall receive the following:

- A lump sum, payable as of the first day of the month following the Member's death, equal to the value of his or her Pension Plan Benefit which relates to his or her Performance Pension Account;
- If the Member is married on his or her death, a monthly annuity for the life of the Member's spouse, commencing as of the earliest date benefits could have commenced to the Member had he or she terminated employment other than due to death, equal to the Qualified Pre-Retirement Survivor Annuity payable under the Pension Plan with respect to the Member's Traditional Benefit, determined with the following adjustments:

- in the absence of the limitations provided by Sections 415 and 401(a)(17) of the Code, and
- had such Manager not reduced his or her compensation pursuant to a Deferred Compensation Plan; and
- reduced by the monthly payments the Beneficiary would receive pursuant to the Qualified Pre-Retirement Survivor Annuity under the Pension Plan if it commenced as of the same date as the benefit payable hereunder.

4.5 Fixed Payment Dates. All payments due and payable under this Plan on a fixed date shall be deemed to be made upon such fixed date if such payment is made on such date or a later date within the same calendar year or, if later, by the fifteenth day of the third calendar month following the specified date (provided the Member or Beneficiary is not entitled, directly or indirectly, to designate the taxable year of the payment).

4.6 Vesting. A Manager's Pension Plan Benefit under this Plan shall be vested only if and to the extent the Manager's benefits under the Pension Plan are vested. A Manager's Profit Sharing Plan Benefit under this Plan shall be vested only if and to the extent the Manager's benefits under the Profit Sharing Plan are vested.

5. **BENEFICIARY.**

Any portion of an Augmented Benefit provided by this Plan shall be subject to the beneficiary or survivor provisions of the applicable Qualified Retirement Plan hereby augmented.

Notwithstanding the foregoing, such portion of an Augmented Benefit derived from a Committee Approved Benefit shall be subject to such designation of Beneficiary provision or rights as may be determined applicable by the Committee.

6. **NAMED FIDUCIARY AND CLAIMS PROCEDURE.**

6.1 Named Fiduciary. The Committee or such other person or entity designated by the Committee shall serve as the Named Fiduciary of the Plan for purposes of the claims procedure under this Plan.

(a) The business address and telephone number of the Named Fiduciary under this Plan is 1370 Timberlake Manor Parkway, Chesterfield, Missouri 63017, telephone (636) 736-7300.

(b) The Company shall have the right to change the Named Fiduciary of the Plan. The Company shall give the Manager written notice of any change of the Named Fiduciary, or any change in the address and telephone number of the Named Fiduciary.

6.2 Claim for Benefits. A Participant, beneficiary or other person who believes that he or she is being denied a benefit to which he or she is entitled (hereinafter referred to as "Claimant"), or his or her duly authorized representative, may file a written request for such benefit with the Named Fiduciary setting forth his or her claim.

6.3 Denial of Benefits. Upon receipt of a claim, the Named Fiduciary shall advise the Claimant that a reply will be forthcoming within a reasonable period of time, but ordinarily not later than ninety days, and shall, in fact, deliver such reply within such period. However, the Named Fiduciary may extend the reply period for an additional ninety days for reasonable cause. If the reply period will be extended, the Named Fiduciary shall advise the Claimant in writing during the initial 90-day period indicating the special circumstances requiring an extension and the date by which the Named Fiduciary expects to render the benefit determination.

6.4 Notice of Denial. If the claim is denied in whole or in part, the Named Fiduciary will render a written opinion, using language calculated to be understood by the Claimant, setting forth:

(a.) the specific reason or reasons for the denial;

(b.) the specific references to pertinent Plan provisions on which the denial is based;

(c.) a description of any additional material or information necessary for the Claimant to perfect the claim and an explanation as to why such material or such information is necessary;

(d.) appropriate information as to the steps to be taken if the Claimant wishes to submit the claim for review, including a statement of the Claimant's right to bring a civil action under Section 502(a) of ERISA following an adverse benefit determination on review; and

(e.) the time limits for requesting a review of the denial and for the actual review of the denial.

6.5 Appeal. Within sixty days after the receipt by the Claimant of the written opinion described above, the Claimant may request in writing that the Secretary of the Company ("Secretary") review the Named Fiduciary's prior determination. Such request must be addressed to the Secretary at the Company at its then principal place of business. The Claimant or his or her duly authorized representative may submit written comments, documents, records or other information relating to the denied claim, which such information shall be considered in the review under this Section without regard to whether such information was submitted or considered in the initial benefit determination.

The Claimant or his or her duly authorized representative shall be provided, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information which (i) was relied upon by the Named Fiduciary in making its initial claims decision, (ii) was submitted, considered or generated in the course of the Named Fiduciary making its initial claims decision, without regard to whether such instrument was actually relied upon by the Named Fiduciary in making its decision or (iii) demonstrates compliance by the Named Fiduciary with its administrative processes and safeguards designed to ensure and to verify that benefit claims determinations are made in accordance with governing Plan documents and that, where appropriate, the Plan provisions have been applied consistently with respect to similarly situated claimants. If the Claimant does not request a review of the Named Fiduciary's determination within such sixty day period, he or she shall be barred and estopped from challenging such determination.

6.6 Appeal Process. The decision on review of the denied claim shall promptly be made by the Named Fiduciary:

(a) within sixty (60) days after the receipt of the request for review if no hearing is held; or

(b) within one hundred twenty (120) days after the receipt of the request for review, if an extension of time is necessary in order to hold a hearing.

i. If an extension of time is necessary in order to hold a hearing, the Named Fiduciary shall give the Claimant written notice of the extension of time and of the hearing. This notice shall be given prior to any extension.

ii. The written notice of extension shall indicate that an extension of time will occur in order to hold a hearing on Claimant's appeal. The notice shall also specify the place, date, and time of that hearing and the Claimant's opportunity to participate in the hearing. It may also include any other information the Named Fiduciary believes may be important or useful to the Claimant in connection with the appeal.

6.7 Decision on Appeal. Within a reasonable period of time, ordinarily not later than sixty days, after the Secretary's receipt of a request for review, it will review the Named Fiduciary's prior determination. If special circumstances require that the sixty day time period be extended, the Secretary will so notify the Claimant within the initial 60-day period indicating the special circumstances requiring an extension and the date by which the Secretary expects to render its decision on review, which shall be as soon as possible but not later than 120 days after receipt of the request for review. In the event that the Secretary extends the determination period on review due to a Claimant's failure to submit information necessary to decide a claim, the period for making the benefit determination on review shall not take into account the period beginning on the date on which notification of extension is sent to the Claimant and ending on the date on which the Claimant responds to the request for additional information.

Benefits under the Plan will be paid only if the Secretary decides in its discretion that the Claimant is entitled to such benefits. The decision of the Secretary shall be final and non-reviewable, unless found to be arbitrary and capricious by a court of competent review. Such decision will be binding upon the Employer and the Claimant.

If the Secretary makes an adverse benefit determination on review, the Secretary will render a written opinion, using language calculated to be understood by the Claimant, setting forth:

(a) the specific reason or reasons for the denial;

(b) the specific references to pertinent Plan provisions on which the denial is based;

(c) a statement that the Claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information which

(i) was relied upon by the Secretary in making its decision,

(ii) was submitted, considered or generated in the course of the Secretary making its decision, without regard to whether such instrument was actually relied upon by the Secretary in making its decision or

(iii) demonstrates compliance by the Secretary with its administrative processes and safeguards designed to ensure and to verify that benefit claims determinations are made in accordance with governing Plan documents, and that, where appropriate, the Plan provisions have been applied consistently with respect to similarly situated claimants; and

(d) a statement of the Claimant's right to bring a civil action under Section 502(a) of ERISA following the adverse benefit determination on such review.

The Named Fiduciary and Secretary shall both have discretionary authority to determine a Claimant's entitlement to benefits upon his claim or his request for review of a denied claim, respectively.

7. NATURE OF EMPLOYER'S OBLIGATION.

The Employer's obligations under this Plan shall be limited to an unfunded and unsecured promise to pay. The Employer shall not be obligated under any circumstances to fund its financial obligations under this Plan. Any assets which the Employer may acquire to help cover its financial liabilities are and remain general assets of the Employer, subject to the claims of creditors. Neither the Employer nor the Plan gives the Manager any beneficial ownership interest in any asset of the Employer. All rights of ownership in any such assets are and remain in the Employer.

8. EMPLOYMENT RIGHTS.

This Plan shall not be deemed to create a contract of employment between the Employer and the Manager and shall create no right in the Manager to continue in the Employer's employ for any specific period of time, or to create any other rights in the Manager or obligations on the part of the Employer, except as are set forth in this Plan. Nor shall this Plan restrict the right of the Employer to terminate the Manager or restrict the right of the Manager to terminate his or her employment.

9. MANAGER'S RIGHT TO ASSETS.

The rights of a Manager shall be solely those of an unsecured general creditor of the Employer. The Manager has no right to look to any specific or special property to satisfy a claim for benefit payments. The Manager agrees that he or she shall have no rights or beneficial ownership interest whatsoever in any general asset that the Employer may acquire or use to help support its financial obligations under this Plan. Any such general asset used or acquired by the Employer in connection with the liabilities it has assumed under this Plan shall not be deemed to be held under any trust for the benefit of any Manager. Nor shall any such general asset be considered security for the performance of the obligations of the Employer. Any such asset shall remain a general, unpledged, and unrestricted asset of the Employer. The Manager also understands and agrees that his or her participation in the acquisition of any such general asset for the Employer shall not constitute a representation to any Manager that any Claimant has a special or beneficial interest in such general asset.

10. INDEPENDENCE OF BENEFITS.

The benefits payable under this Plan shall be independent of, and in addition to, any other benefits or compensation, whether by salary, or bonus or otherwise, payable under any other employment agreements that now exist or may hereafter exist from time to time between the Employer and the Manager. This Plan does not involve a reduction in salary or foregoing of an increase in future salary by the Manager. Nor does the Plan in any way affect or reduce the existing and future compensation and other benefits of the Manager.

11. ASSIGNABILITY.

Except insofar as this provision may be contrary to applicable law, no sale, transfer, alienation, assignment, pledge, collateralization, or attachment of any benefits under this Plan shall be valid or recognized by the Employer.

12. ADMINISTRATION.

12.1 Administrator. The Company shall be responsible for and shall control and manage the operation and administration of the Plan. The Board of Directors of the Company shall appoint individuals to the Committee to act as the agent of the Company in performing these duties.

12.2 Committee. The Committee shall administer the Plan in accordance with its terms and shall have all powers necessary to carry out the provisions of the Plan. The Committee shall interpret the Plan and shall have the discretionary authority to determine all questions arising in the administration, interpretation, and application of the Plan, including but not limited to questions of eligibility and the status and rights of participants, beneficiaries, and other persons. Any such determination by the Committee shall presumptively be conclusive and binding on all persons.

13. ASSUMPTION OF LIABILITIES UNDER PREDECESSOR PLAN.

If a Manager first began employment with the Employer on the initial effective date of this Plan, and if the Manager had earned a benefit under the General American Life Insurance Company Augmented Benefit Plan as of the initial effective date of this Plan, the Manager shall receive such benefit under this Plan instead of under the General American Life Insurance Company Augmented Benefit Plan.

14. AMENDMENT.

The Company may amend or terminate this Plan at any time; however, any amendment or termination will not affect the benefits accrued as of the date of amendment or termination of a Manager who is receiving or entitled to receive benefits under the Plan on such date. Any distribution of benefits upon termination shall be solely in accordance with Code Section 409A and the rules and regulations promulgated thereunder.

15. LAW GOVERNING.

Construction of the Plan shall be governed by the laws of the State of Missouri. All provisions of this Plan shall be interpreted in a manner so as to be consistent with Section 409A of the Code and the regulations issued thereunder.

IN WITNESS WHEREOF, the Company has caused this restatement to be executed as of ____________________, 2008.

RGA REINSURANCE COMPANY

By:

President and Chief Executive Officer

EXHIBIT A

Richard C. Harder

Eleesa B. Perez

George William Boyd

John P. Laughlin

Gary A. Seifert

Darlene M. Desroches

Susan L. Nieman

Jean M. Nolan

Larry Fischer

Stephen A. Zonca

Frank A. Alvarez

Doris J. Azarcon

Exhibit 10.21

RGA REINSURANCE COMPANY
EXECUTIVE DEFERRED SAVINGS PLAN

409A Restatement
Effective January 1, 2009, as amended August 3, 2015 and September 14, 2015

RGA REINSURANCE COMPANY

EXECUTIVE DEFERRED SAVINGS PLAN

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ARTICLE I
INTRODUCTION

1.1 Purposes of Plan.

The purposes of the Plan are to provide deferred compensation through Salary Deferrals or employer-provided benefits, or both, for a select group of management or highly compensated Employees of the Company and to provide those Employees who are eligible to do so the opportunity to maximize their elective contributions to the 401(k) Plan in accordance with certain restrictions and limitations in the Code.

1. **“Top Hat” Pension Benefit Plan.**

The Plan is an “employee pension benefit plan” within the meaning of ERISA Section 3(2). The Plan is maintained, however, for a select group of management or highly compensated employees and, therefore, is exempt from Parts 2, 3 and 4 of Title 1 of ERISA. The Plan is not intended to qualify under Code Section 401(a).

2. **Plan Unfunded.**

The Plan is unfunded. No amounts will be set aside for the benefit of Plan Participants or their Beneficiaries and all benefits will be paid from the general assets of the Company, which will continue to be subject to the claims of the Company’s creditors, except to the extent the assets are held in a rabbi trust that is adopted for such purpose.

3. **Effective Date.**

The amended and restated Plan is effective as of January 1, 2009. This document shall apply to deferrals (and earnings thereon) made on or after January 1, 2005 and amounts which vested on or after January 1, 2005. Deferrals (and earnings thereon) credited and vested prior to January 1, 2005 shall be governed by the terms of the Plan in effect as of December 31, 2004. The provisions of that “grandfathered” portion of the Plan are set forth in a separate document.

4. **Administration.**

The Plan shall be administered by the Committee.

ARTICLE II
INTRODUCTION

2.1 Definitions.

For purposes of the Plan, the following words and phrases shall have the respective meanings set forth below, unless their context clearly requires a different meaning:

(a) **“Account”** means the bookkeeping account maintained by the Company on behalf of each Participant pursuant to Article VI that is credited with Salary Deferrals, Incentive Deferrals and Matching Contributions made by the Company on behalf of each Participant pursuant to Article IV and the earnings and losses on such amounts as determined in accordance with Article V.

(b) **“Beneficiary”** means the person or persons designated by the Participant in accordance with Section 7.3.

(c) **“Code”** means the Internal Revenue Code of 1986, as amended.

(d) **“Committee”** means the administrative committee appointed by the Compensation Committee to administer the Plan in accordance with Article VIII.

(e) **“Company”** means (1) RGA Reinsurance Company, (2) RGA Enterprise Services Company, and (3) any other entity aggregated with Reinsurance Group of America, Incorporated under Sections 414(b), (c), (m) or (o) of the Code, to the extent such entity has been designated by the Committee as an eligible employer for purposes of the Plan.

(f) **“Compensation Committee”** means the Compensation Committee of the Board of Directors of RGA Reinsurance Company, Inc.

(g) **“Deferral Period”** means the period of time for which a Participant elects to defer receipt of Salary Deferrals, Incentive Deferrals and Matching Contributions credited to such Participant’s Account and shall be either the period of years specified in Section 5.2 or the period of years until the Participant’s termination of employment. Deferral Periods shall be measured on the basis of Plan Years, beginning with the Plan Year that commences immediately following the Plan Year for which the applicable Salary Deferrals, Incentive Deferrals and/or Matching Contributions are credited to the Participant’s Account.

(h) **“Directors**” means the Board of Directors of the Company**.**

(i) **“Effective Date”** means January 1, 2009.

(j) **"Employee"** means any individual classified by the Company as a common-law employee of the Company.

(k) **"ERISA"** means the Employee Retirement Income Security Act of 1974, as amended.

(l) "**401(k) Plan"** means the RGA Profit Sharing Plan and Trust.

(m) **"Incentive Compensation"** means the amount awarded to a Participant for a Plan Year under any incentive compensation program maintained by the Company.

(n) **"Incentive Deferral"** means the amount of a Participant's Incentive Compensation which the Participant elects to have withheld on a pre-tax basis and credited to his account pursuant to Section 4.1.

(o) **"Matching Contribution"** means the amount, if any, as determined by the Company on an annual basis, that would be contributed to match the Participant's Salary Deferrals and Incentive Deferrals if such deferrals had been contributed on behalf of the Participant to the 401(k) Plan without regard to any restriction which there might be in a qualified plan, that is credited by the Company to the account of each Participant based on such Participant's Salary and Incentive Deferrals.

(p) **"Participant"** means each Employee who has become a Participant pursuant to Article III.

(q) **"Participation and Deferral Election Form"** means the written agreement pursuant to which the Participant elects the amount of his Salary and/or his Incentive Compensation to be deferred into the Plan, the Deferral Period, the deemed investment and the form of payment for such amounts, and such other matters as the Committee shall determine from time to time.

(r) **"Plan"** means the RGA Reinsurance Company Executive Deferred Savings Plan, as amended from time to time.

(s) **"Plan Year"** means the twelve-consecutive month period commencing January 1 of each year ending on December 31.

(t) **"Salary"** means the base rate of cash compensation paid by the Company to or for the benefit of a Participant for services rendered or labor performed while a Participant, including base pay a Participant could have received in cash in lieu of (A) deferrals pursuant to Section 4.1 and (B) contributions made on his behalf to any qualified plan maintained by the Company or to any cafeteria plan under section 125 of the Code maintained by the Company.

(u) **"Salary Deferral"**means the amount of a Participant's Salary which the Participant elects to have withheld on a pre-tax basis and credited to his Account pursuant to Section 4.1.

(v) **"Specified Employee"** means a key employee (as defined in Code Section 416(i) without regard to Code Section 416(i)(5)) determined in accordance with the meaning of such term under Code Section 409A and the regulations promulgated thereunder and the Company's established methodology for determining specified employees.

(w) Termination Date means the date the employment of the Participant with the Company and any of its subsidiaries terminates. The determination as to whether a Participant has had a termination of employment shall be made in accordance with the rules and procedures under Section 409A of the Code and the regulations promulgated thereunder.

(x) Valuation Date means each business day.

2.2 Number and Gender.

Wherever appropriate herein, words used in the singular shall be considered to include the plural and words used in the plural shall be considered to include the singular. The masculine gender, where appearing in the Plan, shall be deemed to include the feminine gender.

2.3 Headings.

The headings of Articles and Sections herein are included solely for convenience, and if there is any conflict between such headings and the rest of the Plan, the text shall control.

ARTICLE III
PARTICIPATION AND ELIGIBILITY

3.1 Participation.

Participants in the Plan are those Employees who are (a) subject to the income tax laws of the United States, (b) members of a select group of highly compensated or management Employees of the Company, and (c) who are employed full-time in a position that is at the vice president level or above in the Company's salary administration system. Notwithstanding anything herein to the contrary, Employees who are non-resident aliens are not eligible to participate in this Plan. Those Employees who were Participants in the Plan prior to the Effective Date but who no longer meet the eligibility criteria will be permitted to retain their account balances in the Plan but will not be permitted to defer any additional amounts until they again meet the eligibility requirements of this Section 3.1. Elite Sales Processing Incorporated (Elite) shall not be a participating employer for purposes of the Plan. Therefore, no Employee of Elite shall be eligible to become a Participant hereunder.

3.2 Commencement of Participation.

Except as provided in the following sentence, all Employees shall become Participants effective as of the first day of the Plan Year on which their Participation and Deferral Election Forms become effective. A newly hired Employee who completes a Participation and Deferral Election Form within 30 days of the date on which his employment commences shall become a Participant as of the date on which his Participation and Deferral Election Form becomes effective under Section 4.2.

3.3 Cessation of Active Participation.

Notwithstanding any provision herein to the contrary, a Participant shall cease to be a Participant hereunder effective as of the first day of the Plan Year following the Plan Year in which the Committee makes such a determination. Any such Committee action shall be communicated to such Participant prior to the effective date of such action. Such cessation shall not affect amounts previously credited to the Account of any such participant.

In addition, those Employees who are Participants any time during a Plan Year but no longer meet the eligibility criteria at the end of the Plan Year will be treated as Participants until the end of the Plan Year and all elections they previously made will continue to apply until the following Plan Year when, assuming they still no longer meet the eligibility requirements, their Participation in the Plan will cease. Nevertheless, such Employees will retain their account balances in the Plan but will not be permitted to defer any additional amount until they again meet the eligibility requirements of Section 3.1. Any future participation shall be effective as of the first day of the Plan Year following the Plan Year in which he or she again meets the eligibility requirements of Section 3.1.

ARTICLE IV
DEFERRALS & MATCHING CONTRIBUTIONS

4.1 Deferrals by Participants.

Before the first day of each Plan Year in which the services are to be performed which relate to the Salary and Incentive Compensation being deferred, a Participant may file with the Committee a Participation and Deferral Election Form pursuant to which such Participant elects to make Salary Deferrals and/or Incentive Deferrals. Any such Participant election shall not exceed 50% of Salary or 100% of Incentive Compensation and shall be a minimum of 1% of Salary and Incentive Compensation, or shall otherwise be limited by any rules prescribed by the Committee in its sole discretion. Salary Deferrals will be credited to the Account of each Participant as of the last day of each pay period to which the deferral applies. Incentive Deferrals will be credited to the Account of each Participant as of the date on which such Incentive Compensation otherwise would have been paid to the Participant in cash.

4.2 Effective Date of Participation and Deferral Election Form.

A Participant's Participation and Deferral Election Form shall become effective on the first day of the Plan Year to which it relates. The Participation and Deferral Election Form of Employees who are first employed by the Company during a Plan Year shall become effective as of the pay period next following the pay period in which the employee completes the Participation and Deferral Election Form, provided the Participation and Deferral Election Form is completed within 30 days of the date the Employee first commences employment. Such initial Participation and Deferred Election Form shall apply only to Salary paid for services to be performed subsequent to the election and shall be irrevocable during the initial year of participation. With respect to Incentive Compensation, such initial Participation and Deferred Election Form shall apply only to the portion of such amount equal to the total amount of Incentive Compensation for the performance period multiplied by the ratio of the number of days remaining in the performance period after the election over the total number of days in the performance period. If a Participant fails to complete a Participation and Deferral Election Form before the first day of the Plan Year in which the Participant shall earn the compensation to which the Participation and Deferral Election Form relates (or, with respect to a newly-hired Employee in his or her initial year of hire, within 30 days of commencing employment), the Participant shall be deemed to have elected not to make Salary Deferrals and/or Incentive Deferrals for such Plan Year.

4.3 Modification or Revocation of Election by Participant.

A Participant may not change the amount of his Salary Deferrals or his Incentive Deferrals during a Plan Year.

4.4 Matching Contributions.

Each Participant who elects to make Salary or Incentive Deferrals to the Plan will receive a Matching Contribution equal to the percentage of that Participant's deferrals that would have been matched if the deferrals had been contributed to the 401(k) Plan without regard to any limits or restrictions on either the Deferrals or Matching Contributions had they been made to a plan qualified under 401(a) of the Code or a 401(k) Plan. The Matching Contribution percentage to be contributed to the Plan shall be equal to the matching contribution percentage provided in the appropriate sections of the 401(k) Plan. Matching Contributions will be credited to the Participant's Account as of the pay period in which the Salary and/or Incentive Deferrals to which the Matching Contributions relate are credited to the Participant's Account.

4.5 Suspension.

Notwithstanding any other provision of this Plan, if a Participant receives a safe harbor hardship distribution under any tax-qualified employee retirement plan maintained by his or her employer, all deferral elections of the Participant under the Plan shall be suspended for a period of 6 months, and the Participant shall not be eligible to resume deferrals hereunder until the Plan Year beginning after expiration of such 6-month period.

ARTICLE V
VESTING, DEFERRAL PERIODS AND EARNINGS ELECTION

5.1 Vesting.

A Participant shall be 100% vested in his Salary Deferrals and Incentive Deferrals at all times and shall be vested in his Matching Contributions in accordance with the vesting schedule in the applicable 401(k) Plan. Any provisions of the Plan relating to the distribution of a Participant's Account shall mean only the vested portion of such Account. Since the Plan is unfunded, the portion of a Participant's Account which is not vested and therefore not distributed with the vested portion of such account shall remain the property of the Company and shall not be allocated to the Accounts of other Participants or otherwise inure to their benefit.

5.2 Deferral Periods.

A Deferral Period may be for any period of five (5) years or more. A Participant must specify on the Participation and Deferral Election Form the Deferral Period for the Salary Deferrals, Incentive Deferrals and Matching Contributions to be made to the Plan for the Plan Year to which the Participation and Deferral Election Form relates by selecting a specific future year for payment to commence, subject to the provisions of Section 7.1(a) and rules as determined by the Committee from time to time; provided that, with respect to a Plan Year, a Participant must elect the same Deferral Period for all Salary Deferrals, Incentive Deferrals and Matching Contributions to be made to the Plan for the Plan Year to which the Participation and Deferral Election Form relates. In the event a Participant does not elect a Deferral Period for any such Salary Deferrals, Incentive Deferrals and Matching Contributions for a Plan Year, such Participant shall be deemed to have elected a Deferral Period that will end on his or her Termination Date.

5.3 Earnings Elections.

Amounts credited to a Participant's Account shall be credited with earnings and losses based on hypothetical investment directions made by the Participant, in accordance with investment options and procedures adopted by the Committee in its sole discretion, from time to time. Any amounts credited to a Participant's Account with respect to which a Participant does not provide investment direction shall be credited with earnings equal to the earnings on a hypothetical investment vehicle determined by the Committee, in its sole discretion, from time to time. A Participant's Account shall be adjusted as of each Valuation Date to reflect investment gains and losses.

ARTICLE VI
ACCOUNTS

6.1 Establishment of Bookkeeping Accounts.

A separate bookkeeping Account shall be maintained for each Participant. Such Account shall be credited with the Salary Deferrals and Incentive Deferrals made by the Participant pursuant to Section4.1 and Matching Contributions made by the Company pursuant to Section 4.4, and will be credited (or charged, as the case may be) with the hypothetical investment results determined pursuant to Section 5.3, and charged with distributions made to or with respect to a Participant.

6.2 Subaccounts.

Within each Participant’s bookkeeping Account, separate subaccounts shall be maintained to the extent necessary for the administration of the Plan.

6.3 Hypothetical Nature of Accounts.

The Account established under this Article VI shall be hypothetical in nature and shall be maintained for bookkeeping purposes only, so that Incentive Deferrals, Salary Deferrals, and Matching Contributions can be credited to the Participant and so that earnings and losses on such amounts so credited can be credited (or charged, as the case may be). Neither the Plan nor any of the Accounts (or subaccounts) shall hold any actual funds or assets. The right of any person to receive one or more payments under the Plan shall be an unsecured claim against the general assets of the Company. Any liability of the Company to any Participant, former Participant, or Beneficiary with respect to a right to payment shall be based solely upon contractual obligations created by the Plan. Neither the Company, the Directors, nor any other person shall be deemed to be a trustee of any amounts to be paid under the Plan. Nothing contained in the Plan, and no action taken pursuant to its provisions, shall create or be construed to create a trust of any kind, or a fiduciary relationship, between the Company and a Participant, former Participant, Beneficiary, or any other Person. The Company may, in its sole discretion, establish a rabbi trust as a vehicle in which to place funds with respect to this Plan.

ARTICLE VII
PAYMENT OF ACCOUNT

7.1 Timing of Distribution of Benefits.

(a) Distributions of a Participant's Account which are payable upon his or her Termination Date shall be paid (or commence to be paid) within 90 days of such Termination Date. Upon a Participant's death, distributions shall commence to his or her Beneficiary within 90 days. Neither a Participant nor a Beneficiary shall designate, directly or indirectly, the taxable year of the payment.

(b) Distribution of a Participant's Account which are payable as of a specified future year shall be paid or commence to be paid in January of such year.

(c) Notwithstanding a Participant's election, payment of benefits shall not be made or commence under the Plan prior to the date which is 6 months after the date of a Participant's Termination Date in the case of a Participant who is determined to be a Specified Employee at the time of his or her Termination Date. In such case, the Specified Employee's Account shall be credited with earnings or losses during such six-month period in accordance with Section 5.3 and distribution shall be made or commence on the day after the last day of such six-month period.

(d) On a form provided by the Company, a Participant may change the date on which distributions begin, provided that (1) such election is made at least one year prior to the date the distribution would otherwise have begun, (2) such election shall be effective with respect to all Salary Deferrals, Incentive Deferrals and Matching Contributions from all Plan Years scheduled to be distributed as of such original distribution date, (3) the first payment with respect to which such election is made shall be deferred for a period of not less than 5 years from the date such payment would otherwise have been made, and (4) any election related to a payment that was otherwise to be made at a specified time may not be made less than 12 months prior to the date of the first scheduled payment. For purposes of applying the provisions of this Section 7.1(d), installment payments shall be considered a single payment for purposes of applying these subsequent election rules.

7.2 Form of Payment or Payments.

A Participant's Account balance shall be distributed in accordance with the form of payment elected by the Participant on the Participation and Deferral Election Form to which such amounts relate. The form of payment with respect to amounts and the earnings credited thereon may be in any of the following forms:

(a) A lump sum; or

(b) Installment payments for a period not to exceed fifteen years.

Each installment payment shall be determined by multiplying the Account balance by a fraction, the numerator of which is one and the denominator of which is the number of remaining installment payments to be made to the Participant. In the event a Participant does not elect a form of payment for any such Salary Deferrals, Incentive Deferrals, and Matching Contributions for a Plan Year, such Participant shall be deemed to have elected a lump sum distribution. Notwithstanding the above, a Participant must elect the same form of payment for all Salary Deferrals, Incentive Deferrals and Matching Contributions to be made to the Plan for the Plan Year to which the Participation and Deferral Election Form relates.

On a form provided by the Company, a Participant may change the form of distribution for his or her account balance or any portion thereof, provided that (1) such election is made at least one year prior to the date the distribution would otherwise have begun, (2) such election shall be effective with respect to all Salary Deferrals, Incentive Deferrals and Matching Contributions from all Plan Years scheduled to be distributed as of such original distribution date, (3) the first payment with respect to which such election is made shall be deferred for a period of not less than 5 years from the date such payment would otherwise have been made, and (4) any election related to a payment that was otherwise to be made at a specified time may not be made less than 12 months prior to the date of the first scheduled payment. For purposes of applying the provisions of this Section 7.2, installment payments shall be considered a single payment for purposes of applying these subsequent election rules.

7.3 Designation of Beneficiaries.

Each Participant shall have the right to designate the beneficiary or beneficiaries to receive payment of his benefit in the event of his death. A beneficiary designation shall be made by executing the beneficiary designation form prescribed by the Committee and filing the same with the Committee. Any such designation may be changed at any time by execution of a new designation in accordance with this Section. If no such designation is on file with the Committee at the time of the death of the Participant or such designation is not effective for any reason as determined by the Committee, then the designated beneficiary or beneficiaries to receive such benefit shall be the Participant's surviving spouse, if any, or if none, the executor, personal representative, or administrator of the Participant's probate estate, or his heirs-at-law, if there is no administration of such Participant's probate estate.

7.4 Unclaimed Benefits.

In the case of a benefit payable on behalf of such Participant, if the Committee is unable to locate the Participant or beneficiary to whom such benefit is payable, such benefit may be forfeited to the Company, upon the Committee's determination. Notwithstanding the foregoing, if subsequent to any such forfeiture the Participant or beneficiary to whom such benefit is payable makes a valid claim for such benefit, such forfeited benefit shall be paid by the Company or restored to the Plan by the Company.

7.5 Hardship Withdrawals.

A Participant may apply in writing to the Committee for, and the Committee may permit, a hardship withdrawal of all or any part of a Participant’s Vested Account if the Committee, in its sole discretion, determines that the Participant has incurred a severe financial hardship resulting from a sudden and unexpected illness or accident of the Participant, his or her spouse or of a dependent (as defined in section 152(a) of the Code) of the Participant, loss of the Participant’s property due to casualty, or other similar extraordinary and unforeseeable circumstances arising as a result of events beyond the control of the Participant, as determined by the Committee, in its sole and absolute discretion. The amount that may be withdrawn shall be limited to the amount reasonably necessary to relieve the hardship or financial emergency upon which the request is based, plus the federal and state taxes due on the withdrawal, as determined by the Committee. The Committee may require a Participant who requests a hardship withdrawal to submit such evidence as the Committee, in its sole discretion, deems necessary or appropriate to substantiate the circumstances upon which the request is based.

ARTICLE VIII
ADMINISTRATION

8.1 Committee.

The Plan shall be administered by a Committee appointed by the Compensation Committee of the Directors. If the Compensation Committee does not act to specifically appoint a Committee, the Committee will be deemed to be the Benefits Committee. The Committee shall be responsible for the general operation and administration of the Plan and for carrying out the provisions thereof. The Committee may delegate to others certain aspects of the management and operational responsibilities of the Plan including the employment of advisors and the delegation of ministerial duties to qualified individuals, provided that such delegation is in writing.

8.2 General Powers of Administration.

The Committee shall have all powers necessary or appropriate to enable it to carry out its administrative duties. Not in limitation, but in application of the foregoing, the Committee shall have the duty and power and discretionary authority to construe and to interpret the Plan and determine all questions that may arise hereunder as to the status and rights of Employees, Participants, and Beneficiaries. The Committee may exercise the powers hereby granted in its sole and absolute discretion. No member of the Committee shall be personally liable for any actions taken by the Committee unless the member’s action involves willful misconduct.

8.3 Indemnification of Committee.

The Company shall indemnify the members of the Committee against any and all claims, losses, damages, expenses, including attorney’s fees, incurred by them, and any liability, including any amounts paid in settlement with their approval, arising from their action or failure to act, except when the same is judicially determined to be attributable to their gross negligence or willful misconduct.

ARTICLE IX
DETERMINATION OF BENEFITS,
CLAIMS PROCEDURE AND ADMINISTRATION

9.1 Claims.

A person who believes that he is being denied a benefit to which he is entitled under the Plan (a Claimant) may file a written request for such benefit with the Committee, setting forth his claim. The request must be addressed to the Committee at the Company at its then principal place of business.

9.2 Claim Decision.

Upon receipt of a claim, the Committee shall advise the Claimant that a reply will be forthcoming within a reasonable period of time, but ordinarily not later than ninety days, and shall, in fact, deliver such reply within such period. However, the Committee may extend the reply period for an additional ninety days for reasonable cause. If the reply period will be extended, the Committee shall advise the Claimant in writing during the initial 90-day period indicating the special circumstances requiring an extension and the date by which the Committee expects to render the benefit determination.

If the claim is denied in whole or in part, the Committee will render a written opinion, using language calculated to be understood by the Claimant, setting forth:

(a) the specific reason or reasons for the denial;

(b) the specific references to pertinent Plan provisions on which the denial is based;

(c) a description of any additional material or information necessary for the Claimant to perfect the claim and an explanation as to why such material or such information is necessary;

(d) appropriate information as to the steps to be taken if the Claimant wishes to submit the claim for review, including a statement of the Claimant’s right to bring a civil action under Section 502(a) of ERISA following an adverse benefit determination on review; and

(e) the time limits for requesting a review of the denial under Section 9.3 and for the actual review of the denial under Section 9.4.

9.3 Request for Review.

Within sixty days after the receipt by the Claimant of the written opinion described above, the Claimant may request in writing that the Secretary of the Company (Secretary) review the Committee’s prior determination. Such request must be addressed to the Secretary at the Company at its then principal place of business. The Claimant or his or her duly authorized representative may submit written comments, documents, records or other information relating to the denied claim, which such information shall be considered in the review under this Section without regard to whether such information was submitted or considered in the initial benefit determination.

The Claimant or his or her duly authorized representative shall be provided, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information which (i) was relied upon by the Committee in making its initial claims decision, (ii) was submitted, considered or generated in the course of the Committee making its initial claims decision, without regard to whether such instrument was actually relied upon by the Committee in making its decision or (iii) demonstrates compliance by the Committee with its administrative processes and safeguards designed to ensure and to verify that benefit claims determinations are made in accordance with governing Plan documents and that, where appropriate, the Plan provisions have been applied consistently with respect to similarly situated claimants. If the Claimant does not request a review of the Committee's determination within such sixty day period, he or she shall be barred and estopped from challenging such determination.

9.4 Review of Decision.

Within a reasonable period of time, ordinarily not later than sixty days, after the Secretary's receipt of a request for review, it will review the Committee's prior determination. If special circumstances require that the sixty day time period be extended, the Secretary will so notify the Claimant within the initial 60-day period indicating the special circumstances requiring an extension and the date by which the Secretary expects to render its decision on review, which shall be as soon as possible but not later than 120 days after receipt of the request for review. In the event that the Secretary extends the determination period on review due to a Claimant's failure to submit information necessary to decide a claim, the period for making the benefit determination on review shall not take into account the period beginning on the date on which notification of extension is sent to the Claimant and ending on the date on which the Claimant responds to the request for additional information.

Benefits under the Plan will be paid only if the Secretary decides in its discretion that the Claimant is entitled to such benefits. The decision of the Secretary shall be final and non reviewable, unless found to be arbitrary and capricious by a court of competent review. Such decision will be binding upon the Employer and the Claimant.

If the Secretary makes an adverse benefit determination on review, the Secretary will render a written opinion, using language calculated to be understood by the Claimant, setting forth:

(a) the specific reason or reasons for the denial;

(b) the specific references to pertinent Plan provisions on which the denial is based;

(c) a statement that the Claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information which (i) was relied upon by the Secretary in making its decision, (ii) was submitted, considered or generated in the course of the Secretary making its decision, without regard to whether such instrument was actually relied upon by the Secretary in making its decision or (iii) demonstrates compliance by the Secretary with its administrative processes and safeguards designed to ensure and to verify that benefit claims determinations are made in accordance with governing Plan documents, and that, where appropriate, the Plan provisions have been applied consistently with respect to similarly situated claimants; and

(d) a statement of the Claimant's right to bring a civil action under Section 502(a) of ERISA following the adverse benefit determination on such review.

9.5 Discretionary Authority.

The Committee and the Secretary shall both have discretionary authority to determine a Claimant's entitlement to benefits upon his claim or his request for review of a denied claim, respectively.

ARTICLE X
MISCELLANEOUS

10.1 Plan Not a Contract of Employment.

The adoption and maintenance of the Plan shall not be or be deemed to be a contract between the Company and any person or to be consideration for the employment of any person. Nothing herein contained shall give or be deemed to give any person the right to be retained in the employ of the Company or to restrict the right of the Company to discharge any person at any time; nor shall the Plan give or be deemed to give the Company the right to require any person to remain in the employ of the Company or to restrict any person's right to terminate his employment at any time.

10.2 Non-Assignability of Benefits.

No Participant, Beneficiary or distributee of benefits under the Plan shall have any power or right to transfer, assign, anticipate, hypothecate or otherwise encumber any part or all of the amounts payable hereunder, which are expressly declared to be unassignable and non-transferable. Any such attempted assignment or transfer shall be void. No amount payable hereunder shall, prior to actual payment thereof, be subject to seizure by any creditor of any such Participant, Beneficiary or other distributee for the payment of any debt, judgment, or other obligation, by a proceeding at law or in equity, nor transferable by operation of law in the event of the bankruptcy, insolvency or death of such Participant, Beneficiary or other distributee hereunder.

10.3 Withholding.

All deferrals and payments provided for hereunder shall be subject to applicable withholding and other deductions as shall be required of the Company under any applicable local, state or federal law.

10.4 Amendment and Termination.

The Committee may from time to time, in its discretion, amend, in whole or in part, any or all of the provisions of the Plan; provided, however, that no amendment may be made which would impair the rights of a Participant with respect to amounts already allocated to his Account. The Committee may terminate the Plan at any time. In the event that the Plan is terminated, the balance in a Participant's Account (whether or not it is otherwise vested or payable) shall be paid to such Participant or his Beneficiary in accordance with Code Section 409A and the rules and regulations promulgated thereunder. Any such amendment to or termination of the Plan shall be in writing and signed by a member of the Committee.

10.5 Unsecured General Creditor Status Of Employee.

The payments to Participant, his Beneficiary or any other distributee hereunder shall be made from assets which shall continue, for all purposes, to be a part of the general, unrestricted assets of the Company; no person shall have nor acquire any interest in any such assets by virtue of the provisions of this Agreement. The Company's obligation hereunder shall be an unfunded and unsecured promise to pay money in the future. To the extent that the Participant, a Beneficiary, or other distributee acquires a right to receive payments from the Company under the provisions hereof, such right shall be no greater than the right of any unsecured general creditor of the Company; no such person shall have nor require any legal or equitable right, interest or claim in or to any property or assets of the Company.

In the event that, in its discretion, the Company purchases an insurance policy or policies insuring the life of the Participant (or any other property) to allow the Company to recover the cost of providing the benefits, in whole, or in part, hereunder, neither the Participant, his Beneficiary or other distributee shall have nor acquire any rights whatsoever therein or in the proceeds therefrom. The Company shall be the sole owner and beneficiary of any such policy or policies and, as such, shall possess and may exercise all incidents of ownership therein. No such policy, policies or other property shall be held in any trust for a Participant, Beneficiary or other distributee or held as collateral security for any obligation of the Company hereunder unless the Company, in its sole discretion, has established a rabbi trust.

10.6 Severability.

If any provision of this Plan shall be held illegal or invalid for any reason, said illegality or invalidity shall not affect the remaining provisions hereof; instead, each provision shall be fully severable and the Plan shall be construed and enforced as if said illegal or invalid provision had never been included herein.

10.7 Governing Laws.

All provisions of the Plan shall be construed in accordance with the laws of Missouri, except to the extent preempted by federal law.

10.8 Binding Effect.

This Plan shall be binding on each Participant and his heirs and legal representatives and on the Company and its successors and assigns.

10.9 Entire Agreement.

This document and any amendments contain all the terms and provisions of the Plan and shall constitute the entire Plan, any other alleged terms or provisions being of no effect.

10.10 Interpretation.

All provisions of this Plan shall be interpreted in a manner so as to be consistent with Section 409A of the Code and the regulations issued thereunder.

IN WITNESS WHEREOF, the Company has caused this Plan to be executed on the ___________ day of _______________________, 2008.

RGA REINSURANCE COMPANY

By:_____________________________

Its:_____________________________

Exhibit 10.22

CANADIAN SUPPLEMENTAL EXECUTIVE RETIREMENT PLAN (SERP) FOR EXECUTIVE EMPLOYEES OF RGA LIFE REINSURANCE COMPANY OF CANADA

(Amended and restated as of August 1, 2015)

CERTIFIED to be a true and complete copy of the text of the Canadian Supplemental Executive Retirement Plan for Executive Employees of RGA Life Reinsurance Company of Canada

/s/ Alka Gautam

President and Chief Executive Officer

July 24, 2015

Date

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Section 1 - Introduction

1.01 The purpose of this Canadian Supplemental Executive Retirement Plan (hereinafter the “SERP”) is to provide retirement benefits to Executive Employees eligible to become participants thereunder, in accordance with the terms and provisions of this document. Such retirement benefits are in addition to those payable from any Registered Pension Plan of RGA Life Reinsurance Company of Canada (the "Company").

1.02 This SERP is effective as of March 1, 2002. For greater certainty, this SERP shall not apply to any former Executive Employee who has retired from or otherwise terminated his employment with the Company or its predecessors or their affiliates prior to the effective date of the SERP.

1.03 The provisions of this SERP were amended and restated effective as of January 1, 2011 and May 1, 2013.

1.04 Unless otherwise stated, the provisions of this SERP are hereby further amended and restated effective as of August 1, 2015.

1.05 Unless stated otherwise:

a) the terms of the SERP as restated in this text apply to Participants whose Credited Service terminates after July 31, 2015; and

b) the amount and the value of the annual supplementary allowance of Participants whose Credited Service terminated before August 1, 2015 are determined by the terms of the SERP that were in effect at the time of that event.

Section 2 - Definitions

In this SERP, the following words and phrases shall have the following meaning, respectively, unless a different meaning is specifically required by the context:

2.01 “Actuarial Equivalent Value” shall mean a value deemed to be equal to another value, as determined by the Actuary on the basis of the SERP provisions in effect on the date such determination is being made. The Actuarial Equivalent Value of a benefit of a Participant under this SERP shall be determined in the same manner and using the same assumptions as those used or that would be used under the Standard of Practice for Determining Pension Commuted Values recommended by the Canadian Institute of Actuaries. For greater certainty, the assumptions shall be determined without taking into account the incidence of income taxes payable in respect of benefits payable under this SERP and are the ones effective on the day on which the Participant terminates his employment with the Company

2.02 “Actuary” shall mean a Fellow of the Canadian Institute of Actuaries or a firm employing one or more of such persons, employed by the Company for the purpose of performing such duties as may be requested of him by the Company.

2.03 “Average Lower Limit” shall mean the average of the Lower Limit during the period of 5 calendar years immediately preceding the Participant's cessation of active service, whether because of termination, death in service, or retirement. If the Participant has completed less than 5 years of uninterrupted employment with the Company, the average of the Lower Limit over such period of uninterrupted employment shall be used.

2.04 “Average Pensionable Earnings” shall mean the average of the Pensionable Earnings during the best five consecutive calendar years during the Participant's career. If the Participant has completed less than 5 years of uninterrupted employment with the Company, the average of the Pensionable Earnings over such period of uninterrupted employment shall be used.

2.05 “Average Upper Limit” shall mean the average of the Upper Limit during the period of 5 calendar years immediately preceding the Participant's cessation of active service, whether because of termination, death in service, or retirement. If the Participant has completed less than 5 years of uninterrupted employment with the Company, the average of the Upper Limit over such period of uninterrupted employment shall be used.

2.06 “Company” shall mean RGA Life Reinsurance Company of Canada or any subsidiary of the Company or associated company which has adopted this SERP, provided, however, that any reference in this SERP to action to be taken, consent, approval or opinion to be given, decision to be made or discretion to be exercised by the Company shall refer to RGA Life Reinsurance Company of Canada, acting through its Board of Directors or any person or persons authorized to act on behalf of the Company for the purposes of this SERP, in accordance with the normal practices of the Company.

2.07 “Credited Service” shall mean:

For Participants enrolled in the SERP before May 1st, 2013

a Participant’s uninterrupted period of employment, with the Company or with a predecessor company, deemed to have commenced on the first day of the month coinciding with or immediately following the Participant’s hiring date by the Company, or by such predecessor company, as the case may be.

For Participants enrolled in the SERP on or after May 1st, 2013

a Participant’s uninterrupted period of employment, with the Company or with a predecessor company, deemed to have commenced on the first day of the month coinciding with or immediately following the date the participation of the Executive Employee begins in the SERP.

For all Participants

The Credited Service of a Participant shall not be interrupted as a result of any absence due to disability, or due to temporary absence other than as a result of disability, where such absence was approved by the Company. The Credited Service of a Participant working on a part-time basis shall be prorated. The Credited Service of a Participant shall not include any period during which he does not participate in the Registered Pension Plan.

Credited Service shall be measured in years with proportional allowance for
complete months in fractional years.

2.08 "Early Retirement Date" shall mean the first day of the month immediately following the date on which the Participant elects to retire early in accordance with Section 5 hereof, provided he is then at least 50 years of age.

2.09 "Effective Date" shall mean March 1, 2002.

2.10 "Executive Employee" shall mean an executive employee considered as such by the Company and who is eligible for participation in this SERP in accordance with Section 3.

2.11 "Lower Limit" shall mean, in respect of any calendar year, 3 times the Year's Maximum Pensionable Earnings as defined under the Canada/Québec Pension Plan (3 x $42,100 in 2006, and as adjusted from year to year).

2.12 "Normal Retirement Date" shall mean the first day of the month coinciding with or next following the month in which the Participant attains the age of 60 years.

2.13 "Participant" shall mean an Executive Employee who is eligible to participate in this SERP in accordance with Section 3 herein.

2.14 "Pensionable Earnings" shall mean for a Participant for a given calendar year the sum of his base salary during the year and the Management Incentive Plan (MIP) bonus earned, in respect of the year, regardless of when the bonus may be paid. For certainty, other forms of compensation, such as production bonuses or severance payments, shall not be included in the calculation of Pensionable Earnings. Compensation for a Participant working on a part-time basis shall be annualized. Compensation denominated in U.S. dollars shall be converted to Canadian dollars using the average exchange rate for the year (CANSIM series B-3400).

2.15 "Registered Pension Plan" means any one or more pension plans sponsored by the Company from time to time and registered with Canada Revenue Agency.

2.16 "SERP" shall mean the Canadian Supplemental Executive Retirement Plan for Executive Employees of RGA Life Reinsurance Company of Canada, as described in this document and as may be amended from time to time.

2.17 “Spouse” shall mean the person considered as such for the purpose of the Registered Pension Plan of which the Participant is a member at time of his termination of employment, death in service, or retirement.

2.18 “Upper Limit” shall mean, in respect of any calendar year, 8 times the Year’s Maximum Pensionable Earnings as defined under the Canada/Québec Pension Plan (8 x $42,100 in 2006, and as adjusted from year to year).

For the purpose of this SERP, unless the context indicates otherwise, references to the masculine include the feminine and vice versa, and references to the singular include the plural and vice versa.

Section 3 - Eligibility

3.01 An Executive Employee shall be eligible to become a Participant of this SERP upon designation by the Company, subject to the approval of the President.

3.02 An Executive Employee must participate in the Registered Pension Plan in order to become a Participant in this SERP.

3.03 An Executive Employee who has become a Participant under this SERP in accordance with this Section 3 shall remain a Participant as long as he continues to be entitled to receive benefits hereunder.

3.04 In the event that a Participant remains an employee of the Company but ceases to be classified as an Executive Employee, and unless he is otherwise designated by the Company as eligible to continue to accrue Credited Service under this SERP, the benefits otherwise payable to or in respect of such Participant under this SERP shall be payable as of the Participant’s retirement date, date of death in service, or date of termination of employment, as the case may be, but shall be based on such Participant’s Credited Service, Average Pensionable Earnings, Average Lower Limit, and Average Upper Limit, each determined as of the date on which he ceases to be classified as an Executive Employee or as of such later date or dates specified by the Company.

3.05 An Executive Employee who becomes a Participant in this SERP shall be notified in writing by the President, and shall be provided with a copy of this plan text.

Section 4 - Contributions

4.01 No contribution shall be required or permitted from a Participant in respect of benefits payable under this SERP.

4.02 The Company shall pay the full cost of administering the benefits provided under the SERP.

4.03 The Company is under no obligation to secure the benefits payable under the SERP.

Section 5 - Retirement Benefits

5.01 A Participant who retires on or after his Normal Retirement Date and provided he has then completed at least 5 years of uninterrupted employment with the Company shall, subject to Section 5.03 below, be entitled to receive an annual supplementary allowance equal to the sum of a) and b) below, where:

a) for each year of Credited Service before January 1, 2011, the sum of i) and ii) below, where:

i) equals 2% of the excess, if any, of A over B, where:

A. is the lesser of the Average Pensionable Earnings of the Participant and the Average Upper Limit; and

B. is the Average Lower Limit; and

ii) equals 1% of the excess, if any, of the Average Pensionable Earnings of the Participant over the Average Upper Limit.

b) for each year of Credited Service from January 1, 2011, 2% of the excess, if any, of the Average Pensionable Earnings of the Participant over the Average Lower Limit.

5.02 A Participant who retires on his Early Retirement Date and provided he has then completed at least 5 years of uninterrupted employment with the Company shall, subject to Section 5.03 below, and subject to a reduction of 1/3% for each month by which he retires before his Normal Retirement Date, be entitled to receive for each year of Credited Service an annual supplementary allowance equal to the amount determined in accordance with Section 5.01, and based on his Credited Service, Average Pensionable Earnings, Average Lower Limit, and Average Upper Limit as of his Early Retirement Date.

5.03 The annual supplementary allowance payable under Section 5.01 or 5.02, as the case may be, shall be payable in equal monthly instalments commencing on the Participant's actual retirement date, and, subject to Section 6, continuing for his lifetime, guaranteed 5 years in any event. For greater certainty, this allowance is a non-indexed pension, and will not increase with inflation. At the discretion of the

Company, the annual supplementary allowance may be payable in equal bi-weekly instalments commencing on the Participant's actual retirement date.

5.04 For certainty, no benefit shall be payable under this SERP to a Participant who retires for any reason prior to having completed at least 5 years of uninterrupted employment with the Company.

Section 6 - Form of Pension

6.01 The annual supplementary allowance payable to a Participant under this SERP in accordance with Section 5 shall be mandatorily converted to a 10-year certain pension of Actuarial Equivalent Value.

6.02 Subject to the consent of the Company, the Participant may request that the mandatory 10-yearcertain pension payable under Section 6.01 be converted to a certain pension of shorter duration or to a lump sum of Actuarial Equivalent Value.

Section 7 - Death Before Retirement

7.01 In the event that a Participant dies while in the service of the Company and prior to his 50th birthday, his Spouse shall be entitled to receive a lump sum of Actuarial Equivalent Value to a deferred annual supplementary allowance determined in accordance with Section 5.01 hereof as if the Participant had terminated service and had been fully vested immediately prior to the date of his death. The Actuarial Equivalent Value shall be calculated assuming that the Participant had elected early retirement as is permitted in Section 5.02.

7.02 In the event that a Participant dies while in the service of the Company and after his 50th birthday, his Spouse shall be entitled to receive a lump sum of Actuarial Equivalent Value to the immediate annual supplementary allowance that the Participant was entitled to in accordance with Sections 5.01 and 5.02 hereof had the Participant been fully vested immediately prior to the date of his death.

7.03 In the event that there is no Spouse at the time of death of a Participant referred to in this Section 7, his estate shall receive the lump sum payable under this SERP in accordance with this Section 7.

Section 8 - Termination of Employment

8.01 A Participant who terminates his service with the Company prior to his 50th birthday and provided he has then completed at least 5 years of uninterrupted employment with the Company shall be entitled to receive a deferred annual supplementary allowance payable from his Normal Retirement Date and determined in accordance with Section 5.01 and Section 5.03 hereof.

8.02 The deferred annual supplementary allowance payable to a Participant under this SERP in accordance with Section 8 shall be mandatorily converted to a 10-year certain pension of Actuarial Equivalent Value payable from the first day of the month coinciding with or next following the date of termination of employment.

8.03 Subject to the consent of the Company, the Participant may request that the mandatory 10-year certain pension payable under Section 8.02 be converted to a certain pension of shorter duration or to a lump sum of Actuarial Equivalent Value.

8.04 No benefit shall be payable under this SERP to a Participant who ceases to be in the employ of the Company prior to his 50th birthday:

a) as a result of the termination of his employment by the Company for cause, or

b) as a result of the termination of his employment for any reason prior to having completed at least 5 years of uninterrupted employment with the Company.

Section 9 - Disability

9.01 During a period of disability entitling the Participant to receive disability benefits under the short-term or long-term disability plan maintained by the Company from time to time, such Participant shall continue to accrue Credited Service for the purpose of this SERP. During such period, the Pensionable Earnings of the Participant shall be equal to the base salary he was receiving immediately prior to his becoming disabled, plus his target MIP bonus.

9.02 If the Participant, for any reason, ceases to be eligible to receive benefits under the short-term or long-term disability plan maintained by the Company prior to attaining age 65 and within such period as determined by the Company:

a) the Participant returns to active employment with the Company, then at the date of his subsequent termination, death in service, or retirement, he shall be entitled to supplementary retirement benefits calculated in accordance with the provisions of this SERP, taking into account the provisions of Section 9.01 above, or

b) the Participant does not return to active employment with the Company then, he will be deemed to have terminated his employment or retired for the purposes of this SERP as of the day he ceases to be eligible to receive benefits from the disability plans maintained by the Company and his supplementary retirement benefits shall be calculated based on the provisions of this SERP, taking into account the provisions of Section 9.01 above.

9.03 A Participant whose period of disability continues until age 65 shall be deemed to have retired at age 65 for the purpose of this SERP.

9.04 In the event of the death of a Participant who is accumulating Credited Service while in receipt of disability benefits as provided in Section 9.01 hereof, the benefits payable under this SERP shall be determined in accordance with the terms of Section 7 hereof as if he died while in service of the Company.

Section 10 - Transfers Within the RGA Group

10.01 In the event that a Participant's employment with the Company ceases because of his transfer to a subsidiary or associated company which has not adopted this SERP, then the Company has discretion as to the effect of the transfer on the Participant's benefit rights under this SERP.

Section 11 - Conditions for Payment

11.01 Notwithstanding anything herein contained to the contrary, no amount of benefit shall be payable or continued to be paid pursuant to this SERP in the event that during his employment with the Company or during a period of 2 years following his termination of employment or retirement, the Participant, directly or indirectly, without the consent of the Company:

a) engages in or becomes interested as a principal, agent, officer, employee, manager, advisor, financial backer, shareholder (except as a passive investor in a public corporation) or in any other capacity whatsoever in a business in North America which may be fairly regarded as being in competition with the business of the Company; or

b) assists financially or in any manner whatsoever any person, firm, association or corporation, whether as principal, agent, officer, employee, manager, advisor, financial backer, shareholder (except as a passive investor in a public corporation) or in any capacity whatsoever to enter into, develop, carry on or maintain a business in North America, which may fairly be regarded as being in competition with the business of the Company.

11.02 Furthermore, notwithstanding anything herein contained to the contrary, no amount of benefit shall be payable or continued to be paid pursuant to this SERP in the event that during his employment with the Company or at any time thereafter, the Participant fails to keep confidential any information of a confidential or proprietary nature concerning the Company, its subsidiaries and affiliates and their respective operations, assets, finances, business and affairs or uses such information for personal advantage, provided that nothing herein shall prevent the Participant from disclosing information which is publicly available or which is required to be disclosed under appropriate statutes, rules or law or legal process.

In the event of doubt regarding the confidentiality of any information, the Participant must verify the confidentiality nature of the information with the Company.

Section 12 - General Provisions

12.01 Proof of Age

Any Participant entitled to benefits hereunder shall, upon request, furnish proof of age satisfactory to the Company. In the case that the age of the Participant is found to be inexact, the Company will adjust benefits accordingly.

12.02 Executive Employee Rights

The implementation of this SERP shall not constitute an enlargement of any rights which a Participant had apart from his membership in this SERP. The benefits conferred herein shall not be used to increase damages in respect of the dismissal or termination of employment of any Participant.

12.03 Non Alienation

Subject to any applicable legal requirement, all benefits payable under the terms of this SERP are for the Participant's own use and are subject to the following restrictions:

i) any transaction that purports to assign, charge, anticipate, surrender or give as security any right of a person under this SERP or benefit payable under this SERP shall not be enforceable against this SERP; and

ii) any benefit payable hereunder is exempt from execution, seizure or attachment.

12.04 Non Commutability of Benefits

The benefits provided under this SERP shall not be capable of surrender or commutation except as provided herein.

12.05 Records

Wherever the records of the Company are used for the purpose of this SERP, such record shall be considered conclusive of the facts with which they are concerned unless and until they are proven to be in error.

12.06 Incompetency

If, in the opinion of the Company, any person receiving or entitled to receive a benefit under the terms of this SERP is, as a result of physical and mental infirmity, incapable of managing his affairs, the Company may authorize any payment to which such person is entitled to be made to a curator or administrator appointed by the Court or in the absence of any such person, payment shall be made to his Spouse, children or other person on his behalf and such payment shall be in complete discharge of the obligations of the Company under this SERP to make such payment.

12.07 Interpretation

a) The provisions of this SERP shall be interpreted in accordance with the laws of the Province of Québec and shall be binding upon and enure to the benefit of the Company and its successors and assigns.

b) Headings wherever used herein are for reference purposes only and do not limit or extend the meaning of any provisions of this SERP.

12.08 Severability

Should any of the provisions of this SERP and/or its conditions be illegal or not enforceable, it or they shall be considered severable and the SERP and the remaining conditions shall remain in full force and effect and be binding upon the parties as thought the said provision or provisions have never been included.

12.09 Currency

All benefits payable under the SERP shall be in Canadian Currency.

12.10 Taxability of Benefits

All benefits under this SERP are expressed on a pre-tax basis and shall be subject to applicable withholding tax and reporting pursuant to the Income Tax Act (Canada) and any other applicable law.

Section 13 - Administration

13.01 The Company shall decide on all matters relating to the interpretation, administration and application of this SERP, consistently with the provisions of this SERP and such interpretation or performance, fairly and reasonably done, shall be final and conclusive. The Company shall act through its Board of Directors or any person or persons authorized to act on behalf of the Company for the purposes of this SERP, in accordance with the normal practices of the Company.

13.02 The Company may, at its discretion, interpret, administer and apply the provisions of this SERP in such a manner as to include special provisions agreed in writing with any given Participant. Such action shall under no circumstance reduce the benefits otherwise payable under this SERP.

Section 14 - Future of the Plan

14.01 Notwithstanding anything to the contrary herein, the Company reserves the right to amend or terminate this SERP. Any amendment or decision to terminate this SERP shall be communicated in writing by the Company to the Participants indicating the effective date of such amendment or termination of this SERP, which shall not precede the date that such communication is given to the Participants. No such amendment or termination shall have the effect of reducing the amount or value of benefits accrued by the Participants under this SERP prior to the effective date of such amendment or termination of this SERP.

14.02 In the event that an amendment is made pursuant to this Section 14 to the effect that only the Participant's Credited Service before a given date (hereinafter called "Cessation Date") will be used for the calculation of the annual supplementary allowance payable hereunder, the annual supplementary allowance payable to a Participant under this SERP shall be paid following such Participant's retirement, death in service, or termination of employment, as the case may be, in accordance with the provisions of Sections 5, 7 or 8 as applicable, provided, however, the determination of the Participant's annual supplementary allowance hereunder shall be based on his Credited Service up to the Cessation Date only and on his Average Pensionable Earnings, Average Lower Limit, and Average Upper Limit as of the date of his retirement, death in service, or termination of employment, as the case may be.

14.03 In the event this SERP is terminated as of a given date by a decision of the Company as provided for under this Section 14:

a) an active Participant who has reached 50 years of age shall be deemed, for the purpose of this SERP, to have retired on the date of termination of the SERP
(the "Termination Date"), and shall be entitled to the annual supplementary allowance determined in accordance with Section 5;

b) an active Participant who has not yet reached age 50 shall be deemed, for the purpose of this SERP, to have terminated his employment on the Termination Date and shall be entitled to the annual supplementary allowance benefits determined in accordance with Section 8.01 hereof;

c) the benefit to which a Participant is entitled pursuant to Section 14.03 a) or b), as the case may be, shall be paid in a lump sum amount equal to the Actuarial Equivalent Value of such annual supplementary allowance , such lump sum amount to be paid no later than 120 days following the Termination Date; and

d) the obligations of the Participant pursuant to Section 11.01 and Section 11.02 shall be waived as of the Termination Date.

Exhibit 10.23

Directors' Compensation Summary Sheet

	Board Members	Chairman of the Board
Annual Retainer	$ 115,000	$ 215,000
Committee Chairs		
Audit Committee	$ 27,500	
Compensation Committee	$ 22,500	
Nominating & Governance Committee	$ 22,500	
FIRM Committee	$ 22,500	
Deals Subgroup Committee Retainer	$ 10,000	
Technology Subgroup Committee Retainer	$ 10,000	
Stock Grants (1)	$ 150,000	$ 280,000

(1) Number of shares issued based upon FMV on date of grant.

Exhibit 10.24

INDEMNIFICATION AGREEMENT

This INDEMNIFICATION AGREEMENT (the "Agreement") dated as of ____________________________, is made by and between Reinsurance Group of America, Incorporated, a Missouri corporation ("RGA") and ________________________________ ("Indemnitee").

RECITALS

A. Indemnitee is an officer and/or director of RGA and in such capacity is performing a valuable service for RGA.

B. The Second Restated Articles of Incorporation of RGA requires RGA to indemnify its directors and officers to the maximum extent permitted by law, and indemnification is also authorized by Section 351.355 of The General and Business Corporation Law of Missouri (the "Indemnification Statute").

C. The Second Restated Articles of Incorporation of RGA and the Indemnification Statute, under which RGA is organized, expressly provide that the indemnification provisions set forth therein are not exclusive, and contemplate that contracts may be entered into between RGA and its directors and officers with respect to indemnification.

D. In accordance with the authorization provided by the Second Restated Articles of Incorporation of RGA and the Indemnification Statute, directors and officers liability insurance ("D&O Insurance") has been purchased covering certain liabilities which may be incurred by RGA's directors and officers in the performance of their services for RGA, subsidiaries of RGA, and other enterprises.

E. RGA recognizes that competent and experienced persons are reluctant to serve as directors or officers of corporations unless they are protected by comprehensive liability insurance or indemnification, or both, due to increased exposure to litigation costs and risks resulting from their service to such corporations, and due to the fact that the exposure frequently bears no reasonable relationship to the compensation of such directors and officers.

F. The statutes and judicial decisions regarding the duties of directors and officers are often difficult to apply, ambiguous, or conflicting, and therefore fail to provide such directors and officers with adequate, reliable knowledge of legal risks to which they are exposed or information regarding the proper course of action take.

G. RGA and Indemnitee recognize that plaintiffs often seek damages in such large amounts and the costs of litigation may be so enormous (whether or not the case is meritorious), that the defense and/or settlement of such litigation is often beyond the personal resources of directors and officers.

H. RGA believes that it is unfair for its directors and officers to assume the risk of huge judgments and other expenses which may occur in cases in which the director or officer received no personal profit and in cases where the director or officer was not culpable.

I. RGA, after reasonable investigation, has determined that policies of D&O Insurance may be inadequate in certain circumstances to cover all possible exposure from which Indemnitee

should be protected. RGA believes that the interests of RGA and its shareholders would best be served by a combination of such insurance and the indemnification by RGA of the directors and officers of RGA. To provide such protection and thereby induce Indemnitee to serve or continue to serve as a director and/or officer of RGA, RGA has determined and agreed to enter into this Agreement with Indemnitee.

J. The Board of Directors has determined that contractual indemnification as set forth herein is not only reasonable and prudent but necessary to promote the best interests of RGA and its shareholders.

K. RGA desires and has requested Indemnitee to serve or continue to serve as a director and/or officer of RGA free from undue concern for claims for damages arising out of or related to such services.

L. Indemnitee is willing to serve, or continue to serve, or to provide additional service as a director and/or officer of RGA or for or on behalf of RGA, only on the condition that Indemnitee is furnished the indemnity provided for herein.

NOW THEREFORE, in consideration of the premises and Indemnitee's service as a director and/or officer of RGA after the date hereof, and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, RGA and Indemnitee, intending to be legally bound, hereby agree as follows:

1. *Definitions*

In this Agreement the following terms have the following meanings:

(a) The term "another enterprise" shall mean any corporation (other than RGA), partnership, joint venture, trust, limited liability company, employee benefit plan or other legal entity or enterprise.

(b) The term "defense" when used with respect to any proceeding shall include investigations of any proceeding as well as appeals in any proceeding and shall also include defense by way of cross claim or counterclaim.

(c) The term "expenses" means all direct and indirect costs (including, without limitation, attorneys' fees, retainers, court costs, transcripts, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, appeal bonds, and all other disbursements or out-of-pocket expenses) actually and reasonably incurred in connection with (i) any proceeding or (ii) establishing or enforcing any right to indemnification or advancement of expenses under this Agreement, applicable law, any other agreement or provision of RGA's Articles of Incorporation or Bylaws now or hereafter in effect or otherwise; provided, however, that "expenses" shall not include any judgment, fines or amount paid in settlement. The term "expenses" shall include reasonable compensation for time spent by Indemnitee for which Indemnitee is not otherwise compensated by RGA or any other source, provided that the rate of compensation and estimated time involved is approved by RGA's Board of Directors.

(d) The term "judgments, fines and amounts paid in settlement" shall be broadly construed and shall include, without limitation, all direct and indirect payments of any type or nature whatsoever, as well as any penalties or excise taxes assessed on a person with respect to an employee benefit plan.

(e) The term "proceeding" shall mean, without limitation, the investigation, preparation, prosecution, defense, settlement, arbitration and appeal of, or the giving of testimony in, any threatened,

pending or completed claim, action, suit or proceeding (including those by or in the right of RGA or a subsidiary of RGA) whether civil, criminal, administrative or investigative or otherwise and whether formal or informal.

(f) The term “serving at the request of RGA” shall include, without limitation, any service as a director, officer, employee or agent of RGA or a subsidiary of RGA which imposes duties on, or involves services by, Indemnitee with respect to any employee benefit plan, its participants or beneficiaries.

(g) “RGA” shall include, without limitation and in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, limited liability company, joint venture, trust, employee benefit plan or other enterprise, shall stand in the same position under the provisions of this Agreement with respect to the resulting or surviving corporation as he or she would have with respect to such constituent corporation if its separate existence had continued.

(h) A “director or officer of RGA” shall include a director or officer of a subsidiary of RGA, a “director and/or officer of RGA” shall include a director and/or officer of a subsidiary of RGA”, and “RGA’s directors and officers” shall include directors and officers of RGA’s subsidiaries.

2. *Indemnification - General*

RGA shall indemnify and hold harmless Indemnitee to the fullest extent permitted or authorized by applicable law. The term “applicable law” means (i) the Indemnification Statute as in effect on the date hereof and as thereafter amended (but in the case of any such amendment, only to the extent such amendment permits RGA to provide broader indemnification rights than the Indemnification Statute permitted RGA to provide immediately prior to such amendment) and (ii) any other statutory indemnification provisions adopted after the date hereof.

3. *Additional Indemnification*

Notwithstanding any limitation on indemnity pursuant to Section 2, RGA shall indemnify Indemnitee and hold Indemnitee harmless from and against any and all expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by Indemnitee in connection with any proceeding to which Indemnitee is, was or at any time becomes a party, or is threatened to be made a party by reason of the fact that Indemnitee is or was at any time a director, officer, employee or agent of RGA, or is or was serving or at any time serves at the request of RGA as a director, officer, employee or agent of another corporation, partnership, limited liability company, joint venture, trust, employee benefit plan or other enterprise.

4. *Partial Indemnification*

If Indemnitee is entitled under any provision of this Agreement to indemnification by RGA for some or a portion of any expenses or liabilities of any type whatsoever (including, but not limited to, attorneys’ fees, judgments, fines and amounts paid in settlement), but is not entitled, however, to indemnification for the total amount thereof, RGA shall nevertheless indemnify the Indemnitee for the portion thereof to which the Indemnitee is so entitled.

5. *Insurance*

RGA may, but is not obligated to, obtain D&O Insurance as may be or become available in reasonable amounts from established and reputable insurers with respect to which Indemnitee is named as an insured. Notwithstanding any other provision of the Agreement, the Company shall not be obligated to indemnify Indemnitee for expenses or liabilities of any type which have been paid directly to or on behalf of Indemnitee by D&O Insurance. If RGA has D&O Insurance in effect at the time RGA receives from Indemnitee any notice of the commencement of a proceeding, RGA shall give prompt notice of the commencement of such proceeding to the insurer(s) in accordance with the procedures set forth in the applicable policy or policies. RGA shall thereafter take all necessary or desirable action to cause such insurer(s) to pay, to or on behalf of the Indemnitee, all amounts payable as a result of such proceeding in accordance with the terms of such policy or policies.

6. *Limitations on Certain Indemnification*

Notwithstanding any other provisions of this Agreement to the contrary, RGA shall not indemnify or hold Indemnitee harmless:

(a) for amounts indemnified by RGA other than pursuant to this Agreement and amounts paid pursuant to policies of D&O Insurance;

(b) in respect to remuneration paid to Indemnitee if it shall be determined by a final judgment or other final adjudication that such remuneration was in violation of law;

(c) if a final judgment is rendered against Indemnitee for an accounting of profits made from the purchase or sale by Indemnitee of securities of RGA pursuant to Section 16(b) of the Securities Exchange Act of 1934 and amendments thereto or similar provisions of any federal, state or local law;

(d) from or on account of Indemnitee’s conduct which is finally adjudged by a court having jurisdiction in the matter to have been knowingly fraudulent, deliberately dishonest or to have constituted willful misconduct;

(e) if a final adjudication by a court having jurisdiction in the matter shall determine that such indemnification is not lawful;

(f) in respect to proceedings or claims initiated or brought voluntarily by Indemnitee and not by way of defense, except in respect to proceedings brought to establish or enforce a right to indemnification under this Agreement, or any other statute or law or otherwise as required under the Indemnification Statute, if Indemnitee is successful in whole or in part, but such indemnification or advancement of expenses may be provided by RGA in specific cases if the Board of Directors finds it to be appropriate; or

(g) in connection with proceedings or claims involving the enforcement of non-compete and/or non-disclosure agreements or the non-compete and/or non-disclosure provisions of employment, consulting or similar agreements that Indemnitee may be a party to with RGA, any subsidiary of RGA or any other applicable foreign or domestic corporation, partnership, joint venture, trust or other enterprise, if any.

7. *Notification and Defense of Claim*

After receipt by Indemnitee of notice of the commencement of, or the threat of the commencement of, any proceeding, Indemnitee shall promptly notify RGA if Indemnitee believes that indemnification with respect thereto may be sought from RGA under this Agreement; provided, however, that the failure of

Indemnitee to provide such notification shall not diminish Indemnitee's indemnification hereunder, except to the extent that RGA can demonstrate that it was actually prejudiced as a result thereof. With respect to any such proceeding as to which Indemnitee notifies RGA of the commencement thereof or the threat of the commencement thereof:

(a) RGA will be entitled to participate therein at its own expense.

(b) Except as otherwise provided in the next paragraph, RGA, jointly with any other indemnifying party similarly notified, will be entitled to assume the defense thereof, with counsel reasonably satisfactory to Indemnitee. After notice from RGA to Indemnitee of RGA's election to assume the defense thereof, RGA will not be liable to Indemnitee under this Agreement for any legal or other expenses subsequently incurred by Indemnitee in the defense thereof other than reasonable costs of investigation or as noted in the next paragraph of this subsection (b).

Indemnitee may employ Indemnitee's own counsel in such proceeding but the fees and expenses of such counsel incurred after notice from RGA of its assumption of the defense thereof shall be at the expense of Indemnitee unless (i) the employment of counsel by Indemnitee has been authorized by RGA, (ii) RGA shall have reasonably concluded that there may be a conflict of interest between RGA and Indemnitee in the conduct of the defense of such proceeding, or (iii) RGA shall not in fact have employed counsel to assume the defense of such proceeding, in each of which cases the reasonable fees and expenses of Indemnitee's counsel shall be at the expense of RGA.

(c) RGA shall not be liable to indemnify Indemnitee under this Agreement for any amounts paid in settlement of any proceeding effected without RGA's written consent. RGA shall not settle any proceeding in any manner which would impose any penalty or limitation on Indemnitee without Indemnitee's written consent. Neither RGA nor Indemnitee will unreasonably withhold their consent to any proposed settlement.

8. *Advancement of Expenses*

Except as otherwise provided herein, RGA shall advance any expenses actually and reasonably incurred by Indemnitee in connection with the investigation, defense, settlement and/or appeal of any proceeding to which Indemnitee is a party or is threatened to be made a party by reason of the fact that Indemnitee is or was a director, officer, employee or agent of RGA or a subsidiary of RGA, or is or was serving at the request or on behalf of RGA or a subsidiary of RGA as a director, officer, employee or agent of another corporation, partnership, limited liability company, joint venture, trust, employee benefit plan or another enterprise, provided RGA receives an undertaking from the Indemnitee agreeing to repay such amounts advanced in the event it is ultimately determined that the Indemnitee is not entitled to be indemnified by RGA therefor. The advances to be made hereunder shall be paid by RGA to or on behalf of the Indemnitee promptly and in any event within thirty (30) days following delivery of a written request therefor by Indemnitee to RGA and a copy of the invoices requested to be paid.

9. *Enforcement*

(a) In the event that Indemnitee is required to bring any action to enforce any rights or to collect any money due under this Agreement, RGA shall advance Indemnitee's expenses; provided, however, that if Indemnitee is not successful in such action, in whole or in part, Indemnitee shall reimburse RGA for all of Indemnitee's expenses so advanced.

(b) In order to provide for just and equitable contribution in circumstances in which the indemnification provided for herein is held by a court of competent jurisdiction to be unavailable to Indemnitee

in whole or in part, it is agreed that, in such event, RGA shall to the fullest extent permitted by Missouri law, contribute to the payment of the Indemnitee's expenses, judgments, fines and amounts paid in settlement with respect to any proceeding in an amount that is just and equitable in the circumstances, taking into account, among other things, contributions by other directors and officers of RGA or others pursuant to indemnification agreements or otherwise; provided that, without limiting the generality of the foregoing, such contribution shall not be required where such holding by the court is due to Indemnitee having intentionally caused or intentionally contributed to the injury complained of with the knowledge that such injury would occur.

(c) RGA shall indemnify Indemnitee against all expenses actually and reasonably incurred in connection with any hearing or proceeding under this Section 9, if Indemnitee is successful in whole or in part.

10. *Continuation of Indemnity*

All agreements and obligations of RGA contained herein shall continue during the period Indemnitee is a director or officer of RGA (or is or was serving at the request or on behalf of RGA or a subsidiary of RGA as a director, officer, employee or agent of another enterprise) and shall continue thereafter so long as Indemnitee shall be subject to any possible proceeding by reason of the fact that Indemnitee was a director or officer of RGA or serving in any other capacity referred to herein.

11. *Other Rights and Remedies*

The indemnification and other rights provided by this Agreement shall not be deemed exclusive of any other rights to which Indemnitee may be entitled under any provision of law, RGA's Second Restated Articles of Incorporation, RGA's Bylaws, other agreement, vote of shareholders or disinterested directors or otherwise, both as to action in Indemnitee's official capacity and as to action in another capacity while occupying any of the positions or having any of the relationships referred to in this Agreement, and shall continue after Indemnitee has ceased to occupy such position or have such relationship.

12. *Subrogation*

In the event of payment under this Agreement, RGA shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee, who shall execute all papers required and shall do everything that may reasonably be necessary to secure such rights, including the execution of such documents necessary to enable RGA effectively to bring suit to enforce such rights. RGA shall pay or reimburse all reasonable expenses incurred by Indemnitee in connection with such subrogation.

13. *Severability*

If any provision of this Agreement shall be held to be invalid, illegal or unenforceable (i) the validity, legality and enforceability of the remaining provisions of this Agreement shall not be in any way affected or impaired thereby, and (ii) to the fullest extent possible, the provisions of this Agreement shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal or unenforceable.

14. *Modification and Waiver*

No supplement or amendment of this Agreement shall be binding unless executed in writing by both of the parties. No waiver of any of the provisions of this Agreement shall be binding unless executed in writing by the person making the waiver nor shall such waiver constitute a continuing waiver.

15. *Notices*

All notices, requests, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given if (i) delivered by hand and receipted for by the party to whom said notice or other communication shall have been directed or if (ii) mailed by certified or registered mail with postage prepaid, on the third business day after the date on which it is so mailed:

(a) If to Indemnitee, to:

or to such other address as may be furnished in writing to RGA by Indemnitee;

(b) If to RGA, to:

Reinsurance Group of America, Incorporated
1370 Timberlake Manor Parkway
Chesterfield, Missouri 63017-6039
Attn: General Counsel

or to such other address as may have been furnished in writing to Indemnitee by RGA.

16. *Governing Law*

This Agreement shall in all respects be construed in accordance with and governed by the substantive laws of the State of Missouri, without reference to its choice of law rules.

17. *Other Rights and Remedies*

The rights of Indemnitee hereunder shall be in addition to any other rights Indemnitee may have under RGA's Articles of Incorporation, Bylaws or the Indemnification Statute or otherwise, and nothing herein shall be deemed to diminish or otherwise restrict Indemnitee's right to indemnification under any such other provision. To the extent applicable law or the Articles of Incorporation or the Bylaws of RGA, as in effect on the date hereof or at any time in the future, permit greater indemnification than as provided for in this Agreement, the parties hereto agree that Indemnitee shall enjoy by this Agreement the greater benefits so afforded by such law or provision of the Articles of Incorporation or Bylaws and this Agreement shall be deemed amended without any further action by RGA or Indemnitee to grant such greater benefits.

18. *Heirs, Successors and Assigns*

This Agreement shall be binding upon and inure to the benefit of and be enforceable against and by the parties hereto and their respective successors, assigns (including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business and/or assets of RGA), spouses, heirs and personal and legal representatives. RGA shall require and cause any successor (whether direct or indirect by purchase, merger, consolidation, or otherwise) to all, substantially all, or a substantial part, of the business and/or assets of RGA, by written agreement in form and substance satisfactory to Indemnitee, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that RGA would be required to perform if no such succession had taken place. This Agreement shall continue in effect regardless of whether Indemnitee continues to serve as a director, officer, employee or agent of RGA or of another enterprise at the request of RGA. This Agreement shall not be deemed to create any obligation on the part of Indemnitee to continue to serve in any such capacity. No assignment or succession (whether direct or indirect by purchase, merger, consolidation, or otherwise) shall relieve RGA of its obligations hereunder.

19. *Agreement to Serve*

Indemnitee agrees to serve and/or continue to serve as an director and/or officer of RGA, at its will (or under separate agreement, if such agreement now or hereafter exists), so long as he or she is duly appointed or elected and qualified in accordance with the applicable provisions of the Articles of Incorporation and Bylaws of RGA, any subsidiary of RGA, or any applicable other foreign or domestic corporation, partnership, limited liability company, joint venture, trust or other enterprise, or until such time as he or she tenders his or her resignation in writing, provided, however, that nothing contained in this Agreement is intended to create any right to continued employment by Indemnitee in any capacity.

20. *Miscellaneous*

(a) The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or affect the construction thereof.

(b) RGA expressly confirms and agrees that is has entered into this Agreement and assumed the obligations imposed on RGA hereby in order to induce Indemnitee to become or to continue as a director and/or officer of RGA and acknowledges that Indemnitee is relying upon this Agreement in continuing in such capacity or capacities.

(c) In the event of any ambiguity, vagueness or other matter involving the interpretation or meaning of this Agreement, this Agreement shall be liberally construed so as to provide to Indemnitee the full benefits set out herein.

(d) This Agreement supercedes any prior indemnification agreement between Indemnitee and RGA or its predecessors or subsidiaries.

This Indemnification Agreement is entered into on the day and year first above written.

REINSURANCE GROUP OF AMERICA, INCORPORATED

By: ______________________________________
Name:
Title:

INDEMNITEE

By: ______________________________________
Name: ______________________________________

Exhibit 12.1

Ratio of Earnings to Fixed Charges
(dollars in millions)

	Years Ended December 31,				
	2017	2016	2015	2014	2013
Income before income taxes	$ 1,142.8	$ 1,043.9	$ 744.8	$ 1,008.5	$ 635.3
Less:					
Undistributed income (loss) of investees accounted for under the equity method	(9.7)	1.6	7.0	3.0	4.3
Adjusted earnings before fixed charges	1,152.5	1,042.3	737.8	1,005.5	631.0
Add fixed charges:					
Interest expense	174.7	163.5	165.5	108.1	134.8
Interest credited on reinsurance contracts	502.0	364.7	337.0	451.0	476.5
One-third of rentals	5.2	4.6	4.0	6.4	6.2
Total fixed charges	681.9	532.8	506.5	565.5	617.5
Total earnings plus fixed charges	$ 1,834.4	$ 1,575.1	$ 1,244.3	$ 1,571.0	$ 1,248.5
Ratio of earnings to fixed charges	2.7	3.0	2.5	2.8	2.0
Total fixed charges	$ 681.9	$ 532.8	$ 506.5	$ 565.5	$ 617.5
Less interest credited on reinsurance contracts	502.0	364.7	337.0	451.0	476.5
Total fixed charges excluding interest credited[1]	$ 179.9	$ 168.1	$ 169.5	$ 114.5	$ 141.0
Total earnings plus fixed charges excluding interest credited under reinsurance contracts[1]	$ 1,332.4	$ 1,210.4	$ 907.3	$ 1,120.0	$ 772.0
Ratio of earnings to fixed charges excluding interest credited under reinsurance contracts[1]	7.4	7.2	5.4	9.8	5.5

(1) This information is not required, but the Company believes it provides additional useful information on the coverage of fixed charges that are not related to its products.

Exhibit 21.1

SUBSIDIARIES OF
REINSURANCE GROUP OF AMERICA, INCORPORATED

As of January 31, 2018

Aurora National Life Assurance Company, California corporation, wholly owned by RGA Reinsurance Company.

Bonhomme Financing LLC, Missouri limited liability company, wholly owned by RGA Worldwide Reinsurance Company, Ltd.

Bueller Financing, LLC, Missouri limited liability company, wholly owned by RGA Worldwide Reinsurance Company, Ltd.

Castlewood Financial LLC, Missouri limited liability company, wholly owned by Reinsurance Group of America, Incorporated.

Castlewood Reinsurance Company, Missouri corporation, wholly owned by Reinsurance Company of Missouri, Incorporated.

Chesterfield Financial Holdings LLC, Delaware limited liability company, wholly owned by Reinsurance Company of Missouri, Incorporated.

Chesterfield Reinsurance Company, Missouri corporation, wholly owned by Chesterfield Financial Holdings LLC.

Elite Sales Processing, Inc., Nebraska corporation, wholly owned by Reinsurance Group of America, Incorporated.

Gateway Ridge LLC, Missouri limited liability company, wholly owned by Reinsurance Group of America, Incorporated.

Horseshoe Financing LLC, Missouri limited liability company, wholly owned by RGA Worldwide Reinsurance Company, Ltd.

Leidsche Leven Holding B.V., Netherlands limited liability company, wholly owned by RGA Americas Reinsurance Company, Ltd.

Leidsche Verzekering Maatschapij N.V., Netherlands corporation, wholly owned by Leidsche Leven Holding B.V.

LOGiQ^{3} CORP., Ontario corporation wholly owned by LOGiQ^{3} INC.

LOGiQ^{3} INC., Canadian federal corporation wholly owned by RGA Reinsurance Company (Barbados), Ltd.

LOGiQ3 INC UK LTD., United Kingdom private limited company, wholly owned by LOGiQ^{3} INC.

LOGiQ^{3} CORP. U.S., Delaware corporation wholly owned by LOGiQ^{3} INC.

Manor Reinsurance, Ltd., Barbados corporation, wholly owned by RGA Reinsurance Company (Barbados), Ltd.

Maroon Financing LLC, Missouri limited liability company, wholly owned by RGA Worldwide Reinsurance Company, Ltd.

Meramec Financing LLC, Iowa limited liability company, wholly owned by RGA Worldwide Reinsurance Company, Ltd.

My Life Covered LLC, Missouri limited liability company, wholly owned by RGAx LLC.

Newcastle Financial LLC, Missouri limited liability company, wholly owned by Reinsurance Group of America, Incorporated.

Parkway Reinsurance Company, Missouri corporation, wholly owned by Reinsurance Company of Missouri, Incorporated.

Quincy Financing, LLC, Missouri limited liability company, wholly owned by RGA Worldwide Reinsurance Company, Ltd.

Reinsurance Company of Missouri, Incorporated, Missouri corporation, wholly owned by Reinsurance Group of America, Incorporated.

Reinsurance Partners, Inc., Missouri corporation, wholly owned by RGA Reinsurance Company.

RGA Americas Reinsurance Company, Ltd., Bermuda private limited corporation, wholly owned by Reinsurance Group of America, Incorporated.

RGA Atlantic Reinsurance Company Ltd., Barbados corporation, wholly owned by RGA Americas Reinsurance Company, Ltd.

RGA Australian Holdings Pty Limited, Australian corporation, wholly owned by RGA Americas Reinsurance Company, Ltd.

RGA Capital Limited, United Kingdom private limited company, wholly owned by RGA Holdings Limited.

RGA Capital LLC, Missouri limited liability company, wholly owned by Reinsurance Group of America, Incorporated.

RGA Enterprise Services Company, Missouri corporation, wholly owned by Reinsurance Group of America, Incorporated.

RGA Financial Group, L.L.C., Delaware limited liability company, 55% owned by RGA Reinsurance Company (Barbados) Ltd. and 45% owned by Reinsurance Group of America, Incorporated.

RGA Global Reinsurance Company, Ltd., Bermuda private limited corporation, wholly owned by RGA Reinsurance Company (Barbados), Ltd.

RGA Global Reinsurance Company, Ltd.,- escritório de Representação no Brasil Ltda., Brazil limited liability company, 99% owned by RGA Global Reinsurance Company, Ltd. and 1% owned by RGA International Corporation.

RGA Global Shared Services India Private Limited, Indian private limited corporation, 99% owned by Reinsurance Group of America, Incorporated and 1% owned by RGA Holdings Limited.

RGA Holdings Limited, United Kingdom private limited company, wholly owned by Reinsurance Group of America, Incorporated.

RGA International Corporation, Nova Scotia unlimited liability company, wholly owned by Reinsurance Group of America, Incorporated.

RGA International Division Sydney Office Pty. Limited, Australian limited liability company, wholly owned by RGA International Services Pty Ltd.

RGA International Reinsurance Company dac, Ireland private limited company, wholly owned by RGA Americas Reinsurance Company, Ltd.

RGA International Services Pty Ltd., Australian corporation, wholly owned by Reinsurance Group of America, Incorporated.

RGA Life Reinsurance Company of Canada, Canadian Federal corporation, wholly owned by RGA Americas Reinsurance Company, Ltd.

RGA Real Estate Holdings LLC, Missouri limited liability company, wholly owned by RGA Reinsurance Company.

RGA Real Estate Investments LLC, Missouri limited liability company, wholly owned by RGA Reinsurance Company.

RGA ReCap Incorporated, Missouri corporation, wholly owned by Reinsurance Group of America, Incorporated.

RGA Reinsurance Company, Missouri corporation, wholly owned by Reinsurance Company of Missouri, Incorporated.

RGA Reinsurance Company (Barbados) Ltd., Barbados corporation, wholly owned by Reinsurance Group of America, Incorporated.

RGA Reinsurance Company Middle East Limited, Dubai International Finance Centre private limited company, wholly owned by Reinsurance Group of America, Incorporated.

RGA Reinsurance Company of Australia Limited, Australian corporation, wholly owned by RGA Australian Holdings Pty Limited.

RGA Reinsurance Company of South Africa Limited, South African corporation, wholly owned by RGA South African Holdings (Pty) Ltd.

RGA Services (Singapore) Pte. Ltd., Singapore limited liability company, wholly owned by Reinsurance Group of America, Incorporated.

RGA South African Holdings (Pty) Ltd., South African corporation, wholly owned by RGA Americas Reinsurance Company, Ltd.

RGA Technology Partners, Inc., Missouri corporation, wholly owned by Reinsurance Group of America, Incorporated.

RGA UK Services Limited, United Kingdom private limited company, wholly owned by RGA Holdings Limited.

RGA Ventures (Pty) Ltd., South African corporation, wholly owned by RGA South African Holdings (Pty), Ltd.

RGA Worldwide Reinsurance Company, Ltd., Barbados corporation, wholly owned by Reinsurance Group of America, Incorporated.

RGAx EMEA Limited, United Kingdom private limited company, wholly owned by RGA Holdings Limited **.**

RGAx LLC, Missouri limited liability company, wholly owned by Reinsurance Group of America, Incorporated.

Rockwood Reinsurance Company, Missouri corporation, wholly owned by Reinsurance Group of America, Incorporated.

Timberlake Financial, L.L.C., Delaware limited liability company, wholly owned by Reinsurance Company of Missouri, Incorporated.

Timberlake Reinsurance Company II, South Carolina corporation, wholly owned by Timberlake Financial, L.L.C.

Tindall Associates, Inc., Illinois corporation, wholly owned by RGA Worldwide Reinsurance Company, Ltd.

Ulysses Financing LLC, Missouri limited liability company, wholly owned by RGA Worldwide Reinsurance Company, Ltd.

Wild Horse Financing LLC, Iowa limited liability company, wholly owned by RGA Worldwide Reinsurance Company, Ltd.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-123161, 333-156052, 333-176104, 333-196114 and 333-218214 on Form S-3 and Registration Statement Nos. 333-218213, 333-155685, 333-176106, 333-192656 on Form S-8 of our reports dated February 27, 2018, relating to the financial statements and financial statement schedules of Reinsurance Group of America, Incorporated and the effectiveness of Reinsurance Group of America, Incorporated's internal control over financial reporting, appearing in this Annual Report on Form 10-K of Reinsurance Group of America, Incorporated for the year ended December 31, 2017.

/s/ DELOITTE & TOUCHE LLP

St. Louis, Missouri
February 27, 2018

Exhibit 24.1

REINSURANCE GROUP OF AMERICA, INCORPORATED

POWER OF ATTORNEY

I, the undersigned, as a director of Reinsurance Company of America, Incorporated hereby constitute Todd C. Larson and William L. Hutton, and each of them singly, with full power to sign for me, in my name and in the capacity checked below, the annual report of Reinsurance Group of America, Incorporated for fiscal year 2017 on Form 10-K and any and all amendments to this report with the Securities and Exchange Commission and I hereby ratify and confirm my signature as it may be signed by the above-mentioned people to said Form 10-K and to any and all amendments thereto.

Witness my hand on the date set forth below.

Signature

/s/ J. Cliff Eason   Director

J. Cliff Eason
Name (Typed or printed)

Date February 27, 2018

Exhibit 24.1

REINSURANCE GROUP OF AMERICA, INCORPORATED

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I, the undersigned, as a director of Reinsurance Company of America, Incorporated hereby constitute Todd C. Larson and William L. Hutton, and each of them singly, with full power to sign for me, in my name and in the capacity checked below, the annual report of Reinsurance Group of America, Incorporated for fiscal year 2017 on Form 10-K and any and all amendments to this report with the Securities and Exchange Commission and I hereby ratify and confirm my signature as it may be signed by the above-mentioned people to said Form 10-K and to any and all amendments thereto.

Witness my hand on the date set forth below.

Signature

/s/ William J. Bartlett Director

William J. Bartlett
Name (Typed or printed)

Date February 27, 2018

Exhibit 24.1

REINSURANCE GROUP OF AMERICA, INCORPORATED

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I, the undersigned, as a director of Reinsurance Company of America, Incorporated hereby constitute Todd C. Larson and William L. Hutton, and each of them singly, with full power to sign for me, in my name and in the capacity checked below, the annual report of Reinsurance Group of America, Incorporated for fiscal year 2017 on Form 10-K and any and all amendments to this report with the Securities and Exchange Commission and I hereby ratify and confirm my signature as it may be signed by the above-mentioned people to said Form 10-K and to any and all amendments thereto.

Witness my hand on the date set forth below.

Signature

/s/ Arnoud W.A. Boot   Director

Arnoud W.A. Boot
Name (Typed or printed)

Date February 27, 2018

Exhibit 24.1

REINSURANCE GROUP OF AMERICA, INCORPORATED

POWER OF ATTORNEY

I, the undersigned, as a director of Reinsurance Company of America, Incorporated hereby constitute Todd C. Larson and William L. Hutton, and each of them singly, with full power to sign for me, in my name and in the capacity checked below, the annual report of Reinsurance Group of America, Incorporated for fiscal year 2017 on Form 10-K and any and all amendments to this report with the Securities and Exchange Commission and I hereby ratify and confirm my signature as it may be signed by the above-mentioned people to said Form 10-K and to any and all amendments thereto.

Witness my hand on the date set forth below.

Signature

/s/ John F. Danahy Director

John F. Danahy
Name (Typed or printed)

Date February 27, 2018

Exhibit 24.1

REINSURANCE GROUP OF AMERICA, INCORPORATED

POWER OF ATTORNEY

I, the undersigned, as a director of Reinsurance Company of America, Incorporated hereby constitute Todd C. Larson and William L. Hutton, and each of them singly, with full power to sign for me, in my name and in the capacity checked below, the annual report of Reinsurance Group of America, Incorporated for fiscal year 2017 on Form 10-K and any and all amendments to this report with the Securities and Exchange Commission and I hereby ratify and confirm my signature as it may be signed by the above-mentioned people to said Form 10-K and to any and all amendments thereto.

Witness my hand on the date set forth below.

Signature

/s/ Christine R. Detrick   Director

Christine R. Detrick
Name (Typed or printed)

Date February 27, 2018

Exhibit 24.1

REINSURANCE GROUP OF AMERICA, INCORPORATED

POWER OF ATTORNEY

I, the undersigned, as a director of Reinsurance Company of America, Incorporated hereby constitute Todd C. Larson and William L. Hutton, and each of them singly, with full power to sign for me, in my name and in the capacity checked below, the annual report of Reinsurance Group of America, Incorporated for fiscal year 2017 on Form 10-K and any and all amendments to this report with the Securities and Exchange Commission and I hereby ratify and confirm my signature as it may be signed by the above-mentioned people to said Form 10-K and to any and all amendments thereto.

Witness my hand on the date set forth below.

Signature

/s/ Patricia L. Guinn   Director

Patricia L. Guinn
Name (Typed or printed)

Date February 27, 2018

Exhibit 24.1

REINSURANCE GROUP OF AMERICA, INCORPORATED

POWER OF ATTORNEY

I, the undersigned, as a director of Reinsurance Company of America, Incorporated hereby constitute Todd C. Larson and William L. Hutton, and each of them singly, with full power to sign for me, in my name and in the capacity checked below, the annual report of Reinsurance Group of America, Incorporated for fiscal year 2017 on Form 10-K and any and all amendments to this report with the Securities and Exchange Commission and I hereby ratify and confirm my signature as it may be signed by the above-mentioned people to said Form 10-K and to any and all amendments thereto.

Witness my hand on the date set forth below.

Signature

/s/ Alan C. Henderson Director

Alan C. Henderson
Name (Typed or printed)

Date February 27, 2018

Exhibit 24.1

REINSURANCE GROUP OF AMERICA, INCORPORATED

POWER OF ATTORNEY

I, the undersigned, as a director of Reinsurance Company of America, Incorporated hereby constitute Todd C. Larson and William L. Hutton, and each of them singly, with full power to sign for me, in my name and in the capacity checked below, the annual report of Reinsurance Group of America, Incorporated for fiscal year 2017 on Form 10-K and any and all amendments to this report with the Securities and Exchange Commission and I hereby ratify and confirm my signature as it may be signed by the above-mentioned people to said Form 10-K and to any and all amendments thereto.

Witness my hand on the date set forth below.

Signature

/s/ Frederick J. Sievert   Director

Frederick J. Sievert
Name (Typed or printed)

Date February 27, 2018

Exhibit 24.1

REINSURANCE GROUP OF AMERICA, INCORPORATED

POWER OF ATTORNEY

I, the undersigned, as a director of Reinsurance Company of America, Incorporated hereby constitute Todd C. Larson and William L. Hutton, and each of them singly, with full power to sign for me, in my name and in the capacity checked below, the annual report of Reinsurance Group of America, Incorporated for fiscal year 2017 on Form 10-K and any and all amendments to this report with the Securities and Exchange Commission and I hereby ratify and confirm my signature as it may be signed by the above-mentioned people to said Form 10-K and to any and all amendments thereto.

Witness my hand on the date set forth below.

Signature

/s/ Stanley B. Tulin   Director

Stanley B. Tulin
Name (Typed or printed)

Date February 27, 2018

Exhibit 31.1

I, Anna Manning, certify that:

1. I have reviewed this annual report on Form 10-K of Reinsurance Group of America, Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2018

/s/ Anna Manning

Anna Manning

President & Chief Executive Officer

Exhibit 31.2

I, Todd C. Larson, certify that:

1. I have reviewed this annual report on Form 10-K of Reinsurance Group of America, Incorporated;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 27, 2018

/s/ Todd C. Larson

Todd C. Larson

Senior Executive Vice President
& Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of Reinsurance Group of America, Incorporated and subsidiaries, (the “Company”), for the year ended December 31, 2017, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), Anna Manning, Chief Executive Officer of the Company, certifies, to her best knowledge and belief, pursuant to Securities Exchange Rule 13a-14(b) and 18 U.S.C. Section 1350, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 27, 2018

/s/ Anna Manning

Anna Manning

President & Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of Reinsurance Group of America, Incorporated and subsidiaries, (the “Company”), for the year ended December 31, 2017, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), Todd C. Larson, Chief Financial Officer of the Company, certifies, to his best knowledge and belief, pursuant to Securities Exchange Rule 13a-14(b) and 18 U.S.C. Section 1350, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 27, 2018

/s/ Todd C. Larson

Todd C. Larson
Senior Executive Vice President &
Chief Financial Officer