

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549  
FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2016

or

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 001-32293



**HARTFORD LIFE INSURANCE COMPANY**

(Exact name of registrant as specified in its charter)

Connecticut  
(State or other jurisdiction of  
incorporation or organization)

06-0974148  
(I.R.S. Employer  
Identification No.)

One Hartford Plaza, Hartford, Connecticut 06155  
(Address of principal executive offices) (Zip Code)

(860) 547-5000  
(Registrant's telephone number, including area code)

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

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

**Indicate by check mark:**

- |  | Yes  | No  |
|--|--|---|
| • if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.   | <input checked="" type="checkbox"/>                | <input type="checkbox"/>                                  |
| • if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act.   | <input type="checkbox"/>                           | <input checked="" type="checkbox"/>                       |
| • 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.    | <input checked="" type="checkbox"/>                | <input type="checkbox"/>                                  |
| • whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). | <input checked="" type="checkbox"/>                | <input type="checkbox"/>                                  |
| • 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.                       | <input checked="" type="checkbox"/>                | <input type="checkbox"/>                                  |
| • whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.   |  |   |
| Large accelerated filer <input type="checkbox"/>   | Accelerated filer <input type="checkbox"/>         | Non Accelerated filer <input checked="" type="checkbox"/> |
|  | Smaller reporting company <input type="checkbox"/> |   |
| • whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act.)  | <input type="checkbox"/>                           | <input checked="" type="checkbox"/>                       |

The aggregate market value of the shares of Common Stock held by non-affiliates of the registrant as of June 30, 2016 was \$0 , because all of the outstanding shares of Common Stock were owned by Hartford Life Inc., a direct wholly owned subsidiary of Hartford Holdings, Inc.

As of February 24, 2017 , there were outstanding 1,000 shares of Common Stock, \$5,690 par value per share, of the registrant.

The registrant meets the conditions set forth in General Instruction (I) (1) (a) and (b) of Form 10-K and is therefore filing this Form with the reduced disclosure format.

**HARTFORD LIFE INSURANCE COMPANY  
ANNUAL REPORT ON FORM 10-K  
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2016**

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\* Item prepared in accordance with General Instruction I (2) of Form 10-K.

## Forward-Looking Statements

Certain of the statements contained herein are forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as “anticipates,” “intends,” “plans,” “seeks,” “believes,” “estimates,” “expects,” “projects,” and similar references to future periods.

Forward-looking statements are based on our current expectations and assumptions regarding economic, competitive, legislative and other developments. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. They have been made based upon management’s expectations and beliefs concerning future developments and their potential effect upon Hartford Life Insurance Company and its subsidiaries (collectively, the “Company”). Future developments may not be in line with management’s expectations or may have unanticipated effects. Actual results could differ materially from expectations, depending on the evolution of various factors, including the risks and uncertainties identified below, as well as factors described in such forward-looking statements or in Part I, Item 1A. Risk Factors, in Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations, and those identified from time to time in our other filings with the Securities and Exchange Commission (“SEC”).

- Risks Relating to Economic, Political and Global Market Conditions:
  - challenges related to the Company’s current operating environment, including economic, political, and global market conditions, and the effect of financial market disruptions, economic downturns or other potentially adverse macroeconomic developments on our products, the returns in our investment portfolios and the hedging costs associated with our run-off annuity block;
  - financial risk related to the continued reinvestment of our investment portfolios and performance of our hedge program for our run-off annuity block;
  - market risks associated with our business, including changes in credit spreads, equity prices, interest rates, market volatility and foreign exchange rates;
  - the impact on our investment portfolio if our investment portfolio is concentrated in any particular segment of the economy;
- Insurance Industry and Product-Related Risks:
  - volatility in our statutory earnings and earnings calculated in conformity with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and potential material changes to our results resulting from our adjustment of our risk management program to emphasize protection of economic value;
  - the possibility of a terrorist attack, a pandemic, or other natural or man-made disaster that may increase the Company’s mortality exposure and adversely affect its businesses;
- Financial Strength, Credit and Counterparty Risks:
  - risks to our business, financial position, prospects and results associated with negative rating actions or downgrades in the Company’s financial strength and credit ratings or negative rating actions or downgrades relating to our investments;
  - the impact on our statutory capital of various factors, including many that are outside the Company’s control, which can in turn affect our credit and financial strength ratings, cost of capital, regulatory compliance and other aspects of our business and results;
  - losses due to nonperformance or defaults by others, including sourcing partners, derivative counterparties and other third parties;
  - the potential for losses due to our reinsurers’ unwillingness or inability to meet their obligations under reinsurance contracts and the availability, pricing and adequacy of reinsurance to protect the Company against losses;
- Risks Relating to Estimates, Assumptions and Valuations:
  - risk associated with the use of analytical models in making decisions in key areas such as capital management, hedging, and reserving;
  - the potential for differing interpretations of the methodologies, estimations and assumptions that underlie the Company’s fair value estimates for its investments and the evaluation of other-than-temporary impairments on available-for-sale securities;
  - the potential for further acceleration of deferred policy acquisition cost amortization and an increase in reserve for certain guaranteed benefits in our variable annuities;

- the potential for valuation allowances against deferred tax assets;
- Strategic and Operational Risks:
  - risks associated with the run-off of our annuity book of business;
  - the Company's ability to maintain the availability of its systems and safeguard the security of its data in the event of a disaster, cyber or other information security incident or other unanticipated event;
  - the potential for difficulties arising from outsourcing and similar third-party relationships; and
  - the risks, challenges and uncertainties associated with The Hartford's expense reduction initiatives and other actions, which may include acquisitions, divestitures or restructurings;
  - the Company's ability to protect its intellectual property and defend against claims of infringement;
- Regulatory and Legal Risks:
  - the cost and other potential effects of increased regulatory and legislative developments, including those that could adversely impact the Company's operating costs and required capital levels;
  - unfavorable judicial or legislative developments;
  - the impact of changes in federal or state tax laws; and
  - the impact of potential changes in accounting principles and related financial reporting requirements.

Any forward-looking statement made by the Company in this document speaks only as of the date of the filing of this Form 10-K. Factors or events that could cause the Company's actual results to differ may emerge from time to time, and it is not possible for the Company to predict all of them. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future developments or otherwise.

## **PART I**

### **Item 1. BUSINESS**

*(Dollar amounts in millions unless otherwise stated)*

#### **General**

Hartford Life Insurance Company (together with its subsidiaries, "HLIC", "the Company", "we" or "our"), is an indirect wholly-owned subsidiary of The Hartford Financial Services Group, Inc. ("The Hartford"), a holding company for a group of subsidiaries that provide property and casualty insurance, group benefits and mutual funds to individual and business customers in the United States. HLIC is the primary insurance company supporting the business of The Hartford's Talcott Resolution segment. The Company previously sold fixed and variable annuities, individual life insurance, retirement plans, institutional investment products, private placement life insurance and group life and disability products. In 2013, the Company sold its retirement plans business and substantially all of its individual life business via reinsurance transactions. The Hartford no longer sells any of the products previously underwritten by the Company.

The Company's mission is to efficiently manage the run-off of the business while honoring the Company's obligations to its contractholders. The Company manages approximately 774 thousand annuity contracts with account value of approximately \$64 billion and private placement life insurance with account value of approximately \$41 billion as of December 31, 2016 .

The Company's results of operations are primarily influenced by the financial results of the variable and fixed annuity, institutional investment and private placement products as well as the capital gain and loss activity associated with the Company's variable annuity hedging program. Total assets and total stockholder's equity were \$170.3 billion and \$7.8 billion , respectively, at December 31, 2016 .

#### **Reserves**

The Company and its insurance subsidiaries establish and carry as liabilities reserves for its insurance products to estimate for the following:

- a liability equal to the balance that accrues to the benefit of the life and annuity insurance policyholder as of the consolidated financial statement date, otherwise known as the account value;
- a liability for future policy benefits, representing the present value of future benefits to be paid to or on behalf of policyholders less the present value of future estimated net premiums;
- a liability for unpaid losses, including those that have been incurred but not yet reported or are in the course of settlement as well as estimates of all expenses associated with processing and settling these claims;
- fair value reserves for living benefits embedded derivative guarantees; and
- death and living benefit reserves which are computed based on a percentage of revenues less actual claim costs.

Reserve for future policy benefits are calculated based on actuarially recognized methods using morbidity and mortality tables, which are modified to reflect the Company's actual experience when appropriate. Liabilities for unpaid losses include estimates of amounts to fully settle known reported claims as well as claims related to insured events that the Company estimates have been incurred but have not yet been reported. Liabilities for future policy benefits, less the present value of future estimated net premiums and with interest thereon compounded annually at certain assumed rates, are calculated at amounts that are expected to be sufficient to meet the Company's policy obligations at their maturities or in the event of the disability or death of an insured. Other insurance liabilities include those for unearned premiums and benefits in excess of account value. Reserves for assumed reinsurance are computed in a manner that is comparable to direct insurance reserves.

#### **Reinsurance**

The Company cedes insurance to affiliated and unaffiliated insurers to enable the Company to manage capital and risk exposure. Such arrangements do not relieve the Company of its primary liability to policyholders. Failure of reinsurers to honor their obligations could result in losses to the Company. The Company evaluates the risk transfer of its reinsurance contracts, the financial condition of its reinsurers and concentrations of credit risk. Reinsurance accounting is followed for ceded transactions that provide indemnification against loss or liability relating to insurance risk (i.e. risk transfer). If the ceded transactions do not provide risk transfer, the Company accounts for these transactions as financing transactions. The Company's procedures include careful initial selection of its reinsurers, structuring agreements to provide collateral funds where necessary, and regularly monitoring the financial condition and ratings of its reinsurers.

## Investment Operations

The majority of the Company's investment portfolios are managed by Hartford Investment Management Company ("HIMCO"). HIMCO manages the Company's portfolios to maximize economic value, and generate the returns necessary to support the Company's various product obligations, within internally established objectives, guidelines and risk tolerances. The portfolio objectives and guidelines are developed based upon the asset/liability profile, including duration, convexity and other characteristics within specified risk tolerances. The risk tolerances considered include, but are not limited to, asset sector, credit issuer allocation limits and maximum portfolio limits for below investment grade holdings. The Company attempts to minimize adverse impacts to the portfolio and the Company's results of operations from changes in economic conditions through asset diversification, asset allocation limits, asset/liability duration matching and through the use of derivatives. For further discussion of HIMCO's portfolio management approach, see Part II, Item 7, MD&A – Enterprise Risk Management.

## Enterprise Risk Management

The Company has insurance, operational and financial risks. For discussion on how The Hartford manages these risks, see Part II, Item 7, MD&A - Enterprise Risk Management.

## Regulation

State insurance laws are intended to supervise and regulate insurers with the goal of protecting policyholders and ensuring the solvency of the insurers. As such, the insurance laws and regulations grant broad authority to state insurance departments (the "Departments") to oversee and regulate the business of insurance. The Departments monitor the financial stability of an insurer by requiring insurers to maintain certain solvency standards and minimum capital and surplus requirements; invested asset requirements; state deposits of securities; guaranty fund premiums; restrictions on the size of risks which may be insured under a single policy; and adequate reserves and other necessary provisions for unearned premiums, unpaid losses and loss adjustment expenses and other liabilities, both reported and unreported. In addition, the Departments perform periodic market and financial examinations of insurers and require insurers to file annual and other reports on the financial condition of the companies. Policyholder protection is also regulated by the Departments through licensing of insurers, agents and brokers and others; approval of premium rates and policy forms; claims administration requirements; and maintenance of minimum rates for accumulation of surrender values.

Many states also have laws regulating insurance holding company systems. These laws require insurance companies, which are formed and chartered in the state (referred to as "domestic insurers"), to register with the state department of insurance (referred to as their "domestic state or regulator") and file information concerning the operations of companies within the holding company system that may materially affect the operations, management or financial condition of the insurers within the system. Insurance holding company regulations principally relate to (i) state insurance approval of the acquisition of domestic insurers, (ii) prior review or approval of certain transactions between the domestic insurer and its affiliates, and (iii) regulation of dividends made by the domestic insurer. All transactions within a holding company system affecting domestic insurers must be determined to be fair and equitable.

The National Association of Insurance Commissioners ("NAIC"), the organization that works to promote standardization of best practices and assists state insurance regulatory authorities and insurers, conducted the "Solvency Modernization Initiative," (the "Solvency Initiative"). The effort focused on reviewing the U.S. financial regulatory system and financial regulation affecting insurance companies including: (1) capital requirements; (2) corporate governance and risk management; (3) group supervision; (4) statutory accounting and financial reporting; and (5) reinsurance. As a result of the Solvency Initiative, among other items, the NAIC adopted the Corporate Governance Annual Disclosure Model Act, which was enacted by the Company's lead domestic state of Connecticut. The model law requires insurers to make an annual confidential filing regarding their corporate governance policies commencing in 2016. In addition, the NAIC adopted the Risk Management and Own Risk and Solvency Assessment Model Act ("ORSA"), which also has been adopted by Connecticut. ORSA requires insurers to maintain a risk management framework and conduct an internal risk and solvency assessment of the insurer's material risks in normal and stressed environments. Many state insurance holding company laws, including Connecticut, have also been amended to require insurers to file an annual confidential enterprise risk report with their lead domestic regulator, disclosing material risks within the entire holding company system that could pose an enterprise risk to the insurer.

The Company sold variable life insurance, variable annuity, and some fixed guaranteed products that are "securities" registered with the SEC under the Securities Act of 1933, as amended. Some of the products have separate accounts that are registered as investment companies under the Investment Company Act of 1940, as amended (the "1940 Act"), and/or are regulated by state law. Separate account investment products are also subject to state insurance regulation. Moreover, each registered separate account is divided into sub-accounts, each of which invests in an underlying mutual fund that is also registered as an investment company under the 1940 Act.

Failure to comply with federal and state laws and regulations may result in fines, the issuance of cease-and-desist orders or suspension, termination or limitation of the activities of our operations and/or our employees.

**Intellectual Property**

The Hartford relies on a combination of contractual rights and copyright, trademark, patent and trade secret laws to establish and protect our intellectual property.

The Hartford has a trademark portfolio that we consider important in the marketing of our products and services, including, among others, the trademarks of The Hartford name, the Stag logo and the combination of these two trademarks. The duration of trademark registrations may be renewed indefinitely subject to country-specific use and registration requirements. We regard our trademarks as extremely valuable assets in marketing our products and services and vigorously seek to protect them against infringement. In addition, we own a number of patents and patent applications, some of which may be important to our business operations. Patents are of varying duration depending on filing date, and will typically expire at the end of their natural term.

## Item 1A. RISK FACTORS

In deciding whether to invest in securities of the Company, you should carefully consider the following risk factors, any of which could have an adverse effect on the business, financial condition, results of operations, or liquidity of the Company. These risks are not exclusive, and additional risks to which we are subject include, but are not limited to, the factors mentioned under “Forward-Looking Statements” above and the risks of our businesses described elsewhere in this Annual Report on Form 10-K.

The following risk factors have been organized by category for ease of use, however many of the risks may have impacts in more than one category. 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 of these risks on our business, results of operations, financial condition or liquidity.

### Risks Relating to Economic, Political and Global Market Conditions

*Unfavorable economic, political and global market conditions may adversely impact our business and results of operations.*

The Company’s investment portfolio and insurance liabilities are sensitive to changes in economic, political and global capital market conditions, such as the effect of a weak economy and changes in credit spread, equity interest and interest rates. Weak economic conditions, such as high unemployment, low labor force participation, lower family income, a weak real estate market, lower business investment and lower consumer spending may impact the Company’s profitability and may affect policyholder behavior, such as increased full and partial surrender rates. In addition, the Company’s investment portfolio includes limited partnerships and other alternative investments for which changes in value are reported in earnings. These investments may be adversely impacted by political turmoil and economic volatility, including real estate market deterioration, which could impact our net investment returns and result in an adverse impact on operating results.

Below are several key factors impacted by changes in economic, political, and global market conditions and their potential effect on the Company’s business and results of operation:

Credit Spread Risk - Credit spread exposure is reflected in the market prices of fixed income instruments where lower rated securities generally trade at a higher credit spread. If issuer credit spreads increase or widen, the market value of our investment portfolio may decline. If the credit spread widening is significant and occurs over an extended period of time, the Company may recognize other-than-temporary impairments, resulting in decreased earnings. If the credit spread tightens significantly, the Company’s net investment income associated with new purchases of fixed maturities may be reduced. In addition, the value of credit derivatives under which the Company assumes exposure or purchases protection are impacted by changes in credit spreads, with losses occurring when credit spreads widen for assumed exposure or, when credit spreads tighten if credit protection has been purchased.

Our statutory surplus is also affected by widening credit spreads as a result of the accounting for the assets and liabilities on our fixed market value adjusted (“MVA”) annuities. Statutory separate account assets supporting the fixed MVA annuities are recorded at fair value. In determining the statutory reserve for the fixed MVA annuity payments we owe contract-holders, we are required to use current crediting rates. In many capital market scenarios, current crediting rates are highly correlated with market rates implicit in the fair value of statutory separate account assets. As a result, the change in the statutory reserve from period to period will likely substantially offset the change in the fair value of the statutory separate account assets. However, in periods of volatile credit markets, actual credit spreads on investment assets may increase sharply for certain sub-sectors of the overall credit market, resulting in statutory separate account asset market value losses. As actual credit spreads are not fully reflected in current crediting rates, the calculation of statutory reserves may not substantially offset the change in fair value of the statutory separate account assets, resulting in reductions in statutory surplus. This may result in the need to devote significant additional capital to support the fixed MVA product.

Equity Markets Risk - A decline in equity markets may result in lower earnings from our operations where fee income is earned based upon the fair value of the assets under management. A decline in equity markets may also decrease the value of equity securities and limited partnerships and other alternative investments held in the Company’s general account portfolio, thereby, negatively impacting our financial condition or reported earnings. In addition, certain of our annuity products have guaranteed minimum death benefits (“GMDB”) or guaranteed minimum withdrawal benefits (“GMWB”) that increase when equity markets decline requiring us to hold more statutory capital. While our hedging assets seek to reduce the net economic sensitivity of our potential obligations from guaranteed benefits to market fluctuations, because of the accounting asymmetries between our hedging targets and statutory and GAAP accounting principles for our guaranteed benefits, rising equity markets and/or rising interest rates may result in statutory or GAAP losses.



**Interest Rate Risk** - Global economic conditions may result in the persistence of a low interest rate environment which would continue to pressure our net investment income and could result in lower margins and lower estimated gross profits on certain products. Due to the long-term nature of the Company's liabilities, such as structured settlements and guaranteed benefits on variable annuities, declines in interest rates over an extended period of time would result in our having to reinvest at lower yields, increased hedging costs, reduced spreads on our annuity products and greater capital volatility. On the other hand, a rise in interest rates, in the absence of other countervailing changes, would reduce the market value of our investment portfolio and, if long-term interest rates were to rise dramatically, certain of our products might be exposed to disintermediation risk. Disintermediation risk refers to the risk that our policyholders may surrender their contracts in a rising interest rate environment, requiring us to liquidate assets in an unrealized loss position. A decline in market value of invested assets due to an increase in interest rates could also limit our ability to realize tax benefits from previously recognized capital losses.

***Concentration of our investment portfolio increases the potential for significant losses.***

The concentration of our investment portfolios in any particular industry, collateral type, group of related industries or geographic sector could have an adverse effect on our investment portfolios and consequently on our business, financial condition, results of operations, and liquidity. Events or developments that have a negative impact on any particular industry, collateral type, group of related industries or geographic region may have a greater adverse effect on our investment portfolio to the extent that the portfolio is concentrated rather than diversified. Further, if issuers of securities or loans we hold are acquired, merge or otherwise consolidate with other issuers of securities or loans held by the Company, our investment portfolio's credit concentration risk to issuers could increase for a period of time, until the Company is able to sell securities to get back in compliance with the established investment credit policies .

### **Insurance Industry and Product Related Risks**

***We are vulnerable to losses from catastrophes, both natural and man-made.***

Our operations are exposed to risk of loss from both natural and man-made catastrophes associated with pandemics, terrorist attacks and other events that could significantly increase our mortality exposures. Claims arising from such events could have a material adverse effect on our results of operations and liquidity, either directly or as a result of their effect on our reinsurers or other counterparties. In addition, the continued threat of terrorism and the occurrence of terrorist attacks, as well as heightened security measures and military action in response to these threats, may cause significant volatility in global financial markets which could have an adverse effect on the value of the assets in our investment portfolio and in our separate accounts.

***Our program to manage interest rate and equity risk related to our variable annuity guaranteed benefits may be ineffective which could result in statutory and GAAP volatility in our earnings and potentially material charges to net income.***

Some of our in-force business, especially variable annuities, offer guaranteed benefits, including GMDBs and GMWBs. These GMDBs and GMWBs expose the Company to interest rate risk and significant equity risk. A decline in equity markets would not only result in lower fee income, but would also increase our exposure to liability for benefit claims. We use reinsurance and benefit designs, such as caps, to mitigate the exposure associated with GMDB. We also use reinsurance in combination with product management actions, such as rider fee increases, investment restrictions and buyout offers, as well as derivative instruments to attempt to minimize the claim exposure and to reduce the volatility of net income associated with the GMWB liability. We remain liable for the guaranteed benefits in the event that reinsurers or derivative counterparties are unable or unwilling to pay, which could result in a need for additional capital to support in-force business.

From time to time, we may adjust our risk management program based on contracts in force, market conditions, or other factors. While we believe that these actions improve the efficiency of our risk management related to these benefits, changes to the risk management program may result in greater statutory and GAAP earnings volatility and, based upon the types of hedging instruments used, can result in potentially material charges to net income (loss) in periods of rising equity market pricing levels, higher interest rates and declines in volatility. We are also subject to the risk that these management actions prove ineffective or that unanticipated policyholder behavior, combined with adverse market events, produces economic losses beyond the scope of the risk management techniques employed, which individually or collectively may have a material adverse effect on our business, financial condition, results of operations and liquidity.

## **Financial Strength, Credit and Counterparty Risks**

***The amount of statutory capital that we must hold to maintain our financial strength and credit ratings and meet other requirements can vary significantly from time to time and is sensitive to a number of factors outside of our control.***

As a licensed insurance company, we are subject to statutory accounting standards and statutory capital and reserve requirements prescribed by insurance regulators and the National Association of Insurance Commissioners (“NAIC”). The minimum capital we must hold is based on risk-based capital (“RBC”) formulas for life companies. The RBC formula for life companies establishes capital requirements relating to insurance, business, asset and interest rate risks, including equity, interest rate and expense recovery risks associated with variable annuities and group annuities that contain death benefits or certain withdrawal benefits.

In any particular year, statutory surplus amounts and RBC ratios may increase or decrease depending on a variety of factors, including:

- the amount of statutory income or losses we generate,
- the amount of additional capital we must hold,
- the amount of dividends made to our parent company,
- changes in equity market levels,
- the value of certain fixed-income and equity securities in our investment portfolio,
- the value of certain derivative instruments,
- changes in interest rates,
- admissibility of deferred tax assets and
- changes to the NAIC RBC formulas.

Most of these factors are outside of the Company's control. The Company's financial strength and credit ratings are significantly influenced by the our statutory surplus amounts and RBC ratios. In addition, rating agencies may implement changes to their internal models that have the effect of increasing the amount of statutory capital we must hold to maintain our current ratings. Also, in extreme scenarios of equity market declines and other capital market volatility, the amount of additional statutory reserves that we are required to hold for our variable annuity guarantees increases at a greater than linear rate. This reduces the statutory surplus used in calculating our RBC ratios. When equity markets increase, surplus levels and RBC ratios would generally be expected to increase. However, as a result of a number of factors and market conditions, including the level of hedging costs and other risk transfer activities, statutory reserve requirements for death and withdrawal benefit guarantees and increases in RBC requirements, surplus and RBC ratios may not increase when equity markets increase. Due to these factors, projecting statutory capital and the related RBC ratios is complex. If our statutory capital resources are insufficient to maintain a particular rating and if The Hartford were not to raise additional capital, either at its discretion or because it was unable to do so, our financial strength and credit ratings might be downgraded by one or more rating agencies. Downgrades below certain thresholds could trigger counterparty rights to terminate reinsurance treaties. Downgrades could also begin to trigger potentially material collateral calls on certain of our derivative instruments and counterparty rights to terminate derivative relationships, both of which could limit our ability to purchase additional derivative instruments.

***Losses due to nonperformance or defaults by counterparties can have a material adverse effect on the value of our investments, reduce our profitability or sources of liquidity.***

We have credit risk with counterparties on investments, derivatives, premiums receivable and reinsurance recoverables. Among others, our counterparties include issuers of fixed maturity and equity securities we hold, borrowers of mortgage loans we hold, customers, trading counterparties, counterparties under swaps and other derivative contracts, reinsurers, clearing agents, exchanges, clearing houses and other financial intermediaries and guarantors. These counterparties may default on their obligations to us due to bankruptcy, insolvency, lack of liquidity, adverse economic conditions, operational failure, fraud, government intervention and other reasons. Defaults by these counterparties on their obligations to us could have a material adverse effect on the value of our investments, business, financial condition, results of operations and liquidity. Additionally, if the underlying assets supporting the structured securities we invest in default on their payment obligations, our securities will incur losses.

***The availability of reinsurance and our ability to recover under reinsurance contracts may not be sufficient to protect us against losses.***

As an insurer, we frequently use reinsurance to reduce the effect of losses that may arise from, among other things, GMDBs under variable annuity contracts, and other risks that can cause unfavorable results of operations or adversely affect the sale of a line of business to an independent company. Under these reinsurance arrangements, other insurers assume a portion of our losses and related expenses; however, we remain liable as the direct insurer on all risks reinsured. Consequently, ceded reinsurance arrangements do not eliminate our obligation to pay claims, and we are subject to our reinsurers' credit risk with respect to our ability to recover amounts due from them. The inability or unwillingness of any reinsurer to meet its financial obligations to us, including the impact of any insolvency or rehabilitation proceedings involving a reinsurer that could affect the Company's access to collateral held in trust, could have a material adverse effect on our financial condition, results of operations and liquidity. This risk may be magnified by a concentration of reinsurance-related credit risk resulting from the sale of the Company's Individual Life and Retirement Products businesses. Further details of such concentration can be found in Part II, Item 7, MD&A - Enterprise Risk Management - Reinsurance.

Further, due to the inherent uncertainties as to collection and the length of time before reinsurance recoverables will be due, it is possible that future adjustments to the Company's reinsurance recoverables, net of the allowance, could be required, which could have a material adverse effect on the Company's consolidated results of operations or cash flows in a particular quarterly or annual period.

**Risks Relating to Estimates, Assumptions and Valuations**

***Actual results could materially differ from the analytical models we use to assist our decision making in key areas such as capital management, hedging, and reserving.***

We use models to help make decisions related to, among other things, capital management, reserving, investments, hedging, and reinsurance. Both proprietary and third party models we use incorporate numerous assumptions and forecasts about the future level and variability of interest rates, capital requirements, currency exchange rates, policyholder behavior, equity markets and inflation, among others. The models are subject to the inherent limitations of any statistical analysis as the historical internal and industry data and assumptions used in the models may not be indicative of what will happen in the future. Consequently, actual results may differ materially from our modeled results. The profitability and financial condition of the Company substantially depends on the extent to which our actual experience is consistent with assumptions we use in our models and ultimate model outputs. If, based upon these models or other factors, our estimates of capital adequacy or the risks we are exposed to prove to be materially inaccurate, our business, financial condition, results of operations or liquidity may be adversely affected.

***The valuation of our securities and investments and the determination of allowances and impairments are highly subjective and based on methodologies, estimations and assumptions that are subject to differing interpretations and market conditions.***

Estimated fair values of the Company's investments are based on available market information and judgments about financial instruments, including estimates of the timing and amounts of expected future cash flows and the credit standing of the issuer or counterparty. During periods of market disruption, it may be difficult to value certain of our securities if trading becomes less frequent and/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 addition, there may be certain securities whose fair value is based on one or more unobservable inputs, even during normal market conditions. As a result, the determination of the fair values of these securities may include inputs and assumptions that require more estimation and management judgment and the use of complex valuation methodologies. These fair values may differ materially from the value at which the investments may be ultimately sold. Further, rapidly changing or unprecedented credit and equity market conditions could materially impact the valuation of securities and the period-to-period changes in value could vary significantly. Decreases in value could have a material adverse effect on our business, results of operations, financial condition and liquidity.

Similarly, management's decision on whether to record an other-than-temporary impairment or write down is subject to significant judgments and assumptions regarding changes in general economic conditions, the issuer's financial condition or future recovery prospects, estimated future cash flows, the effects of changes in interest rates or credit spreads, the expected recovery period and the accuracy of third party information used in internal assessments. As a result, management's evaluations and assessments are highly judgmental and its projections of future cash flows over the life of certain securities may ultimately prove incorrect as facts and circumstances change.

***If assumptions used in estimating future gross profits differ from actual experience, we may be required to accelerate the amortization of DAC and increase reserves for GMDB and GMWB on variable annuities, which could adversely affect our results of operation.***

The Company has deferred acquisition costs associated with the prior sales of its variable annuity products. Deferred acquisition costs for the variable annuity products are amortized over the expected life of the contracts. The remaining deferred but not yet amortized cost is referred to as the DAC asset. We amortize these costs based on the ratio of actual gross profits in the period to the present value of current and future estimated gross profits (“EGPs”). The Company evaluates the EGPs compared to the DAC asset to determine if an impairment exists. The Company also establishes reserves for GMDB and the life contingent portion of GMWB using components of EGPs. The projection of EGPs, or components of EGPs, requires the use of certain assumptions that may not prove accurate, including those related to changes in the separate account fund returns, full or partial surrender rates, mortality, withdrawal benefit utilization, withdrawal rates, annuitization and hedging costs.

In addition, if our assumptions about policyholder behavior (e.g., full or partial surrenders, benefit utilization and annuitization) and costs related to mitigating risks, including hedging costs, prove to be inaccurate or if significant or sustained equity market declines occur, we could be required to accelerate the amortization of DAC related to variable annuity contracts, and increase reserves for GMDB and life-contingent GMWB which would result in a charge to net income.

***If our businesses do not perform well, we may be required to establish a valuation allowance against the deferred income tax asset.***

Our income tax expense includes deferred income taxes arising from temporary differences between the financial reporting and tax bases of assets and liabilities and carry-forwards for foreign tax credits, capital losses, net operating losses and alternative minimum tax credits. Deferred tax assets are assessed periodically by management to determine if it is more likely than not that the deferred income tax assets will be realized. Factors in management's determination include the performance of the business, including the ability to generate, from a variety of sources and tax planning strategies, sufficient future taxable income and capital gains before net operating loss and capital loss carry-forwards expire. If based on available information, it is more likely than not that we are unable to recognize a full tax benefit on deferred tax assets, then a valuation allowance will be established with a corresponding charge to net income (loss). Charges to increase our valuation allowance could have a material adverse effect on our results of operations and financial condition.

### **Strategic and Operational Risks**

***As The Hartford's Talcott Resolution segment continues to run-off, the Company is exposed to a number of risks related to the run-off business that could adversely affect our financial condition and results of operations.***

Despite being in run-off, Talcott Resolution represents a meaningful share of The Hartford's earnings. Talcott Resolution's revenues and earnings will decline over time as variable and fixed annuity policies lapse. While the Company has been reducing expenses associated with the Talcott Resolution business as the revenues from that business decline, going forward it may become more difficult to reduce expenses, particularly corporate and other enterprise shared services costs, and this could adversely affect the Company's results of operations.

Further, while The Hartford continues to actively consider alternatives for reducing the size and risk of the annuity book of business, opportunities to do so may be limited and any initiatives pursued may not achieve the anticipated benefits and may negatively impact our statutory capital, net income, core earnings or shareholders' equity. The Hartford could pursue transactions or other strategic options to reduce the size and risk of Talcott Resolution's annuity book of business which could result in a significant loss to the Company.

***Our businesses may suffer and we may incur substantial costs if we are unable to access our systems and safeguard the security of our data in the event of a disaster, cyber breach or other information security incident.***

We use technology to process, store, retrieve, evaluate and utilize customer and company data and information. Our information technology and telecommunications systems, in turn, interface with and rely upon third-party systems. We and our third party vendors must be able to access our systems to process premium payments, make changes to existing policies, file and pay claims and administer variable annuity products, provide customer support, manage our investment portfolios and hedge programs, report on financial results and perform other necessary business functions.

Systems failures or outages could compromise our ability to perform these business functions in a timely manner, which could harm our ability to conduct business and hurt our relationships with our business partners and customers. In the event of a disaster such as a natural catastrophe, a pandemic, an industrial accident, a cyber-attack, a blackout, a terrorist attack (including conventional, nuclear, biological, chemical or radiological) or war, systems upon which we rely may be inaccessible to our employees, customers or business partners for an extended period of time. Even if our employees and business partners are able to report to work, they may be unable to perform their duties for an extended period of time if our data or systems used to conduct our business are disabled or destroyed.

Our systems have been, and will likely continue to be, subject to viruses or other malicious codes, unauthorized access, cyber-attacks or other computer related penetrations. The frequency and sophistication of such threats continue to increase as well. While, to date, the Company is not aware of having experienced a material breach of our cyber security systems, administrative and technical controls as well as other preventive actions may be insufficient to prevent physical and electronic break-ins, denial of service, cyber-attacks or other security breaches to our systems or those of third parties with whom we do business. Such an event could compromise our confidential information as well as that of our clients and third parties, impede or interrupt our business operations and result in other negative consequences, including remediation costs, loss of revenue, additional regulatory scrutiny and litigation and reputational damage. In addition, we routinely transmit, to third parties personal, confidential and proprietary information, which may be related to employees and customers, by email and other electronic means, along with receiving and storing such information on our systems. Although we attempt to keep such information confidential, we may be unable to secure the information in all events, especially with clients, vendors, service providers, counterparties and other third parties who may not have appropriate controls to protect confidential information.

Furthermore, certain of our businesses must comply with regulations to control the privacy of customer, employee and third party data. A misuse or mishandling of confidential or proprietary information could result in legal liability, regulatory action and reputational harm.

Third parties, including third party administrators, are also subject to cyber-breaches of confidential information, along with the other risks outlined above, any one of which may result in our incurring substantial costs and other negative consequences, including a material adverse effect on our business, reputation, financial condition, results of operations and liquidity. While we maintain cyber liability insurance that provides both third party liability and first party insurance coverages, our insurance may not be sufficient to protect against all loss.

***Performance problems due to outsourcing and other third-party relationships may compromise our ability to conduct business.***

We outsource certain business and administrative functions and rely on third-party vendors to perform certain functions or provide certain services on our behalf and have a significant number of IT and business processes outsourced with a single vendor. If we are unable to reach agreement in the negotiation of agreements or renewals with certain third-party providers, or if such third-party providers experience disruptions or do not perform as anticipated, we may be unable to meet our obligations to customers and claimants, and incur higher costs which may have a material adverse effect on our business and results of operations. For other risks associated with our outsourcing of certain functions, see the immediately preceding risk factor.

***The Hartford's ability to execute on its expense reduction initiatives and other actions, which may include acquisitions, divestitures or restructurings, is subject to material challenges, uncertainties and risks.***

The Hartford's initiative to reduce expenses so that its ongoing businesses, along with the Company's run-off businesses, remain or become cost efficient may not be successful and The Hartford may not be able to reduce corporate and shared services expenses in the manner and on the schedule it currently anticipates. The Hartford may take further actions beyond the capital management plan, which may include acquisitions, divestitures or restructurings, that may involve additional uncertainties and risks that negatively impact our business, financial condition, results of operations and liquidity.

***We may not be able to protect our intellectual property and may be subject to infringement claims.***

We rely on a combination of contractual rights and copyright, trademark, patent and trade secret laws to establish and protect our intellectual property. Although we use a broad range of measures to protect our intellectual property rights, third parties may infringe or misappropriate our intellectual property. We may have to litigate to enforce and protect our intellectual property and to determine its scope, validity or enforceability, which could divert significant resources and may not prove successful. Litigation to enforce our intellectual property rights may not be successful and cost a lot of money. The inability to secure or enforce the protection of our intellectual property assets could harm our reputation and have a material adverse effect on our business and our ability to compete. We also may be subject to costly litigation in the event that another party alleges our operations or activities infringe upon their intellectual property rights, including patent rights, or violate license usage rights. Any such intellectual property claims and any resulting litigation could result in significant expense and liability for damages, and in some circumstances we could be enjoined from providing certain products or services to our customers, or utilizing and benefiting from certain patent, copyrights, trademarks, trade secrets or licenses, or alternatively could be required to enter into costly licensing arrangements with third parties, all of which could have a material adverse effect on our business, results of operations and financial condition.

## Regulatory and Legal Risks

*Regulatory and legislative developments could have a material adverse impact on our business, financial condition, results of operations and liquidity.*

In the U.S., regulatory initiatives and legislative developments may significantly affect our operations in ways that we cannot predict.

For example, potential repeal and replacement of the Affordable Care Act and modification of the Dodd-Frank Act could have unanticipated consequences for The Hartford and its businesses. With respect to the potential repeal and replacement of the Affordable Care Act, see Part II, Item 7, MD&A - Capital Resources and Liquidity - Contingencies - Regulatory and Legal Developments.

The Dodd-Frank Act was enacted on July 21, 2010, mandating changes to the regulation of the financial services industry that could adversely affect our financial condition and results of operations. The Dodd-Frank Act requires central clearing of certain derivatives transactions and greater margin requirements for those transactions, which increases the costs of our hedging program. In addition, the proprietary trading and market making limitation of the Volcker Rule could adversely affect the pricing and liquidity of our investment securities and limitations of banking entity involvement in and ownership of certain asset-backed securities transactions could adversely affect the market for insurance-linked securities, including catastrophe bonds. It is unclear whether and to what extent Congress will make changes to the Dodd-Frank Act, and how those changes might impact The Hartford, its business, financial conditions, results of operations and liquidity.

We are subject to extensive laws and regulations that are complex, subject to change and often conflicting in their approach or intended outcomes. Compliance with these laws and regulations can increase cost, affect our strategy, and constrain our ability to adequately price our products.

The Company and its insurance subsidiary are regulated by the insurance departments of the states in which we are domiciled, licensed or authorized to conduct business. State regulations generally seek to protect the interests of policyholders rather than an insurer or the insurer's shareholders and other investors. U.S. state laws grant insurance regulatory authorities broad administrative powers with respect to, among other things, licensing and authorizing lines of business, approving policy forms and premium rates, setting statutory capital and reserve requirements, limiting the types and amounts of certain investments and restricting underwriting practices. State insurance departments also set constraints on domestic insurer transactions with affiliates and dividends and, in many cases, must approve affiliate transactions and extraordinary dividends as well as strategic transactions such as acquisitions and divestitures.

In addition, future regulatory initiatives could be adopted at the federal or state level that could impact the profitability of our businesses. For example, the NAIC and state insurance regulators are continually reexamining existing laws and regulations, specifically focusing on modifications to statutory accounting principles, interpretations of existing laws and the development of new laws and regulations. The NAIC continues to enhance the U.S. system of insurance solvency regulation, with a particular focus on group supervision, risk-based capital, accounting and financial reporting, enterprise risk management and reinsurance. Any proposed or future legislation or NAIC initiatives, if adopted, may be more restrictive on our ability to conduct business than current regulatory requirements or may result in higher costs or increased statutory capital and reserve requirements. In addition, the Federal Reserve Board and the International Association of Insurance Supervisors ("IAIS") each have initiatives underway to develop insurance group capital standards. While the Company would not currently be subject to either of these capital standard regimes, it is possible that in the future standards similar to what is being contemplated by the Federal Reserve Board or the IAIS could apply to the Company. The NAIC is in the process of developing a U.S. group capital calculation that will employ a methodology based on aggregated risk-based capital.

Further, a particular regulator or enforcement authority may interpret a legal, accounting, or reserving issue differently than we have, exposing us to different or additional regulatory risks. The application of these regulations and guidelines by insurers involves interpretations and judgments that may be challenged by state insurance departments. The result of those potential challenges could require us to increase levels of statutory capital and reserves or incur higher operating and/or tax costs.

In addition, our asset management businesses are also subject to extensive regulation in the various jurisdictions where they operate. These laws and regulations are primarily intended to protect investors in the securities markets or investment advisory clients and generally grant supervisory authorities broad administrative powers. Compliance with these laws and regulations is costly, time consuming and personnel intensive, and may have an adverse effect on our business, financial condition, results of operations and liquidity.

***Unfavorable judicial or legislative developments in claim litigation could adversely affect our results of operations or financial condition.***

The Company is involved in claims litigation arising in the ordinary course of business and is also involved in legal actions outside of the ordinary course, some of which assert claims for substantial amounts. Significant changes in the legal environment could cause our ultimate liabilities to change from our current expectations. Such changes could be judicial in nature, like trends in the size of jury awards, developments in the law relating to tort liability or the liability of insurers, and rulings concerning the scope of insurance coverage or the amount or types of damages covered by insurance. Legislative developments, like changes in federal or state laws relating to the liability of policyholders or insurers, could have a similar effect. It is impossible to forecast such changes reliably, much less to predict how they might affect our loss reserves or how those changes might adversely affect our ability to price our insurance products appropriately. Thus, significant judicial or legislative developments could adversely affect the Company's business, financial condition, results of operations and liquidity.

***Changes in federal or state tax laws could adversely affect our business, financial condition, results of operations and liquidity.***

Changes in federal or state tax laws and tax rates could have a material adverse effect on our profitability and financial condition, and could result in our incurring materially higher corporate taxes. For example, if tax rates decline, our deferred tax asset would be reduced, resulting in a charge against earnings. In addition, a reduction in tax rates or change in laws could adversely affect the Company's ability to realize the benefits of its net operating loss carryovers and alternative minimum tax credits. In addition, a reduction in tax rates could increase the level of statutory reserves the Company must hold which could adversely affect statutory surplus.

In addition, the Company's tax return reflects certain items such as dividends received deductions, tax credits, and insurance reserve deductions. There is an increasing risk that, in the context of deficit reduction or overall tax reform, federal and/or state tax legislation could modify or eliminate these items, impacting the Company, its investments, investment strategies, and/or its policyholders. In the context of deficit reduction or overall tax reform, federal and/or state tax legislation could modify or eliminate provisions of current tax law that are beneficial to the Company, including dividends received deduction, tax credits, and insurance reserve deductions, or could impose new taxes such as on goods or services purchased overseas.

Moreover, many of the life and annuity products that the Company previously sold benefit from one or more forms of tax-favored status under current federal and state income tax regimes. For example, the Company previously sold annuity contracts that allowed policyholders to defer the recognition of taxable income earned within the contract. Because the Company no longer sells these products, changes in the future taxation of life insurance and/or annuity contracts will not adversely impact future sales. If, however, the tax treatment of earnings accrued inside an annuity contract changed prospectively, and the tax favored status of existing contracts were grandfathered, holders of existing contracts would be less likely to surrender, which would make running off our existing life and annuity business more difficult.

***Changes in accounting principles and financial reporting requirements could adversely affect our results of operations or financial condition.***

As an SEC registrant, we are currently required to prepare our financial statements in accordance with U.S. GAAP, as promulgated by the Financial Accounting Standards Board ("FASB"). Accordingly, we are required to adopt new guidance or interpretations which may have a material effect on our results of operations and financial condition that is either unexpected or has a greater impact than expected. For a description of changes in accounting standards that are currently pending and, if known, our estimates of their expected impact, see Note 1 of the consolidated financial statements.

The FASB is working on several projects that could result in significant changes in GAAP, including how we account for our long-duration insurance contracts, which primarily relate to our life and annuity products. In particular, liabilities for life-contingent fixed annuities would be discounted using current high-quality fixed-income instrument yields rather than using historical yields, likely resulting in greater volatility in other comprehensive income. As a result, the adoption of these future accounting standards relating to insurance contracts could have a material adverse effect on our financial condition, including equity.

**Item 1B. UNRESOLVED STAFF COMMENTS**

None.

**Item 2. PROPERTIES**

The Company's principal executive offices are located in Hartford, Connecticut and it owns the facilities located in Windsor, Connecticut. The Company believes its properties and facilities are suitable and adequate for current operations.

**Item 3. LEGAL PROCEEDINGS**

**Litigation**

The Company is involved in claims litigation arising in the ordinary course of business with respect to life, disability and accidental death and dismemberment insurance policies and with respect to annuity contracts. The Company accounts for such activity through the establishment of reserves for future policy benefits. Management expects that the ultimate liability, if any, with respect to such ordinary-course claims litigation, after consideration of provisions made for potential losses and costs of defense, will not be material to the consolidated financial condition, results of operations or cash flows of the Company.

The Company is also involved in other kinds of legal actions, some of which assert claims for substantial amounts. Such actions have alleged, for example, bad faith in the handling of insurance claims and improper sales practices in connection with the sale of insurance and investment products. Some of these actions also seek punitive damages. Management expects that the ultimate liability, if any, with respect to such lawsuits, after consideration of provisions made for estimated losses, will not be material to the consolidated financial condition of the Company. Nonetheless, given the large or indeterminate amounts sought in certain of these actions, and the inherent unpredictability of litigation, it is possible that an adverse outcome in certain matters could, from time to time, have a material adverse effect on the Company's consolidated financial condition, results of operations or cash flows in particular quarterly or annual periods.

**Item 4. MINE SAFETY DISCLOSURES**

Not applicable.



## **PART II**

### **Item 5. MARKET FOR HARTFORD LIFE INSURANCE COMPANY'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES**

All of the Company's outstanding shares are ultimately owned by Hartford Life, Inc, which is a subsidiary of The Hartford. As of February 24, 2017, the Company had issued and outstanding 1,000 shares of common stock, \$5,690 par value per share. There is no established public trading market for the Company's common stock.

For a discussion regarding the Company's payment of dividends, and the restrictions related thereto, see the Capital Resources and Liquidity section of the MD&A under "Dividends".

### **Item 6. SELECTED FINANCIAL DATA**

Omitted pursuant to General Instruction I(2)(a) of Form 10-K.

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

*(Dollar amounts in millions unless otherwise stated)*

Management’s Discussion and Analysis of Financial Condition and Results of Operations (“MD&A”) addresses the financial condition of Hartford Life Insurance Company and its subsidiaries (“Hartford Life Insurance Company” or the “Company”) as of and for the year ended December 31, 2016 compared with the comparable 2015 periods. Management’s narrative analysis of the results of operations is presented pursuant to General Instruction I (2) (a) of Form 10-K. This discussion should be read in conjunction with the Consolidated Financial Statements and related Notes beginning on page F-1. Certain reclassifications have been made to prior year financial information to conform to the current year presentation.

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## CONSOLIDATED RESULTS OF OPERATIONS

### Operating Summary

	2016	2015
Fee income and other	\$ 969	\$ 1,097
Earned premiums	203	92
Net investment income	1,373	1,456
Net realized capital losses	(163)	(146)
<b>Total revenues</b>	<b>2,382</b>	<b>2,499</b>
Benefits, losses and loss adjustment expenses	1,437	1,402
Amortization of deferred policy acquisition costs	114	69
Insurance operating costs and other expenses	472	524
Reinsurance gain on disposition	—	(28)
Dividends to policyholders	3	2
<b>Total benefits, losses and expenses</b>	<b>2,026</b>	<b>1,969</b>
<b>Income before income taxes</b>	<b>356</b>	<b>530</b>
Income tax expense	74	30
<b>Net income</b>	<b>\$ 282</b>	<b>\$ 500</b>

#### *December 31, 2016 compared to the year ended December 31, 2015*

The decrease in net income from 2015 to 2016 was primarily due to higher net realized capital losses, lower fee income, lower net investment income and higher benefits, losses and loss adjustment expenses and DAC amortization, partially offset by higher earned premiums and lower insurance operating costs and other expenses.

Fee income and other for the year ended December 31, 2016, decreased as compared to the prior year primarily due to the continued run-off of the variable annuity block of business. Earned premiums and benefits, losses and loss adjustment expenses increased for the year ended December 31, 2016, as compared to the prior year period, primarily due to the impact of the recapture of a reinsurance agreement with Hartford Life and Accident Insurance Company ("HLA"). Effective August 1, 2016, the Company recaptured a reinsurance agreement with HLA, a wholly owned subsidiary of Hartford Life, Inc. whereby the Company had ceded a single group annuity contract to HLA under a 100% quota share agreement. As a result of this recapture, the Company received a return of premium of \$90 and increased reserves by \$63 resulting in a recognized pre-tax gain of approximately \$27.

The increase in DAC amortization for the year ended December 31, 2016 was primarily driven by a higher unfavorable unlock due to the reduction of the fixed annuity DAC balance to zero. For further discussion of the unlock, see MD&A - Estimated Gross Profits Used in the Valuation and Amortization of Assets and Liabilities Associated with Variable Annuity and Other Universal Life-Type Contracts.

Total net investment income decreased for the year ended December 31, 2016, as compared to the prior year primarily due to lower make-whole payments on fixed maturities and prepayment penalties on mortgage loans, as well as lower asset levels and reinvesting at lower interest rates. For further discussion, see MD&A - Investments Results, Net Investment Income.

Net realized capital losses of \$163 for the year ended December 31, 2016, increased from net realized capital losses of \$146, for the prior year. Net realized capital losses for 2016 were primarily due to losses on the variable annuity hedge program, driven, in part by a decline in the value of equity derivatives, partially offset by gains resulting from policyholder behavior and the outperformance of the underlying actively managed funds compared to their respective indices. Net realized capital losses for 2015 were primarily due to losses from the variable annuity hedge program. For further information, see MD&A - Investment Results, Net Realized Capital Gains (Losses).

Insurance operating costs and expenses decreased from 2015 to 2016 largely due to the runoff of the business requiring less staff and other operating expenses.

The effective tax rate differs from the U.S. Federal statutory rate of 35% in 2016 and 2015, primarily due to the separate account dividends received deduction. Income tax expense for the year ended December 31, 2015, included an income tax benefit of \$36 related to intercompany tax settlements. For a reconciliation of the income tax provision at the U.S. Federal statutory rate to the provision for income taxes, see Note 9 - Income Taxes of Notes to Consolidated Financial Statements.

## INVESTMENT RESULTS

### Composition of Invested Assets

	December 31, 2016		December 31, 2015	
	Amount	Percent	Amount	Percent
Fixed maturities, available-for-sale ("AFS"), at fair value	\$ 23,819	77.1%	\$ 24,657	77.9%
Fixed maturities, at fair value using the fair value option ("FVO")	82	0.3%	165	0.5%
Equity securities, AFS, at fair value [1]	152	0.5%	459	1.5%
Mortgage loans	2,811	9.1%	2,918	9.2%
Policy loans, at outstanding balance	1,442	4.7%	1,446	4.6%
Limited partnerships and other alternative investments	930	3.0%	1,216	3.8%
Other investments [2]	293	0.9%	212	0.7%
Short-term investments	1,349	4.4%	572	1.8%
<b>Total investments</b>	<b>\$ 30,878</b>	<b>100%</b>	<b>\$ 31,645</b>	<b>100%</b>

[1] Includes equity securities at fair value using the FVO of \$281 as of December 31, 2015. The Company did not hold any equity securities, FVO as of December 31, 2016.

[2] Primarily relates to derivative instruments.

Total investments decreased since December 31, 2015, primarily as a result of a decline in fixed maturities, AFS, equity, AFS and limited partnerships and other alternative investments, partially offset by an increase in short-term investments. The decrease in fixed maturities, AFS was primarily the result of the continued runoff of the Company's business. The decline in equity, AFS was primarily the result of sales which were reinvested into other assets classes. The decrease in limited partnerships and other alternative investments was primarily driven by redemptions in hedge funds which were reinvested into other asset classes. The increase in short-term investments was primarily due to holding more short-term investments until those assets are reinvested into longer duration asset classes.

### Net Investment Income

(Before-tax)	For the years ended December 31,			
	2016		2015	
	Amount	Yield [1]	Amount	Yield [1]
Fixed maturities [2]	\$ 1,049	4.6%	\$ 1,095	4.7%
Equity securities	8	3.7%	7	2.1%
Mortgage loans	135	4.7%	152	5.0%
Policy loans	83	5.8%	82	5.7%
Limited partnerships and other alternative investments	86	8.3%	97	8.1%
Other [3]	64		82	
Investment expense	(52)		(59)	
<b>Total net investment income</b>	<b>\$ 1,373</b>	<b>4.6%</b>	<b>\$ 1,456</b>	<b>4.7%</b>
<b>Total net investment income excluding limited partnerships and other alternative investments</b>	<b>\$ 1,287</b>	<b>4.5%</b>	<b>\$ 1,359</b>	<b>4.6%</b>

[1] Yields calculated using annualized net investment income divided by the monthly average invested assets at cost, amortized cost, or adjusted carrying value, as applicable, excluding repurchase agreement and securities lending collateral, if any, and derivatives book value.

[2] Includes net investment income on short-term investments.

[3] Primarily includes income from derivatives that qualify for hedge accounting and hedge fixed maturities.

### Year ended December 31, 2016, compared to the year ended December 31, 2015

Total net investment income decreased primarily due to lower make-whole payments on fixed maturities and prepayment penalties on mortgage loans, as well as lower asset levels and reinvesting at lower interest rates.

The annualized net investment income yield, excluding limited partnerships and other alternative investments, decreased slightly, to 4.5% in 2016, versus 4.6% in 2015. The decrease was primarily attributable to higher income received in 2015 from previously impaired securities, make-whole payments on fixed maturities and prepayment penalties on mortgage loans. Excluding make-whole payments on fixed maturities, income received from previously impaired securities, and prepayment penalties on mortgage loans, the annualized investment income yield, excluding limited partnerships and other alternative investments, was 4.4% in 2016 and 4.3% in 2015.

The new money yield, excluding certain U.S. Treasury securities and cash equivalent securities, for the year ended December 31, 2016 was approximately 3.5% , which was below the average yield of sales and maturities of 4.0% for the same period. For the year ended December 31, 2016 , the new money yield of 3.5% increased slightly from 3.4% in 2015 largely due to an increase in interest rates.

While interest rates have risen recently, we expect the annualized net investment income yield in 2017, excluding limited partnerships and other alternative investments, to be slightly below the portfolio yield earned in 2016. This assumes the Company earns less income in 2017 from make-whole payments on fixed maturities and prepayment penalties on mortgage loans than it did in 2016 and that reinvestment rates continue to be below the average yield of sales and maturities. The estimated impact on net investment income is subject to change as the composition of the portfolio changes through portfolio management and trading activities and changes in market conditions.

#### Net Realized Capital Gains (Losses)

<i>(Before-tax)</i>	For the years ended December 31,	
	2016	2015
Gross gains on sales	\$ 211	\$ 239
Gross losses on sales	(93)	(211)
Net other-than-temporary impairment ("OTTI") losses recognized in earnings	(28)	(61)
Valuation allowances on mortgage loans	—	(4)
Results of variable annuity hedge program		
GMWB derivatives, net	(38)	(87)
Macro hedge program	(163)	(46)
Total results of variable annuity hedge program	(201)	(133)
Modified coinsurance reinsurance contracts	(12)	46
Transactional foreign currency revaluation	(70)	(4)
Non-qualifying foreign currency derivatives	57	(16)
Other, net [1]	(27)	(2)
<b>Net realized capital gains</b>	<b>\$ (163)</b>	<b>\$ (146)</b>

[1] Primarily consists of changes in value of non-qualifying derivatives including credit derivatives and interest rate derivatives used to manage duration.

#### Gross Gains and Losses on Sales

- Gross gains and losses on sales for the year ended December 31, 2016 , were primarily due to sales of corporate securities and U.S. Treasuries as a result of duration, liquidity and credit management.
- Gross gains and losses on sales for the year ended December 31, 2015 , were primarily due to sales of corporate, U.S. treasury, and equity securities. The sales were primarily a result of duration, liquidity and credit management, as well as tactical changes to the portfolio as a result of changing market conditions, including sales to reduce exposure to energy, emerging markets and other below investment grade corporate securities.

#### Variable Annuity Hedge Program

- For the year ended December 31, 2016 , the loss related to the combined GMWB derivatives, net, which include the GMWB product, reinsurance, and hedging derivatives, was primarily driven by losses of \$53 due to liability/model assumption updates, \$22 due to the effect of increases in equity markets and losses of \$12 resulting from regression updates and other changes, partially offset by gains of \$40 resulting from policyholder behavior and \$29 related to an outperformance of the underlying actively managed funds compared to their respective indices. The macro hedge program loss was primarily due to a loss of \$96 due to an increase in equity markets and a loss of \$58 driven by time decay on options.
- For the year ended December 31, 2015 , the loss related to the combined GMWB derivatives, net, which include the GMWB product, reinsurance, and hedging derivatives, was primarily driven by losses of \$42 due to liability/model assumption updates, and losses of \$18 resulting from an underperformance of the underlying actively managed funds compared to their respective indices. The loss on the macro hedge program for the year ended December 31, 2015 was primarily due to a loss of \$44 driven by time decay on options.

*Modified Coinsurance Reinsurance*

- The net loss for the year ended December 31, 2016 , was primarily driven by tightening of credit spreads, partially offset by higher interest rates. Modified coinsurance reinsurance contracts are accounted for as embedded derivatives and transfer to the reinsurer the investment experience related to the assets supporting the reinsured policies.
- The net gain for the year ended December 31, 2015 , was primarily driven by widening credit spreads and an increase in interest rates.

*Other, net*

- Other, net loss for the year ended December 31, 2016 , was primarily due to losses of \$17 on interest rate derivatives and losses of \$13 related to equity derivatives which were hedging against a decline in the equity market on the investment portfolio.
- Other, net loss for the year ended December 31, 2015 , was primarily due to losses of \$8 on interest rate derivatives driven by an increase in interest rates and losses of \$7 on credit derivatives driven by widening credit spreads.

## CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements, in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP"), requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ, and in the past have differed, from those estimates.

The Company has identified the following estimates as critical in that they involve a higher degree of judgment and are subject to a significant degree of variability:

- estimated gross profits used in the valuation and amortization of assets and liabilities associated with variable annuity and other universal life-type contracts;
- living benefits required to be fair valued (in other policyholder funds and benefits payable);
- valuation of investments and derivative instruments including evaluation of other-than-temporary impairments on available-for-sale securities and valuation allowances on mortgage loans;
- valuation allowance on deferred tax assets; and
- contingencies relating to corporate litigation and regulatory matters.

Certain of these estimates are particularly sensitive to market conditions, and deterioration and/or volatility in the worldwide debt or equity markets could have a material impact on the Consolidated Financial Statements. In developing these estimates management makes subjective and complex judgments that are inherently uncertain and subject to material change as facts and circumstances develop. Although variability is inherent in these estimates, management believes the amounts provided are appropriate based upon the facts available upon compilation of the financial statements.

### *Estimated Gross Profits Used in the Valuation and Amortization of Assets and Liabilities Associated with Variable Annuity and Other Universal Life-Type Contracts*

Estimated gross profits ("EGPs") are used in the valuation and amortization of assets, including deferred policy acquisition cost ("DAC"). Portions of EGPs are also used in the valuation of reserves for death and other insurance benefit features on variable annuity and other universal life type contracts.

The most significant EGP-based balances are as follows:

	As of December 31,	
	2016	2015
DAC [1]	\$ 463	\$ 542
Death and Other Insurance Benefit Reserves, net of reinsurance [2]	\$ 354	\$ 340

[1] For additional information on DAC, see Note 6 - Deferred Policy Acquisition Costs of Notes to Consolidated Financial Statements.

[2] For additional information on death and other insurance benefit reserves, see Note 7 - Reserves for Future Policy Benefits and Separate Account Liabilities of Notes to Consolidated Financial Statements.

### Unlocks

The benefit (charge) to income, net of tax, as a result of Unlock is as follows:

	For the years ended December 31,	
	2016	2015
DAC	\$ (74)	\$ 13
Death and Other Insurance Benefit Reserves	14	28
<b>Total (pre-tax)</b>	<b>(60)</b>	<b>41</b>
Income tax effect	(21)	14
<b>Total (after-tax)</b>	<b>\$ (39)</b>	<b>\$ 27</b>

The Unlock charge after-tax for the year ended December 31, 2016 was primarily due to the reduction of the fixed annuity DAC balance to zero, updates to the macro hedging program cost to reflect 2016 activity, and the effect of assumption updates for variable annuities, including to mortality. These impacts were partially offset by separate account returns being above our aggregated estimated returns during the period, largely due to an increase in equity markets, as well as the effect of reducing the assumption about expected future lapses of variable annuities.

The Unlock benefit, after tax, for the year ended December 31, 2015 was primarily due to assumption changes related to benefit utilization and lower assumed lapse rates, partially offset by a lower assumed general account spread and higher assumed withdrawal rates.

#### **Use of Estimated Gross Profits in Amortization and Reserving**

For most annuity contracts, the Company estimates gross profits over 20 years as EGPs emerging subsequent to that time frame are immaterial. Products sold in a particular year are aggregated into cohorts. Future gross profits for each cohort are projected over the estimated lives of the underlying contracts, based on future account value projections for variable annuity products. The projection of future account values requires the use of certain assumptions including: separate account returns; separate account fund mix; fees assessed against the contract holder's account balance; surrender and lapse rates; interest margin; mortality; and the extent and duration of hedging activities and hedging costs. Changes in these assumptions and changes to other policyholder behavior assumptions such as resets, partial surrenders, reaction to price increases, and asset allocations cause EGPs to fluctuate which impacts earnings.

The Company determines EGPs from a single deterministic reversion to mean ("RTM") separate account return projection which is an estimation technique commonly used by insurance entities to project future separate account returns. Through this estimation technique, the Company's DAC model is adjusted to reflect actual account values at the end of each quarter. Through consideration of recent market returns, the Company will unlock, or adjust, projected returns over a future period so that the account value returns to the long-term expected rate of return, providing that those projected returns do not exceed certain caps.

#### **Annual Unlock of Assumptions**

In the fourth quarter of 2016, the Company completed a comprehensive policyholder behavior assumption study which resulted in a non-market related after-tax charge of \$17 and incorporated the results of that study into its projection of future gross profits. Additionally, throughout the year, the Company evaluates various aspects of policyholder behavior and will revise its policyholder assumptions if credible emerging data indicates that changes are warranted. The Company will continue to evaluate its assumptions related to policyholder behavior as initiatives to reduce the size of the annuity business are implemented by management. Upon completion of an annual assumption study or evaluation of credible new information, the Company will revise its assumptions to reflect its current best estimate. These assumption revisions will change the projected account values and the related EGPs in the DAC amortization models, as well as the death and other insurance benefit reserving model.

All assumption changes that affect the estimate of future EGPs including: the update of current account values; the use of the RTM estimation technique; and policyholder behavior assumptions are considered an Unlock in the period of revision. An Unlock adjusts DAC and death and other insurance benefit reserve balances in the Consolidated Balance Sheets with an offsetting benefit or charge in the Consolidated Statements of Operations in the period of the revision. An Unlock that results in an after-tax benefit generally occurs as a result of actual experience or future expectations of product profitability being favorable compared to previous estimates. An Unlock that results in an after-tax charge generally occurs as a result of actual experience or future expectations of product profitability being unfavorable compared to previous estimates.

EGPs are also used to determine the expected excess benefits and assessments included in the measurement of death and other insurance benefit reserves. These excess benefits and assessments are derived from a range of stochastic scenarios that have been calibrated to the Company's RTM separate account returns. The determination of death and other insurance benefit reserves is also impacted by discount rates, lapses, volatilities, mortality assumptions and benefit utilization, including assumptions around annuitization rates.

#### **Market Unlocks**

In addition to updating assumptions in the fourth quarter of each year, an Unlock revises EGPs, on a quarterly basis, to reflect the Company's current best estimate assumptions and market updates of policyholder account value. The Unlock for future separate account returns is determined each quarter. Under RTM, the expected long term rate of return is 8.3% . The annual return assumed over the next five years of approximately 1.5% was calculated based on the return needed over that period to produce an 8.3% return since March of 2009, the date the Company adopted the RTM estimation technique to project future separate account returns. Based on the expected trend of policy lapses and annuitizations, the Company expects approximately 50% of its block of variable annuities to runoff in the next 5 years.

#### **Aggregate Recoverability**

After each quarterly Unlock, the Company also tests the aggregate recoverability of DAC by comparing the DAC balance to the present value of future EGPs. The margin between the DAC balance and the present value of future EGPs for variable annuities was 34% as of December 31, 2016 . If the margin between the DAC asset and the present value of future EGPs is exhausted, then further reductions in EGPs would cause portions of DAC to be unrecoverable and the DAC asset would be written down to equal future EGPs.



### ***Living Benefits Required to be Fair Valued***

Fair values for GMWBs classified as embedded derivatives and included in other policyholder funds and benefits payable, are calculated using the income approach based upon internally developed models, because active, observable markets do not exist for those items. The fair value of these GMWBs and the related reinsurance and customized freestanding derivatives are calculated as an aggregation of the following components: Best Estimate Claim Payments; Credit Standing Adjustment; and Margins. The resulting aggregation is reconciled or calibrated, if necessary, to market information that is, or may be, available to the Company, but may not be observable by other market participants, including reinsurance discussions and transactions. The Company believes the aggregation of these components, as calibrated to the market information, results in an amount that the Company would be required to transfer to or receive from market participants in an active liquid market, if one existed, for those market participants to assume the risks associated with the guaranteed minimum benefits and the related reinsurance and customized derivatives. The fair value is likely to materially diverge from the ultimate settlement of the liability as the Company believes settlement will be based on our best estimate assumptions rather than those best estimate assumptions plus risk margins. In the absence of any transfer of the guaranteed benefit liability to a third party, the release of risk margins is likely to be reflected as realized gains in future periods' net income.

A multidisciplinary group of finance, actuarial and risk management professionals reviews and approves changes to the Company's valuation model as well as associated controls.

For further discussion on the impact of fair value changes from living benefits see Note 2 - Fair Value Measurements of Notes to the Consolidated Financial Statements, and for a discussion on the sensitivities of certain living benefits due to capital market factors see Part II, Item 7, MD&A - Variable Product Guarantee Risks and Risk Management.

### ***Valuation of Investments and Derivative Instruments***

#### ***Fixed Maturities, Equity Securities, Short-term Investments and Free-standing Derivatives***

The Company generally determines fair values using valuation techniques that use prices, rates, and other relevant information evident from market transactions involving identical or similar instruments. Valuation techniques also include, where appropriate, estimates of future cash flows that are converted into a single discounted amount using current market expectations. The Company uses a "waterfall" approach comprised of the following pricing sources which are listed in priority order: quoted prices, prices from third-party pricing services, internal matrix pricing, and independent broker quotes. The fair value of free-standing derivative instruments are determined primarily using a discounted cash flow model or option model technique and incorporate counterparty credit risk. In some cases, quoted market prices for exchange-traded transactions and transactions cleared through central clearing houses ("OTC-cleared") may be used and in other cases independent broker quotes may be used. For further discussion, see the Fixed Maturities, Equity Securities, Short-term Investments and Free-standing Derivatives section in Note 2 - Fair Value Measurements of Notes to Consolidated Financial Statements. For further discussion on the GMWB customized derivative valuation methodology, see the GMWB Embedded, Customized and Reinsurance Derivatives section in fair value measurement, see Note 2 - Fair Value Measurements of Notes to Consolidated Financial Statements.

#### ***Evaluation of Other-Than-Temporary Impairments on Available-for-Sale Securities and Valuation Allowances on Mortgage Loans***

Each quarter, a committee of investment and accounting professionals evaluates investments to determine if an other-than-temporary impairment ("impairment") is present for AFS securities or a valuation allowance is required for mortgage loans. This evaluation is a quantitative and qualitative process, which is subject to risks and uncertainties. For further discussion of the accounting policies, see Note 1 - Basis of Presentation and Significant Accounting Policies of Notes to Consolidated Financial Statements. For a discussion of impairments recorded, see the Other-Than-Temporary Impairments within the Investment Portfolio Risks and Risk Management section of the MD&A.

### ***Valuation Allowance on Deferred Tax Assets***

Deferred tax assets represent the tax benefit of future deductible temporary differences and tax credit carryforwards. Deferred tax assets are measured using the enacted tax rates expected to be in effect when such benefits are realized if there is no change in tax law. Under U.S. GAAP, we test the value of deferred tax assets for impairment on a quarterly basis at the entity level within each tax jurisdiction, consistent with our filed tax returns. Deferred tax assets are reduced by a valuation allowance if, based on the weight of available evidence, it is more likely than not that some portion, or all, of the deferred tax assets will not be realized. The determination of the valuation allowance for our deferred tax assets requires management to make certain judgments and assumptions. In evaluating the ability to recover deferred tax assets, we have considered all available evidence as of December 31, 2016 including past operating results, forecasted earnings, future taxable income, and prudent and feasible tax planning strategies. In the event we determine it is more likely than not that we will not be able to realize all or part of our deferred tax assets in the future, an increase to the valuation allowance would be charged to earnings in the period such determination is made. Likewise, if it is later determined that it is more likely than not that those deferred tax assets would be realized, the previously provided valuation allowance would be reversed. Our judgments and assumptions are subject to change given the inherent uncertainty in predicting future performance and specific industry and investment market conditions.

As of December 31, 2016 and 2015, the Company had no valuation allowance. In assessing the need for a valuation allowance, management considered future taxable temporary difference reversals, future taxable income exclusive of reversing temporary differences and carryovers, taxable income in open carry back years and other tax planning strategies. From time to time, tax planning strategies could include holding a portion of debt securities with market value losses until recovery, altering the level of tax exempt securities held, making investments which have specific tax characteristics, and business considerations such as asset-liability matching. Management views such tax planning strategies as prudent and feasible and would implement them, if necessary, to realize the deferred tax assets.

### ***Contingencies Relating to Corporate Litigation and Regulatory Matters***

Management evaluates each contingent matter separately. A loss is recorded if probable and reasonably estimable. Management establishes reserves for these contingencies at its "best estimate," or, if no one number within the range of possible losses is more probable than any other, the Company records an estimated reserve at the low end of the range of losses.

The Company has a quarterly monitoring process involving legal and accounting professionals. Legal personnel first identify outstanding corporate litigation and regulatory matters posing a reasonable possibility of loss. These matters are then jointly reviewed by accounting and legal personnel to evaluate the facts and changes since the last review in order to determine if a provision for loss should be recorded or adjusted, the amount that should be recorded, and the appropriate disclosure. The outcomes of certain contingencies currently being evaluated by the Company, which relate to corporate litigation and regulatory matters, are inherently difficult to predict, and the reserves that have been established for the estimated settlement amounts are subject to significant changes. Management expects that the ultimate liability, if any, with respect to such lawsuits, after consideration of provisions made for estimated losses, will not be material to the consolidated financial condition of the Company. In view of the uncertainties regarding the outcome of these matters, as well as the tax-deductibility of payments, it is possible that the ultimate cost to the Company of these matters could exceed the reserve by an amount that would have a material adverse effect on the Company's consolidated results of operations and liquidity in a particular quarterly or annual period.

## ENTERPRISE RISK MANAGEMENT

The Hartford's Board of Directors ("the Board") has ultimate responsibility for risk oversight, as described more fully in The Hartford's Proxy Statement, while management is tasked with the day-to-day management of the Hartford's risks.

The Company manages and monitors risk through risk policies, controls and limits. At the senior management level, an Enterprise Risk and Capital Committee ("ERCC") includes The Hartford's CEO, President, Chief Financial Officer, Chief Investment Officer, Chief Risk Officer, General Counsel and others as deemed necessary by the committee chair. The ERCC oversees the risk profile and risk management practices of the Company. A number of functional committees sit underneath the ERCC, providing oversight of specific risk areas and recommending risk mitigation strategies to the ERCC. These committees include, but are not limited to, Asset Liability Committees, Catastrophe Risk Committee, Economic Capital Executive Committee, Emerging Risk Committees, Model Oversight Committees and the Operational Risk Committee. The Hartford's enterprise risk management ("ERM") function supports the ERCC and functional committees, and is tasked with, among other things:

- risk identification and assessment;
- the development of risk appetites, tolerances, and limits;
- risk monitoring; and
- internal and external risk reporting.

The Company categorizes its main risks as insurance risk, operational risk and financial risk.

### Financial Risk Management

Financial risks include direct and indirect risks to the Company's financial objectives coming from events that impact market conditions or prices. Some events may cause correlated movement in multiple risk factors. The primary sources of financial risks are the Company's general account assets and the liabilities and the guarantees which the company has written over various liability products, particularly its fixed and variable annuity guarantees. Consistent with its risk appetite, the Company establishes financial risk limits to control potential loss on a U.S. GAAP, statutory, and economic basis. Exposures are actively monitored, and mitigated where appropriate. The Company uses various risk management strategies, including reinsurance and over-the-counter and exchange traded derivatives with counterparties meeting the appropriate regulatory and due diligence requirements. Derivatives are utilized to achieve one of four Company-approved objectives: hedging risk arising from interest rate, equity market, commodity market, credit spread and issuer default, price or currency exchange rate risk or volatility; managing liquidity; controlling transaction costs; or entering into synthetic replication transactions. Derivative activities are monitored and evaluated by the Company's compliance and risk management teams and reviewed by senior management.

### Liquidity Risk

Liquidity risk is the risk to current or prospective earnings or capital arising from the Company's inability or perceived inability to meet its contractual funding obligations when they come due.

Sources of Liquidity Risk include funding risk, company-specific liquidity risk and market liquidity risk resulting from differences in the amount and timing of sources and uses of cash as well as company-specific and general market conditions. Stressed market conditions may impact the ability to sell assets or otherwise transact business and may result in a significant loss in value.

Inadequate capital resources and liquidity could negatively affect the Company's overall financial strength and its ability to generate cash flows from its businesses, borrow funds at competitive rates, and raise new capital to meet operating and growth needs.

The Company has defined ongoing monitoring and reporting requirements to assess liquidity across the enterprise under both current and stressed market conditions. The Company measures and manages liquidity risk exposures and funding needs within prescribed limits across legal entities, taking into account legal, regulatory and operational limitations to the transferability of liquidity. The Company also monitors internal and external conditions, and identifies material risk changes and emerging risks that may impact liquidity. The Company's CFO has primary responsibility for liquidity risk.

For further discussion on liquidity see the section on Capital Resources and Liquidity.

### Interest Rate Risk

Interest rate risk is the risk of financial loss due to adverse changes in the value of assets and liabilities arising from movements in interest rates. Interest rate risk encompasses exposures with respect to changes in the level of interest rates, the shape of the term structure of rates and the volatility of interest rates. Interest rate risk does not include exposure to changes in credit spreads.

The Company has exposure to interest rates arising from its fixed maturity securities and interest sensitive liabilities. In addition, certain product liabilities, including those containing GMWB or GMDB, expose the Company to interest rate risk but also have significant equity risk. These liabilities are discussed as part of the Variable Product Guarantee Risks and Risk Management section. Management also evaluates performance of certain products based on net investment spread which is, in part, influenced by changes in interest rates.

An increase in interest rates from current levels is generally a favorable development for the Company. Interest rate increases are expected to provide additional net investment income, reduce the cost of the variable annuity hedging program, and limit the potential risk of margin erosion due to minimum guaranteed crediting rates in certain products. However, if long-term interest rates rise dramatically within a six to twelve month time period, certain businesses may be exposed to disintermediation risk. Disintermediation risk refers to the risk that policyholders will surrender their contracts in a rising interest rate environment requiring the Company to liquidate assets in an unrealized loss position. An increase in interest rates may also impact the Company's tax planning strategies and in particular its ability to utilize tax benefits of previously recognized realized capital losses.

A decline in interest rates results in certain mortgage-backed and municipal securities being more susceptible to paydowns and prepayments or calls. During such periods, the Company generally will not be able to reinvest the proceeds at comparable yields. Lower interest rates will also likely result in lower net investment income, increased hedging costs associated with variable annuities and, if declines are sustained for a long period of time, it may subject the Company to reinvestment risk and possibly reduced profit margins associated with guaranteed crediting rates on certain products. Conversely, the fair value of the investment portfolio will increase when interest rates decline.

The Company manages its exposure to interest rate risk by constructing investment portfolios that maintain asset allocation limits and asset/liability duration matching targets which may include the use of derivatives. The Company analyzes interest rate risk using various models including parametric models and cash flows simulation under various market scenarios of the liabilities and their supporting investment portfolios. Key metrics that the Company uses to quantify its exposure to interest rate risk inherent in its invested assets and interest rate sensitive liabilities include duration, convexity and key rate duration.

The Company also utilizes a variety of derivative instruments to mitigate interest rate risk associated with its investment portfolio or to hedge liabilities. Interest rate caps, floors, swaps, swaptions, and futures may be used to manage portfolio duration. Interest rate swaps are primarily used to convert interest receipts or payments to a fixed or variable rate. The use of such swaps enables the Company to customize contract terms and conditions to desired objectives and manage the duration profile within established tolerances. Interest rate swaps are also used to hedge the variability in the cash flow of a forecasted purchase or sale of fixed rate securities due to changes in interest rates. As of December 31, 2016 and 2015, notional amounts pertaining to derivatives utilized to manage interest rate risk, including offsetting positions, totaled \$ 4.6 billion and \$ 6.5 billion, respectively (\$ 4.5 billion and \$ 6.4 billion, respectively, related to investments and \$ 100 and \$ 100, respectively, related to liabilities). The fair value of these derivatives was \$ (404) and \$ (377) as of December 31, 2016 and 2015, respectively. These amounts do not include derivatives associated with the Variable Annuity Hedging Program.

#### *Fixed Maturity Investments*

The fair value of fixed maturity securities was \$23.9 billion and \$24.8 billion at December 31, 2016 and 2015, respectively. The weighted average duration of the portfolio, including fixed maturities, commercial mortgage loans, certain derivatives, and cash equivalents, was approximately 6.8 years and 6.6 years as of December 31, 2016 and 2015, respectively.

#### *Liabilities*

The Company's issued investment contracts and certain insurance product liabilities, other than non-guaranteed separate accounts, include asset accumulation vehicles such as fixed annuities, guaranteed investment products, and other investment and universal life-type contracts. The primary risk associated with these products is that, despite the use of market value adjustment features and surrender charges, the spread between investment return and credited rate may not be sufficient to earn targeted returns.

Asset accumulation vehicles primarily require a fixed rate payment, often for a specified period of time, and fixed rate annuities contain surrender values that are based upon a market value adjusted formula if held for shorter periods. In addition, certain products such as corporate owned life insurance contracts and the general account portion of variable annuity products credit interest to policyholders subject to market conditions and minimum interest rate guarantees. As of December 31, 2016 and 2015, the Company had \$5,187 and \$5,613, respectively, of liabilities for fixed annuities and \$194 and \$192, respectively, of liabilities for guaranteed investment products.

The Company's issued non-investment type contracts include structured settlement contracts, terminal funding agreements, on-benefit annuities (i.e., the annuitant is currently receiving benefits). The cash outflows associated with these policy liabilities are not interest rate sensitive but do vary based on the timing. Similar to investment-type products, the aggregate cash flow payment streams are relatively predictable. Products in this category may rely upon actuarial pricing assumptions (including mortality and morbidity) and have an element of cash flow uncertainty. As of December 31, 2016 and 2015, the Company had \$6,887 and \$6,934, respectively of liabilities for structured settlements and terminal funding agreements and \$1,636 and \$1,647, respectively, of liabilities for on-benefit payout annuities.

#### *Interest Rate Sensitivity*

##### *Invested Assets Supporting Fixed Liabilities*

Included in the following table is the before-tax change in the net economic value of investment contracts including structured settlements, fixed annuity contracts and terminal funding agreements for which the payment rates are fixed at contract issuance and/or the investment experience is substantially absorbed by the Company's operations, along with the corresponding invested assets. Also included in this analysis are the interest rate sensitive derivatives used by the Company to hedge its exposure to interest rate risk in the investment portfolios supporting these contracts. This analysis does not include the assets and corresponding liabilities of certain insurance products such as certain life contingent annuities. Certain financial instruments, such as limited partnerships and other alternative investments, have been omitted from the analysis due to the fact that these investments generally lack sensitivity to interest rate changes. Insulated separate account assets and liabilities are excluded from the analysis because gains and losses in separate accounts accrue to policyholders.

The calculation of the estimated hypothetical change in net economic value below assumes a 100 basis point upward and downward parallel shift in the yield curve.

<b>Interest rate sensitivity of fixed liabilities and invested assets supporting them</b>	<b>Change in Net Economic Value as of December 31,</b>			
	<b>2016</b>		<b>2015</b>	
<i>Basis point shift</i>	-100	+100	-100	+100
Increase (decrease) in economic value, before tax	\$ (634)	\$ 409	\$ (429)	\$ 261

The carrying value of fixed maturities, commercial mortgage loans and short-term investments related to the businesses included in the table above was \$18.3 billion and \$18.3 billion, as of December 31, 2016 and 2015, respectively. The assets supporting the fixed liabilities are monitored and managed within set duration guidelines, and are evaluated on a daily basis, as well as annually using scenario simulation techniques in compliance with regulatory requirements.

##### *Invested Assets Not Supporting Fixed Liabilities*

The following table provides an analysis showing the estimated before-tax change in the fair value of the Company's investments and related derivatives, excluding assets supporting fixed liabilities which are included in the table above, assuming 100 basis point upward and downward parallel shifts in the yield curve as of December 31, 2016 and 2015. Certain financial instruments, such as limited partnerships and other alternative investments, have been omitted from the analysis due to the fact that these investments generally lack sensitivity to interest rate changes.

<b>Interest rate sensitivity of invested assets not supporting fixed liabilities</b>	<b>Change in Fair Value as of December 31,</b>			
	<b>2016</b>		<b>2015</b>	
<i>Basis point shift</i>	-100	+100	-100	+100
Increase (decrease) in fair value, before tax	\$ 453	\$ (409)	\$ 454	\$ (405)

The carrying value of fixed maturities, commercial mortgage loans and short-term investments related to the businesses included in the table above was \$9.8 billion and \$10.0 billion, as of December 31, 2016 and 2015, respectively. The selection of the 100 basis point parallel shift in the yield curve was made only as an illustration of the potential hypothetical impact of such an event and should not be construed as a prediction of future market events. Actual results could differ materially from those illustrated above due to the nature of the estimates and assumptions used in the above analysis. The Company's sensitivity analysis calculation assumes that the composition of invested assets and liabilities remain materially consistent throughout the year and that the current relationship between short-term and long-term interest rates will remain constant over time. As a result, these calculations may not fully capture the impact of portfolio re-allocations, significant product sales or non-parallel changes in interest rates.

## Equity Risk

Equity risk is the risk of financial loss due to changes in the value of global equities or equity indices. The Company has exposure to equity risk from assets under management and embedded derivatives within the Company's variable annuities. Equity Risk on the Company's Variable Annuity products is mitigated through various hedging programs. For further information, refer to Enterprise Risk Management, Managing Equity Risk on Variable Annuity Products.

The Company's exposure to equity risk includes the potential for lower earnings associated with certain of its businesses such as variable annuities where fee income is earned based upon the fair value of the assets under management. Declines in equity markets may also decrease the value of limited partnerships and other alternative investments. In addition, the Company offers certain guaranteed benefits, primarily associated with variable annuity products, which increases the Company's potential benefit exposure in periods that equity markets decline. For further discussion of equity risk, see the Managing Equity Risk on Variable Annuity Products section.

## Reinsurance as a Risk Management Strategy

The Company utilizes reinsurance to transfer risk to affiliated and unaffiliated insurers. Reinsurance is used to transfer certain risk to reinsurance companies based on specific risk concentrations. All reinsurance processes are aligned under a single enterprise reinsurance risk management policy. Reinsurance purchasing is a centralized function across The Hartford to support a consistent strategy and to ensure that the reinsurance activities are fully integrated into the organization's risk management processes.

The Company uses reinsurance for a portion of contracts with GMWB riders issued prior to the second quarter of 2006. The Company also uses reinsurance for a majority of the GMDB NAR.

The Company cedes insurance to affiliated and unaffiliated insurers to enable the Company to manage capital and risk exposure. Such arrangements do not relieve the Company of its primary liability to policyholders. Failure of reinsurers to honor their obligations could result in losses to the Company.

The components of the gross and net reinsurance recoverables are summarized as follows:

Reinsurance Recoverables	As of December 31,	
	2016	2015
<b>Reserve for future policy benefits and other policyholder funds and benefits payable</b>	<b>\$ 20,725</b>	<b>\$ 20,499</b>
<b>Gross reinsurance recoverables</b>	<b>20,725</b>	<b>20,499</b>
Less: Allowance for uncollectible reinsurance [1]	—	—
<b>Net reinsurance recoverables</b>	<b>\$ 20,725</b>	<b>\$ 20,499</b>

[1] No allowance for uncollectible reinsurance is required as of December 31, 2016 and 2015.

As of December 31, 2016, the Company has reinsurance recoverables from MassMutual and Prudential of \$8.6 billion and \$10.8 billion, respectively. As of December 31, 2015, the Company has reinsurance recoverables from MassMutual and Prudential of \$8.6 billion and \$10.4 billion, respectively. The Company's obligations to its direct policyholders that have been reinsured to MassMutual and Prudential are secured by invested assets held in trust. Net of invested assets held in trust, as of December 31, 2016, the Company has \$1.2 billion of reinsurance recoverables from Prudential representing approximately 15% of the Company's consolidated stockholder's equity. As of December 31, 2016, the Company has no other reinsurance-related concentrations of credit risk greater than 10% of the Company's Consolidated Stockholder's Equity.

## Managing Equity Risk on Variable Annuity Products

Most of the Company's variable annuities include GMDB and certain contracts with GMDB also include GMWB features. Declines in the equity markets will increase the Company's liability for these benefits. Many contracts with a GMDB include a maximum anniversary value ("MAV"), which in rising markets resets the guarantee on the anniversary to be 'at the money'. As the MAV increases, it can increase the NAR for subsequent declines in account value. Generally, a GMWB contract is 'in the money' if the contractholder's guaranteed remaining balance ("GRB") becomes greater than the account value.

The NAR is generally defined as the guaranteed minimum benefit amount in excess of the contractholder's current account value. Variable annuity account values with guarantee features were \$ 40.7 billion and \$ 44.2 billion as of December 31, 2016 and December 31, 2015, respectively.

The following tables summarize the account values of the Company's variable annuities with guarantee features and the NAR split between various guarantee features (retained net amount at risk does not take into consideration the effects of the variable annuity hedge programs currently in place as of each balance sheet date):

<b>Total Variable Annuity Guarantees</b>					
<b>As of December 31, 2016</b>					
<i>(\$ in billions)</i>	<b>Account Value</b>	<b>Gross Net Amount at Risk</b>	<b>Retained Net Amount at Risk</b>	<b>% of Contracts In the Money[2]</b>	<b>% In the Money[2][3]</b>
<b>Variable Annuity [1]</b>					
GMDB	\$ 40.7	\$ 3.3	\$ 0.7	28%	14%
GMWB	18.3	0.2	0.1	7%	13%

<b>Total Variable Annuity Guarantees</b>					
<b>As of December 31, 2015</b>					
<i>(\$ in billions)</i>	<b>Account Value</b>	<b>Gross Net Amount at Risk</b>	<b>Retained Net Amount at Risk</b>	<b>% of Contracts In the Money[2]</b>	<b>% In the Money[2][3]</b>
<b>Variable Annuity [1]</b>					
GMDB	\$ 44.2	\$ 4.2	\$ 1.1	55%	9%
GMWB	20.2	0.2	0.2	11%	9%

[1] Policies with a guaranteed living benefit also have a guaranteed death benefit. The NAR for each benefit is shown; however these benefits are not additive. When a policy terminates due to death, any NAR related to GMWB is released. Similarly, when a policy goes into benefit status on a GMWB, the GMDB NAR is reduced to zero.

[2] Excludes contracts that are fully reinsured.

[3] For all contracts that are "in the money", this represents the percentage by which the average contract was in the money.

Many policyholders with a GMDB also have a GMWB. Policyholders that have a product that offers both guarantees can only receive the GMDB or GMWB. The GMDB NAR disclosed in the preceding tables is a point in time measurement and assumes that all participants utilize the GMDB on that measurement date.

The Company expects to incur GMDB payments in the future only if the policyholder has an "in the money" GMDB at their death. For policies with a GMWB rider, the company expects to incur GMWB payments in the future only if the account value is reduced over time to a specified level through a combination of market performance and periodic withdrawals, at which point the contractholder will receive an annuity equal to the GRB which is generally equal to premiums less withdrawals. For the Company's "life-time" GMWB products, this annuity can exceed the GRB. As the account value fluctuates with equity market returns on a daily basis and the "life-time" GMWB payments may exceed the GRB, the ultimate amount to be paid by the Company, if any, is uncertain and could be significantly more or less than the Company's current carried liability. For additional information on the Company's GMWB liability, see Note 2 - Fair Value Measurements of Notes to Consolidated Financial Statements. For additional information on the Company's GMDB liability, see Note 7 - Reserves for Future Policy Benefits and Separate Account Liabilities of Notes to Consolidated Financial Statements.

#### *Variable Annuity Market Risk Exposures*

The following table summarizes the broad Variable Annuity Guarantees offered by the Company and the market risks to which the guarantee is most exposed from a U.S. GAAP accounting perspective.

<b>Variable Annuity Guarantees [1]</b>	<b>U.S. GAAP Treatment [1]</b>	<b>Primary Market Risk Exposures [1]</b>
GMDB and life-contingent component of the GMWB	Accumulation of the portion of fees required to cover expected claims, less accumulation of actual claims paid	Equity Market Levels
GMWB (excluding life-contingent portions)	Fair Value	Equity Market Levels / Implied Volatility / Interest Rates

[1] Each of these guarantees and the related U.S. GAAP accounting volatility will also be influenced by actual and estimated policyholder behavior.

## *Risk Hedging*

### Variable Annuity Hedging Program

The Company's variable annuity hedging program is primarily focused, through the use of reinsurance and capital market derivative instruments, on reducing the economic exposure to market risks associated with guaranteed benefits that are embedded in our variable annuity contracts. The variable annuity hedging program also considers the potential impacts on statutory capital.

### Reinsurance

The Company uses reinsurance for a portion of contracts with GMWB riders issued prior to the second quarter of 2006. The Company also uses reinsurance for a majority of the GMDB NAR.

### Capital Market Derivatives

#### GMWB Hedge Program

Under the dynamic hedging program, the Company enters into derivative contracts to hedge market risk exposures associated with the GMWB liabilities that are not reinsured. These derivative contracts include customized swaps, interest rate swaps and futures, and equity swaps, options, and futures, on certain indices including the S&P 500 index, EAFE index, and NASDAQ index.

Additionally, the Company holds customized derivative contracts to provide protection from certain capital market risks for the remaining term of specified blocks of non-reinsured GMWB riders. These customized derivative contracts are based on policyholder behavior assumptions specified at the inception of the derivative contracts. The Company retains the risk for differences between assumed and actual policyholder behavior and between the performance of the actively managed funds underlying the separate accounts and their respective indices.

While the Company actively manages this dynamic hedging program, increased U.S. GAAP earnings volatility may result from factors including, but not limited to: policyholder behavior, capital markets, divergence between the performance of the underlying funds and the hedging indices, changes in hedging positions and the relative emphasis placed on various risk management objectives.

#### Macro Hedge Program

The Company's macro hedging program uses derivative instruments, such as options and futures on equities and interest rates, to provide protection against the statutory tail scenario risk arising from GMWB and GMDB liabilities on the Company's statutory surplus. These macro hedges cover some of the residual risks not otherwise covered by the dynamic hedging program. Management assesses this residual risk under various scenarios in designing and executing the macro hedge program. The macro hedge program will result in additional U.S. GAAP earnings volatility as changes in the value of the macro hedge derivatives, which are designed to reduce statutory reserve and capital volatility, may not be closely aligned to changes in U.S. GAAP liabilities.

#### Variable Annuity Hedging Program Sensitivities

The underlying guaranteed withdrawal benefit liabilities (excluding the life contingent GMWB contracts) and hedge assets within the GMWB hedge and Macro hedge programs are carried at fair value.

The following table presents our estimates of the potential instantaneous impacts from sudden market stresses related to equity market prices, interest rates, and implied market volatilities. The following sensitivities represent: (1) the net estimated difference between the change in the fair value of GMWB liabilities and the underlying hedge instruments and (2) the estimated change in fair value of the hedge instruments for the macro program, before the impacts of amortization of DAC, and taxes. As noted in the preceding discussion, certain hedge assets are used to hedge liabilities that are not carried at fair value and will not have a liability offset in the U.S. GAAP sensitivity analysis. All sensitivities are measured as of December 31, 2016 and are related to the fair value of liabilities and hedge instruments in place at that date for the Company's variable annuity hedge programs. The impacts presented in the table that follows are estimated individually and measured without consideration of any correlation among market risk factors.



## GAAP Sensitivity Analysis

As of December 31, 2016

(before tax and DAC) [1]	GMWB			Macro		
<b>Equity Market Return</b>	<b>-20 %</b>	<b>-10 %</b>	<b>10 %</b>	<b>-20 %</b>	<b>-10 %</b>	<b>10 %</b>
<i>Potential Net Fair Value Impact</i>	\$ (3)	\$ 1	\$ (5)	\$ 265	\$ 112	\$ (80)
<b>Interest Rates</b>	<b>-50bps</b>	<b>-25bps</b>	<b>+25bps</b>	<b>-50bps</b>	<b>-25bps</b>	<b>+25bps</b>
<i>Potential Net Fair Value Impact</i>	\$ (3)	\$ (1)	\$ (1)	\$ 6	\$ 3	\$ (2)
<b>Implied Volatilities</b>	<b>10 %</b>	<b>2 %</b>	<b>-10 %</b>	<b>10 %</b>	<b>2 %</b>	<b>-10 %</b>
<i>Potential Net Fair Value Impact</i>	\$ (69)	\$ (14)	\$ 67	\$ 136	\$ 27	\$ (125)

[1] These sensitivities are based on the following key market levels as of December 31, 2016: 1) S&P of 2,239; 2) 10yr US swap rate of 2.38%; and 3) S&P 10yr volatility of 27.06%.

The preceding sensitivity analysis is an estimate and should not be used to predict the future financial performance of the Company's variable annuity hedge programs. The actual net changes in the fair value liability and the hedging assets illustrated in the preceding table may vary materially depending on a variety of factors which include but are not limited to:

- The sensitivity analysis is only valid as of the measurement date and assumes instantaneous changes in the capital market factors and no ability to rebalance hedge positions prior to the market changes;
- Changes to the underlying hedging program, policyholder behavior, and variation in underlying fund performance relative to the hedged index, which could materially impact the liability; and
- The impact of elapsed time on liabilities or hedge assets, any non-parallel shifts in capital market factors, or correlated moves across the sensitivities.

**Foreign Currency Exchange Risk**

Foreign currency exchange risk is the risk of financial loss due to changes in the relative value between currencies. The Company has foreign currency exchange risk in non-U.S. dollar denominated investments, which primarily consist of fixed maturity and equity investments, foreign denominated cash and a yen denominated fixed payout annuity.

Changes in relative values between currencies can create variability in cash flows and realized or unrealized gains and losses on changes in the fair value of assets and liabilities. Based on the fair values of the Company's non-U.S. dollar denominated securities and derivative instruments as of December 31, 2016 and 2015, management estimates that a hypothetical 10% unfavorable change in exchange rates would decrease the fair values by an immaterial amount.

The open foreign currency exposure of non-U.S. dollar denominated investments will most commonly be reduced through the sale of the assets or through hedges using currency futures/forwards/swaps. In order to manage the currency risk related to any non-U.S. dollar denominated liability contracts, the Company enters into foreign currency swaps or holds non-U.S. dollar denominated investments.

*Non-U.S. dollar denominated fixed maturities, equities and cash*

The fair values of the non-U.S. dollar denominated fixed maturities and equities at December 31, 2016 and 2015 were approximately \$ 77 and \$ 366, respectively. Included in these amounts are \$ 5 and \$ 6 at December 31, 2016 and 2015, respectively, related to non-U.S. dollar denominated fixed maturities and equities that directly support liabilities denominated in the same currencies. The currency risk of the remaining non-U.S. dollar denominated fixed maturities and equities are hedged with foreign currency swaps. In addition, the Company holds \$533 of yen-denominated cash, of which \$327 is hedged with foreign currency forwards and \$206 is derivative cash collateral pledged by counterparties and has an offsetting collateral liability.

The Company has entered into pay U.S. dollar, receive yen swap contracts to hedge the currency exposure between the U.S. dollar denominated assets and the yen denominated fixed liability reinsurance payments.

*Non-U.S. dollar denominated funding agreement liability contracts*

The Company hedged the foreign currency risk associated with these liability contracts with currency rate swaps. At December 31, 2016 and 2015, the derivatives used to hedge foreign currency exchange risk related to foreign denominated liability contracts had a total notional amount of \$ 94 and \$ 94, and a total fair value of \$ (25) and \$ (26), respectively.

## Financial Risk on Statutory Capital

Statutory surplus amounts and RBC ratios may increase or decrease in any period depending upon a variety of factors and may be compounded in extreme scenarios or if multiple factors occur at the same time. In general, as equity market levels and interest rates decline, the amount and volatility of both our actual or potential obligation, as well as the related statutory surplus and capital margin can be materially negatively affected, sometimes at a greater than linear rate. At times the impact of changes in certain market factors or a combination of multiple factors on RBC ratios can be counterintuitive. Factors include:

- Differences in performance of variable subaccounts relative to indices and/or realized equity and interest rate volatilities may affect RBC ratios.
- Rising equity markets will generally result in an increase in statutory surplus and RBC ratios. However, as a result of a number of factors and market conditions, including the level of hedging costs and other risk transfer activities, reserve requirements for death and living benefit guarantees and RBC requirements could increase with rising equity markets, resulting in lower RBC ratios. The Company has reinsured approximately 39% of its risk associated with GMWB and 79% of its risk associated with the aggregate GMDB exposure. These reinsurance agreements reduce the Company's exposure to changes in the statutory reserves and the related capital and RBC ratios associated with changes in the capital markets.
- A decrease in the value of certain fixed-income and equity securities in our investment portfolio, due in part to credit spreads widening, may result in a decrease in statutory surplus and RBC ratios.
- Credit spreads on invested assets may increase sharply for certain sub-sectors of the overall credit market, resulting in statutory separate account asset market value losses. As actual credit spreads are not fully reflected in the current crediting rates, the calculation of statutory reserves for fixed MVA annuities will not substantially offset the change in fair value of the statutory separate account assets resulting in reductions in statutory surplus.
- Decreases in the value of certain derivative instruments that do not get hedge accounting, may reduce statutory surplus and RBC ratios.
- Sustained low interest rates with respect to the fixed annuity business may result in a reduction in statutory surplus and an increase in NAIC required capital.
- Non-market factors, which can also impact the amount and volatility of both our actual potential obligation, as well as the related statutory surplus and capital margin, include actual and estimated policyholder behavior experience as it pertains to lapsation, partial withdrawals, and mortality.

Most of these factors are outside of the Company's control. The Company's financial strength and credit ratings are significantly influenced by its statutory surplus amounts and RBC ratios of our insurance company subsidiaries. In addition, rating agencies may implement changes to their internal models that have the effect of increasing or decreasing the amount of statutory capital we must hold in order to maintain our current ratings.

## Credit Risk

Credit risk is the risk to earnings or capital due to uncertainty of an obligor's or counterparty's ability or willingness to meet its obligations in accordance with contractually agreed upon terms. Credit risk is comprised of three major factors: the risk of change in credit quality, or credit migration risk; the risk of default; and the risk of a change in value due to changes in credit spread.

The majority of the Company's credit risk is concentrated in its investment holdings but it is also present in the Company's reinsurance and insurance portfolios. A decline in creditworthiness is typically associated with an increase in an investment's credit spread, potentially resulting in an increase in other-than-temporary impairments and an increased probability of a realized loss upon sale. Premiums receivable and reinsurance recoverables are also subject to credit risk based on the counterparty's unwillingness or inability to pay.

The objective of the Company's enterprise credit risk management strategy is to identify, quantify, and manage credit risk on an aggregate portfolio basis and to limit potential losses in accordance with an established credit risk management policy. The Company primarily manages its credit risk by holding a diversified mix of investment grade issuers and counterparties across its investment, reinsurance, and insurance portfolios. Potential losses are also limited within portfolios by diversifying across geographic regions, asset types, and sectors.

The Company manages credit risk on an on-going basis through the use of various processes and analyses. Both the investment and reinsurance areas have formulated procedures for counterparty approvals and authorizations, which establish minimum levels of creditworthiness and financial stability. Credits considered for investment are subjected to underwriting reviews. Within the investment portfolio, private securities are subject to committee review for approval. Mitigation strategies vary across the three sources of credit risk, but may include:

- Investing in a portfolio of high-quality and diverse securities;
- Selling investments subject to credit risk;
- Hedging through use of single name or basket credit default swaps;
- Clearing transactions through central clearing houses that require daily variation margin;
- Entering into contracts only with strong creditworthy institutions
- Requiring collateral; and
- Non-renewing policies/contracts or reinsurance treaties.

The Company has developed credit exposure thresholds which are based upon counterparty ratings. Aggregate counterparty credit quality and exposure is monitored on a daily basis utilizing an enterprise-wide credit exposure information system that contains data on issuers, ratings, exposures, and credit limits. Exposures are tracked on a current and potential basis and aggregated by ultimate parent across investments, reinsurance receivables, insurance products with credit risk, and derivative counterparties.

As of December 31, 2016, the Company had no investment exposure to any credit concentration risk of a single issuer, or counterparty greater than 10% of the Company's stockholder's equity, other than the U.S. government and certain U.S. government securities. For further discussion of concentration of credit risk in the investment portfolio, see the Concentration of Credit Risk section in Note 3 - Investments of Notes to Consolidated Financial Statements.

#### *Credit Risk of Derivatives*

The Company uses various derivative counterparties in executing its derivative transactions. The use of counterparties creates credit risk that the counterparty may not perform in accordance with the terms of the derivative transaction. Downgrades to the credit ratings of the Company's insurance operating companies may have adverse implications for its use of derivatives including those used to hedge benefit guarantees of variable annuities. In some cases, downgrades may give derivative counterparties for over-the-counter ("OTC") derivatives and clearing brokers for OTC-cleared derivatives the right to cancel and settle outstanding derivative trades or require additional collateral to be posted. In addition, downgrades may result in counterparties and clearing brokers becoming unwilling to engage in or clear additional derivatives or may require collateralization before entering into any new trades. This would restrict the supply of derivative instruments commonly used to hedge variable annuity guarantees, particularly long-dated equity derivatives and interest rate swaps.

#### *Managing the Credit Risk of Counterparties to Derivative Instruments*

The Company has derivative counterparty exposure policies which limit the Company's exposure to credit risk. The Company monitors counterparty exposure on a monthly basis to ensure compliance with Company policies and statutory limitations. The Company's policies with respect to derivative counterparty exposure establishes market-based credit limits, favors long-term financial stability and creditworthiness of the counterparty and typically requires credit enhancement/credit risk reducing agreements, which are monitored and evaluated by the Company's risk management team and reviewed by senior management.

The Company minimizes the credit risk of derivative instruments by entering into transactions with high quality counterparties primarily rated A or better. The Company also generally requires that OTC derivative contracts be governed by an International Swaps and Derivatives Association ("ISDA") Master Agreement, which is structured by legal entity and by counterparty and permits right of offset. The Company enters into credit support annexes in conjunction with the ISDA agreements, which require daily collateral settlement based upon agreed upon thresholds.

The Company has developed credit exposure thresholds which are based upon counterparty ratings. Credit exposures are measured using the market value of the derivatives, resulting in amounts owed to the Company by its counterparties or potential payment obligations from the Company to its counterparties. The notional amounts of derivative contracts represent the basis upon which pay or receive amounts are calculated and are not reflective of credit risk. For purposes of daily derivative collateral maintenance, credit exposures are generally quantified based on the prior business day's market value and collateral is pledged to and held by, or on behalf of, the Company to the extent the current value of the derivatives exceed the contractual thresholds. In accordance with industry standard and the contractual agreements, collateral is typically settled on the next business day. The Company has exposure to credit risk for amounts below the exposure thresholds which are uncollateralized, as well as for market fluctuations that may occur between contractual settlement periods of collateral movements.

For the company's derivative programs, the maximum uncollateralized threshold for a derivative counterparty for a single legal entity is \$ 10 . The Company currently transacts OTC derivatives in two legal entities that have a threshold greater than zero. The maximum combined threshold for a single counterparty across all legal entities that use derivatives is \$ 20 . In addition, the Company may have exposure to multiple counterparties in a single corporate family due to a common credit support provider; however, the thresholds for these relationships are zero. Based on the contractual terms of the collateral agreements, these thresholds may be immediately reduced due to a downgrade in either party's credit rating. For further discussion, see the Derivative Commitments section of Note 10 - Commitments and Contingencies of Notes to Consolidated Financial Statements.

For the year ended December 31, 2016 , the Company incurred no losses on derivative instruments due to counterparty default.

#### *Use of Credit Derivatives*

The Company may also use credit default swaps to manage credit exposure or to assume credit risk to enhance yield. The Company uses credit derivatives to purchase credit protection with respect to a single entity, referenced index, or asset pool. The Company purchases credit protection through credit default swaps to economically hedge and manage credit risk of certain fixed maturity investments across multiple sectors of the investment portfolio. As of December 31, 2016 and 2015 , the notional amount related to credit derivatives that purchase credit protection was \$ 131 and \$ 249 , respectively, while the fair value was \$ (3) and \$ 10 , respectively. These amounts do not include positions that are in offsetting relationships.

The Company also enters into credit default swaps that assume credit risk as part of replication transactions. Replication transactions are used as an economical means to synthetically replicate the characteristics and performance of assets that are permissible investments under the Company's investment policies. These swaps reference investment grade single corporate issuers and baskets, which include customized diversified portfolios of corporate issuers, which are established within sector concentration limits and may be divided into tranches which possess different credit ratings. As of December 31, 2016 and 2015 , the notional amount related to credit derivatives that assume credit risk was \$ 458 and \$ 1.4 billion , respectively, while the fair value was \$ 4 and \$ (10) , respectively. These amounts do not include positions that are in offsetting relationships.

For further information on credit derivatives, see Note 4 - Derivative Instruments of Notes to Consolidated Financial Statements.

#### **Investment Portfolio Risk**

##### *Investment Portfolio Composition*

The following table presents the Company's fixed maturities, AFS, by credit quality. The credit ratings referenced throughout this section are based on availability, and are generally the midpoint of the available ratings among Moody's, S&P, Fitch and Morningstar. If no rating is available from a rating agency, then an internally developed rating is used.

#### **Fixed Maturities by Credit Quality**

	December 31, 2016			December 31, 2015		
	Amortized Cost	Fair Value	Percent of Total Fair Value	Amortized Cost	Fair Value	Percent of Total Fair Value
United States Government/Government agencies	\$ 3,125	\$ 3,275	13.7%	\$ 3,263	\$ 3,476	14.1%
AAA	1,596	1,650	6.9%	1,849	1,894	7.7%
AA	2,427	2,561	10.8%	2,492	2,612	10.6%
A	7,288	7,857	33.0%	7,180	7,668	31.1%
BBB	6,650	7,019	29.5%	7,248	7,479	30.3%
BB & below	1,421	1,457	6.1%	1,527	1,528	6.2%
<b>Total fixed maturities, AFS</b>	<b>\$ 22,507</b>	<b>\$ 23,819</b>	<b>100%</b>	<b>\$ 23,559</b>	<b>\$ 24,657</b>	<b>100%</b>

The fair value of AFS securities decreased, as compared with December 31, 2015 , due to the continued run-off of the Company's business. Fixed maturities, FVO, are not included in the preceding table. For further discussion on FVO securities, see Note 2 - Fair Value Measurements of Notes to Consolidated Financial Statements.

The following table presents the Company's AFS securities by type, as well as fixed maturities and equity, FVO.

Securities by Type										
	December 31, 2016					December 31, 2015				
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized losses	Fair Value	Percent of Total Fair Value	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized losses	Fair Value	Percent of Total Fair Value
<b>Asset backed securities ("ABS")</b>										
Consumer loans	828	4	(26)	806	3.4%	667	2	(30)	639	2.6%
Small business	76	3	(1)	78	0.3%	105	11	(4)	112	0.5%
Other	107	2	—	109	0.5%	92	3	—	95	0.4%
<b>Collateralized debt obligations ("CDOs")</b>										
Collateralized loan obligations ("CLOs")	742	2	(2)	742	3.1%	1,085	2	(10)	1,077	4.3%
Commercial real estate ("CREs")	13	17	—	30	0.1%	85	35	(1)	119	0.5%
Other [1]	138	30	—	168	0.7%	184	30	—	212	0.8%
<b>Commercial mortgage-backed securities ("CMBS")</b>										
Agency backed [2]	584	8	(8)	584	2.5%	362	12	(2)	372	1.5%
Bonds	1,242	32	(19)	1,255	5.3%	1,304	33	(14)	1,323	5.4%
Interest only ("IOs")	309	5	(7)	307	1.3%	270	7	(8)	269	1.1%
<b>Corporate</b>										
Basic industry	651	46	(6)	691	2.9%	640	38	(24)	654	2.7%
Capital goods	846	79	(6)	919	3.9%	1,014	77	(10)	1,081	4.4%
Consumer cyclical	751	54	(3)	802	3.4%	963	54	(13)	1,004	4.0%
Consumer non-cyclical	2,155	159	(18)	2,296	9.6%	2,233	146	(15)	2,364	9.6%
Energy	1,336	110	(9)	1,437	6.0%	1,447	61	(71)	1,437	5.8%
Financial services	2,774	200	(15)	2,959	12.4%	3,184	187	(34)	3,337	13.5%
Tech./comm.	1,863	185	(8)	2,040	8.5%	1,914	163	(30)	2,047	8.3%
Transportation	524	34	(4)	554	2.3%	531	33	(5)	559	2.3%
Utilities	2,665	233	(25)	2,873	12.1%	2,419	206	(22)	2,603	10.6%
Other	112	11	(1)	122	0.5%	80	10	(1)	89	0.4%
Foreign govt./govt. agencies	337	18	(10)	345	1.4%	328	14	(11)	331	1.3%
<b>Municipal bonds</b>										
Taxable	1,098	97	(6)	1,189	5.0%	1,056	80	(5)	1,131	4.6%
Tax-exempt	—	—	—	—	—	1	—	—	1	—
<b>Residential mortgage-backed securities ("RMBS")</b>										
Agency	927	22	(11)	938	3.9%	774	32	—	806	3.3%
Non-agency	69	—	(1)	68	0.3%	38	1	—	39	0.2%
Alt-A	48	2	—	50	0.2%	27	1	—	30	0.1%
Sub-prime	698	10	(4)	704	3.0%	629	9	(8)	628	2.5%
U.S. Treasuries	1,614	153	(14)	1,753	7.4%	2,127	184	(13)	2,298	9.3%
<b>Fixed maturities, AFS</b>	<b>22,507</b>	<b>1,516</b>	<b>(204)</b>	<b>23,819</b>	<b>100%</b>	<b>23,559</b>	<b>1,431</b>	<b>(331)</b>	<b>24,657</b>	<b>100%</b>
<b>Equity securities</b>										
Financial services	69	1	(1)	69	45.4%	58	1	—	59	33.1%
Other	73	11	(1)	83	54.6%	120	10	(11)	119	66.9%
<b>Equity securities, AFS</b>	<b>142</b>	<b>12</b>	<b>(2)</b>	<b>152</b>	<b>100%</b>	<b>178</b>	<b>11</b>	<b>(11)</b>	<b>178</b>	<b>100%</b>
<b>Total AFS securities</b>	<b>\$ 22,649</b>	<b>\$ 1,528</b>	<b>\$ (206)</b>	<b>\$ 23,971</b>		<b>\$ 23,737</b>	<b>\$ 1,442</b>	<b>\$ (342)</b>	<b>\$ 24,835</b>	
<b>Fixed maturities, FVO</b>				<b>\$ 82</b>					<b>\$ 165</b>	
<b>Equity securities, FVO [3]</b>				<b>\$ —</b>					<b>\$ 281</b>	

[1] Gross unrealized gains (losses) exclude the fair value of bifurcated embedded derivatives within certain securities. Changes in value are recorded in net realized capital gains (losses).

[2] Includes securities with pools of loans issued by the Small Business Administration which are backed by the full faith and credit of the U.S. government.

[3] Included in equity securities, AFS on the Consolidated Balance Sheets. The Company did not hold any equity securities, FVO as of December 31, 2016.

The decline in the fair value of AFS securities as compared to December 31, 2015 was due to the continued run-off of the Company's business. The Company also reduced its allocation to financial services and U.S. Treasuries and purchased RMBS.

#### European Exposure

Certain economies in the European region have experienced adverse economic conditions in recent years, specifically in Europe's peripheral region (Greece, Ireland, Italy, Portugal and Spain). While some economic conditions have improved, continued slow GDP growth, elevated unemployment levels and increased volatility in the financial markets following the United Kingdom's referendum to withdraw from the European Union may continue to put pressure on sovereign debt. The Company manages the credit risk associated with the European securities within the investment portfolio on an on-going basis using several processes which are supported by macroeconomic analysis and issuer credit analysis. For additional details regarding the Company's management of credit risk, see the Credit Risk section of this MD&A.

As of December 31, 2016, the Company's European investment exposure had an amortized cost and fair value of \$1.8 billion and \$1.9 billion, respectively, or 6% of total invested assets; as of December 31, 2015, amortized cost and fair value totaled \$2.1 billion and \$2.2 billion, respectively. The investment exposure largely relates to corporate entities which are domiciled in or generate a significant portion of their revenue within the United Kingdom, the Netherlands, Germany and Switzerland. The Company does not hold any sovereign exposure to the peripheral region and does not hold any exposure to issuers in Greece. As of both December 31, 2016 and 2015, the weighted average credit quality of European investments was A-. Entities domiciled in the United Kingdom comprise the Company's largest exposure; as of December 31, 2016 and 2015, the U.K. exposure totals less than 3% and 4% of total invested assets and largely relates to industrial and financial services corporate securities and has an average credit rating of BBB+. The majority of the European investments are U.S. dollar-denominated, and those securities that are British pound or euro-denominated are hedged to U.S. dollars. For a discussion of foreign currency risks, see the Foreign Currency Exchange Risk section of this MD&A.

#### Financial Services

The Company's investment in the financial services sector is predominantly through investment grade banking and insurance institutions. The following table presents the Company's fixed maturities and equity, AFS securities in the financial services sector that are included in the preceding Securities by Type table.

	December 31, 2016			December 31, 2015		
	Amortized Cost	Fair Value	Net Unrealized Gain/(Loss)	Amortized Cost	Fair Value	Net Unrealized Gain/(Loss)
AAA	\$ 5	\$ 5	\$ —	\$ 18	\$ 18	\$ —
AA	319	335	16	313	326	13
A	1,360	1,462	102	1,616	1,703	87
BBB	971	1,028	57	1,078	1,123	45
BB & below	188	198	10	217	226	9
<b>Total [1]</b>	<b>\$ 2,843</b>	<b>\$ 3,028</b>	<b>\$ 185</b>	<b>\$ 3,242</b>	<b>\$ 3,396</b>	<b>\$ 154</b>

[1] Includes equity, AFS securities with an amortized cost and fair value of \$69 and \$69, respectively as of December 31, 2016 and an amortized cost and fair value of \$58 and \$59, respectively, as of December 31, 2015 included in the AFS by type table above.

The Company's investment in the financial services sector decreased, as compared to December 31, 2015, primarily due to sales of corporate securities.

#### Commercial Real Estate

Through December 31, 2016, commercial real estate market conditions, including property prices, occupancies, financial conditions, transaction volume, and delinquencies, continued to improve. In addition, the availability of credit has increased and there is now less concern about the ability of borrowers to refinance as loans come due.

The following table presents the Company's exposure to CMBS bonds by current credit quality and vintage year included in the preceding Securities by Type table. Credit protection represents the current weighted average percentage of the outstanding capital structure subordinated to the Company's investment holding that is available to absorb losses before the security incurs the first dollar loss of principal and excludes any equity interest or property value in excess of outstanding debt.

Exposure to CMBS Bonds

December 31, 2016

Vintage Year [1]	AAA		AA		A		BBB		BB and Below		Total	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value
2005 & Prior	\$ 68	\$ 76	\$ 37	\$ 43	\$ —	\$ —	\$ 5	\$ 5	\$ 2	\$ 1	\$ 112	\$ 125
2006	10	11	5	5	1	1	—	—	—	—	16	17
2007	64	66	53	53	52	52	—	—	—	—	169	171
2008	14	15	—	—	—	—	—	—	—	—	14	15
2009	8	9	—	—	—	—	—	—	—	—	8	9
2010	—	—	8	8	—	—	—	—	—	—	8	8
2011	14	15	—	—	5	5	—	—	—	—	19	20
2012	22	22	—	—	18	18	14	13	—	—	54	53
2013	16	16	84	87	69	71	4	4	—	—	173	178
2014	16	17	23	23	30	31	—	—	—	—	69	71
2015	114	113	89	87	50	50	30	30	—	—	283	280
2016	94	92	140	134	38	37	45	45	—	—	317	308
<b>Total</b>	<b>\$ 440</b>	<b>\$ 452</b>	<b>\$ 439</b>	<b>\$ 440</b>	<b>\$ 263</b>	<b>\$ 265</b>	<b>\$ 98</b>	<b>\$ 97</b>	<b>\$ 2</b>	<b>\$ 1</b>	<b>\$ 1,242</b>	<b>\$ 1,255</b>
<b>Credit protection</b>	<b>33.2%</b>		<b>21.5%</b>		<b>19.3%</b>		<b>14.5%</b>		<b>6.0%</b>		<b>24.6%</b>	

December 31, 2015

Vintage Year [1]	AAA		AA		A		BBB		BB and Below		Total	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value
2005 & Prior	\$ 72	\$ 81	\$ 44	\$ 49	\$ —	\$ —	\$ 5	\$ 5	\$ 1	\$ 2	\$ 122	\$ 137
2006	99	100	59	60	89	90	60	61	18	18	325	329
2007	130	131	80	82	45	46	7	7	16	17	278	283
2008	15	16	—	—	—	—	—	—	—	—	15	16
2009	9	9	—	—	—	—	—	—	—	—	9	9
2010	—	—	8	8	—	—	—	—	—	—	8	8
2011	14	15	—	—	—	—	5	5	—	—	19	20
2012	22	22	—	—	18	18	24	23	—	—	64	63
2013	16	16	84	86	57	58	9	9	—	—	166	169
2014	16	17	26	26	28	28	6	6	1	1	77	78
2015	107	102	62	60	39	37	13	12	—	—	221	211
<b>Total</b>	<b>\$ 500</b>	<b>\$ 509</b>	<b>\$ 363</b>	<b>\$ 371</b>	<b>\$ 276</b>	<b>\$ 277</b>	<b>\$ 129</b>	<b>\$ 128</b>	<b>\$ 36</b>	<b>\$ 38</b>	<b>\$ 1,304</b>	<b>\$ 1,323</b>
<b>Credit protection</b>	<b>34.2%</b>		<b>24.8%</b>		<b>19.5%</b>		<b>16.7%</b>		<b>12.4%</b>		<b>26.1%</b>	

[1] The vintage year represents the year the pool of loans was originated.

The Company also has exposure to CRE CDOs with an amortized cost and fair value of \$13 and \$30 , respectively, as of December 31, 2016 , and \$85 and \$119 , respectively, as of December 31, 2015 . These securities are comprised of pools of commercial mortgage loans or equity positions of other CMBS securitizations.

In addition to CMBS bonds and CRE CDOs, the Company has exposure to commercial mortgage loans as presented in the following table. These loans are collateralized by a variety of commercial properties and are diversified both geographically throughout the United States and by property type. These loans are primarily in the form of whole loans, where the Company is the sole lender, but may include participations. Loan participations are loans where the Company has purchased or retained a portion of an outstanding loan or package of loans and participates on a pro-rata basis in collecting interest and principal pursuant to the terms of the participation agreement. As of December 31, 2016, loans within the Company's mortgage loan portfolio that have had extensions or restructurings other than what is allowable under the original terms of the contract are immaterial.

#### Commercial Mortgage Loans

	December 31, 2016			December 31, 2015		
	Amortized Cost [1]	Valuation Allowance	Carrying Value	Amortized Cost [1]	Valuation Allowance	Carrying Value
Whole loans	\$ 2,711	\$ (19)	\$ 2,692	\$ 2,816	\$ (19)	\$ 2,797
A-Note participations	119	—	119	121	—	121
<b>Total</b>	<b>\$ 2,830</b>	<b>\$ (19)</b>	<b>\$ 2,811</b>	<b>\$ 2,937</b>	<b>\$ (19)</b>	<b>\$ 2,918</b>

[1] Amortized cost represents carrying value prior to valuation allowances, if any.

During 2016, the Company funded \$217 of commercial whole loans with a weighted average loan-to-value ("LTV") ratio of 60% and a weighted average yield of 3.6%. The Company continues to originate commercial whole loans within primary markets, such as office, industrial and multi-family, focusing on loans with strong LTV ratios and high quality property collateral. There were no mortgage loans held for sale as of December 31, 2016 or December 31, 2015.

#### Valuation Allowances on Mortgage Loans

##### Year ended December 31, 2016

For the year ended December 31, 2016, there was no change in valuation allowances on mortgage loans.

##### Year ended December 31, 2015

For the year ended December 31, 2015, the change in valuation allowances on mortgage loan additions of \$4 was largely driven by individual property performance.

#### Municipal Bonds

The following table presents the Company's exposure to municipal bonds by type and weighted average credit quality included in the preceding Securities by Type tables.

	December 31, 2016			December 31, 2015		
	Amortized Cost	Fair Value	Weighted Average Credit Quality	Amortized Cost	Fair Value	Weighted Average Credit Quality
General Obligation	\$ 201	\$ 222	AA-	\$ 234	\$ 255	AA-
Pre-Refunded [1]	10	10	AAA	10	10	AAA
Revenue						
Transportation	220	239	A	203	213	A
Health Care	37	39	AA	42	43	AA
Water & Sewer	41	41	AA-	31	31	AA
Education	136	149	AA	126	140	AA
Sales Tax	64	72	AA-	66	70	AA-
Leasing [2]	93	106	A+	91	101	A+
Power	150	154	A	144	148	A
Housing	53	56	A+	29	31	AA
Other	93	101	A	81	90	A
Total Revenue	887	957	A+	813	867	A+
<b>Total Municipal</b>	<b>\$ 1,098</b>	<b>\$ 1,189</b>	<b>A+</b>	<b>\$ 1,057</b>	<b>\$ 1,132</b>	<b>AA-</b>



[1] *Pre-Refunded bonds are bonds for which an irrevocable trust containing sufficient U.S. treasury, agency, or other securities has been established to fund the remaining payments of principal and interest.*

[2] *Leasing revenue bonds are generally the obligations of a financing authority established by the municipality that leases facilities back to a municipality. The notes are typically secured by lease payments made by the municipality that is leasing the facilities financed by the issue. Lease payments may be subject to annual appropriation by the municipality or the municipality may be obligated to appropriate general tax revenues to make lease payments.*

As of December 31, 2016 and December 31, 2015, the largest issuer concentrations were the state of California, the Oregon School Boards Association, and Ohio American Municipal Power, Inc., which each comprised less than 6% of the municipal bond portfolio and were comprised of general obligation and revenue bonds.

#### *Limited Partnerships and Other Alternative Investments*

The following table presents the Company's investments in limited partnerships and other alternative investments which include hedge funds, real estate funds, and private equity and other funds. Since December 31, 2015, the Company has reduced the allocation to hedge funds. Real estate funds consist of investments primarily in real estate equity funds, including some funds with public market exposure, and real estate joint ventures. Private equity and other funds primarily consist of investments in funds whose assets typically consist of a diversified pool of investments in small to mid-sized non-public businesses with high growth potential as well as limited exposure to public markets.

	December 31, 2016		December 31, 2015	
	Amount	Percent	Amount	Percent
Hedge funds	\$ 141	15.2%	\$ 425	35.0%
Real estate funds	141	15.2%	157	12.9%
Private equity and other funds	648	69.6%	634	52.1%
<b>Total</b>	<b>\$ 930</b>	<b>100%</b>	<b>\$ 1,216</b>	<b>100%</b>

#### *Available-for-Sale Securities — Unrealized Loss Aging*

Total gross unrealized losses were \$206 as of December 31, 2016, and have decreased \$136, or 40%, from December 31, 2015, due to tighter credit spreads, partially offset by a rise in interest rates. As of December 31, 2016, \$202 of the gross unrealized losses were associated with securities depressed less than 20% of cost or amortized cost. The remaining \$4 of gross unrealized losses were associated with securities depressed greater than 20%. The securities depressed more than 20% are primarily securities with exposure to commercial real estate and corporate securities in the energy sector that decreased in value primarily due to wider credit spreads since the securities were purchased.

As part of the Company's ongoing security monitoring process, the Company has reviewed its AFS securities in an unrealized loss position and concluded that these securities are temporarily depressed and are expected to recover in value as the securities approach maturity or as market spreads tighten. For these securities in an unrealized loss position where a credit impairment has not been recorded, the Company's best estimate of expected future cash flows are sufficient to recover the amortized cost basis of the security. Furthermore, the Company neither has an intention to sell nor does it expect to be required to sell these securities. For further information regarding the Company's impairment analysis, see Other-Than-Temporary Impairments in the Investment Portfolio Risks and Risk Management section of this MD&A.

The following tables present the Company's unrealized loss aging for AFS securities by length of time the security was in a continuous unrealized loss position.

Consecutive Months	December 31, 2016				December 31, 2015			
	Items	Cost or Amortized Cost	Fair Value	Unrealized Loss [1]	Items	Cost or Amortized Cost	Fair Value	Unrealized Loss
Three months or less	1,142	\$ 4,359	\$ 4,264	\$ (95)	1,199	\$ 4,168	\$ 4,112	\$ (56)
Greater than three to six months	290	770	738	(32)	473	1,315	1,266	(49)
Greater than six to nine months	62	190	178	(12)	587	2,192	2,086	(106)
Greater than nine to eleven months	45	170	165	(5)	172	504	473	(31)
Twelve months or more	358	1,225	1,163	(62)	383	1,545	1,443	(100)
<b>Total</b>	<b>1,897</b>	<b>\$ 6,714</b>	<b>\$ 6,508</b>	<b>\$ (206)</b>	<b>2,814</b>	<b>\$ 9,724</b>	<b>\$ 9,380</b>	<b>\$ (342)</b>

[1] Unrealized losses exclude the fair value of bifurcated embedded derivative features of certain securities as changes in value are recorded in net realized capital gains (losses).

The following table presents the Company's unrealized loss aging for AFS securities continuously depressed over 20% by length of time (also included in the table above).

Consecutive Months	December 31, 2016				December 31, 2015			
	Items	Cost or Amortized Cost	Fair Value	Unrealized Loss [1]	Items	Cost or Amortized Cost	Fair Value	Unrealized Loss
Three months or less	39	\$ 2	\$ 2	\$ —	132	\$ 147	\$ 109	\$ (38)
Greater than three to six months	13	1	1	—	66	45	30	(15)
Greater than six to nine months	10	4	3	(1)	5	2	1	(1)
Greater than nine to eleven months	5	—	—	—	3	9	7	(2)
Twelve months or more	26	7	4	(3)	26	17	12	(5)
<b>Total</b>	<b>93</b>	<b>\$ 14</b>	<b>\$ 10</b>	<b>\$ (4)</b>	<b>232</b>	<b>\$ 220</b>	<b>\$ 159</b>	<b>\$ (61)</b>

[1] Unrealized losses exclude the fair value of bifurcated embedded derivatives features of certain securities as changes in value are recorded in net realized capital gains (losses).

#### Other-Than-Temporary Impairments

The following table presents the Company's impairments recognized in earnings by security type.

	For the years ended December 31,	
	2016	2015
CRE CDOs	\$ —	\$ 1
CMBS	1	1
Corporate	25	42
Equity	2	14
Municipal	—	2
RMBS	—	1
<b>Total</b>	<b>\$ 28</b>	<b>\$ 61</b>

#### Year ended December 31, 2016

For the year ended December 31, 2016, impairments recognized in earnings were comprised of credit impairments of \$22, securities that the Company intends to sell ("intent-to-sell impairments") of \$4 and impairments on equity securities of \$2.

For the year ended December 31, 2016 , credit impairments were primarily related to corporate securities and were identified through security specific reviews and resulted from changes in the financial condition of the issuer. The Company incorporates its best estimate of future performance using internal assumptions and judgments that are informed by economic and industry specific trends, as well as our expectations with respect to security specific developments. Impairments on equity securities were comprised of securities in an unrealized loss position that the Company does not believe will recover in the foreseeable future. Intent-to-sell impairments for the year ended December 31, 2016 were primarily comprised of securities in the corporate sector.

Non-credit impairments recognized in other comprehensive income were \$1 for the year ended December 31, 2016 . These non-credit impairments represent the excess of the Company's best estimate of the discounted future cash flows over the fair value.

Future impairments may develop as the result of changes in intent-to-sell specific securities or if actual results underperform current modeling assumptions, which may be the result of, but are not limited to, macroeconomic factors and security-specific performance below current expectations.

*Year ended December 31, 2015*

For the year ended December 31, 2015 , impairments recognized in earnings were comprised of intent-to-sell impairments of \$24 and credit impairments of \$23 , both of which were primarily concentrated in corporate securities. Also, impairments recognized in earnings included impairments on equity securities of \$14 that were in an unrealized loss position and the Company no longer believed the securities would recover in the foreseeable future.

## CAPITAL RESOURCES AND LIQUIDITY

Capital resources and liquidity represent the overall strength of Hartford Life Insurance Company and its ability to generate strong cash flows, borrow funds at competitive rates and to meet operating needs over the next twelve months.

### Liquidity Requirements and Sources of Capital

The Hartford has an intercompany liquidity agreement that allows for short-term advances of funds among The Hartford Financial Services Group, Inc. ("HFSG Holding Company") and certain affiliates of up to \$2.0 billion for liquidity and other general corporate purposes. The Connecticut Insurance Department ("CTDOI") granted approval for certain affiliated insurance companies that are parties to the agreement to treat receivables from a parent, including the HFSG Holding Company, as admitted assets for statutory accounting purposes. As of December 31, 2016, there were no amounts outstanding from the HFSG Holding Company.

### Derivative Commitments

Certain of the Company's derivative agreements contain provisions that are tied to the financial strength ratings, as set by nationally recognized statistical rating agencies, of the individual legal entity that entered into the derivative agreement. If the legal entity's financial strength were to fall below certain ratings, the counterparties to the derivative agreements could demand immediate and ongoing full collateralization and in certain instances demand immediate settlement of all outstanding derivative positions traded under each impacted bilateral agreement. The settlement amount is determined by netting the derivative positions transacted under each agreement. If the termination rights were to be exercised by the counterparties, it could impact the legal entity's ability to conduct hedging activities by increasing the associated costs and decreasing the willingness of counterparties to transact with the legal entity. The aggregate fair value of all derivative instruments with credit-risk-related contingent features that are in a net liability position as of December 31, 2016, was \$794. Of this \$794 the legal entities have posted collateral of \$939 in the normal course of business. In addition, the Company has posted collateral of \$31 associated with a customized GMWB derivative. Based on derivative market values as of December 31, 2016, a downgrade of one or two levels below the current financial strength ratings by either Moody's or S&P would not require additional assets to be posted as collateral. These collateral amounts could change as derivative market values change, as a result of changes in our hedging activities or to the extent changes in contractual terms are negotiated. The nature of the collateral that we would post, if required, would be primarily in the form of U.S. Treasury bills, U.S. Treasury notes and government agency securities.

As of December 31, 2016, the aggregate notional amount and fair value of derivative relationships that could be subject to immediate termination in the event of a downgrade of one level below the current financial strength ratings was \$1.1 billion and \$23, respectively. These amounts could change as derivative market values change, as a result of changes in our hedging activities or to the extent changes in contractual terms are negotiated.

### Insurance Operations

Total general account contractholder obligations are supported by \$32 billion of cash and total general account invested assets to meet liquidity needs. As of December 31, 2016, the Company's fixed maturities, short-term investments, and cash are summarized as follows:

Fixed maturities	\$	23,901
Short-term investments		1,349
Cash		554
Less: Derivative collateral		1,164
<b>Total</b>	<b>\$</b>	<b>24,640</b>

Capital resources available to fund liquidity upon contractholder surrender or termination are a function of the legal entity in which the liquidity requirement resides. Obligations related to life and annuity insurance products will be generally funded by both Hartford Life Insurance Company ("HLIC") and Hartford Life and Annuity Insurance Company ("HLAI"); obligations related to retirement and institutional investment products will be generally funded by Hartford Life Insurance Company.

The Company is a member of the Federal Home Loan Bank of Boston ("FHLBB"). Membership allows the Company access to collateralized advances, which may be used to support various spread-based business and enhance liquidity management. FHLBB membership requires the company to own member stock and advances require the purchase of activity stock. The amount of advances that can be taken are dependent on the asset types pledged to secure the advances. The Connecticut Department of Insurance ("CTDOI") will permit the Company to pledge up to \$1.1 billion in qualifying assets to secure FHLBB advances for 2017. The pledge limit is recalculated annually based on statutory admitted assets and capital and surplus. The Company would need to seek the prior approval of the CTDOI in order to exceed these limits. As of December 31, 2016, HLIC had no advances outstanding under the FHLBB facility.

<b>Contractholder Obligations</b>	<b>As of December 31, 2016</b>	
Total Contractholder obligations	\$	160,273
Less: Separate account assets [1]		115,665
<b>General account contractholder obligations</b>	<b>\$</b>	<b>44,608</b>
<b>Composition of General Account Contractholder Obligations</b>		
Contracts without a surrender provision and/or fixed payout dates [2]	\$	18,712
Fixed MVA annuities [3]		5,153
Other [4]		20,743
<b>General account contractholder obligations</b>	<b>\$</b>	<b>44,608</b>

[1] In the event customers elect to surrender separate account assets, the Company will use the proceeds from the sale of the assets to fund the surrender, and the Company's liquidity position will not be impacted. In many instances the Company will receive a percentage of the surrender amount as compensation for early surrender (surrender charge), increasing the Company's liquidity position. In addition, a surrender of variable annuity separate account or general account assets (see the following) will decrease the Company's obligation for payments on guaranteed living and death benefits.

[2] Relates to contracts such as payout annuities, institutional notes, term life, group benefit contracts, or death and living benefit reserves, which cannot be surrendered for cash.

[3] Relates to annuities that are recorded in the general account under U.S. GAAP as the contractholders are subject to the Company's credit risk, although these annuities are held in a statutory separate account. In the statutory separate account, the Company is required to maintain invested assets with a fair value greater than or equal to the MVA surrender value of the Fixed MVA contract. In the event assets decline in value at a greater rate than the MVA surrender value of the Fixed MVA contract, the Company is required to contribute additional capital to the statutory separate account. The Company will fund these required contributions with operating cash flows or short-term investments. In the event that operating cash flows or short-term investments are not sufficient to fund required contributions, the Company may have to sell other invested assets at a loss, potentially resulting in a decrease in statutory surplus. As the fair value of invested assets in the statutory separate account are at least equal to the MVA surrender value of the Fixed MVA contract, surrender of Fixed MVA annuities will have an insignificant impact on the liquidity requirements of the Company.

[4] Surrenders of, or policy loans taken from, as applicable, these general account liabilities, which include the general account option for individual variable annuities and the variable life contracts of the former Individual Life business, the general account option for annuities of the former Retirement Plans business and universal life contracts sold by the former Individual Life business, may be funded through operating cash flows of the Company, available short-term investments, or the Company may be required to sell fixed maturity investments to fund the surrender payment. Sales of fixed maturity investments could result in the recognition of significant realized losses and insufficient proceeds to fully fund the surrender amount. In this circumstance, the Company may need to take other actions, including enforcing certain contract provisions which could restrict surrenders and/or slow or defer payouts. The Company has ceded reinsurance in connection with the sales of its Retirement Plans and Individual Life businesses to MassMutual and Prudential, respectively. The reinsurance transactions do not extinguish the Company's primary liability on the insurance policies issued under these businesses.

#### **Off-Balance Sheet Arrangements and Aggregate Contractual Obligations**

The Company does not have any off-balance sheet arrangements that are reasonably likely to have a material effect on the financial condition, results of operations, liquidity, or capital resources of the Company, except for unfunded commitments to purchase investments in limited partnerships and other alternative investments, private placements, and mortgage loans of \$645 as disclosed in Note 10 - Commitments and Contingencies of Notes to Consolidated Financial Statements.

The following table summarizes the Company's contractual obligations as of December 31, 2016 :

	<b>Payments due by period</b>				
	<b>Total</b>	<b>Less than 1 year</b>	<b>1-3 years</b>	<b>3-5 years</b>	<b>More than 5 years</b>
Life and annuity obligations [1]	\$ 241,553	\$ 16,335	\$ 27,875	\$ 23,299	\$ 174,044
Operating lease obligations [2]	4	2	2	—	—
Purchase obligations [3]	761	740	17	4	—
Other liabilities reflected on the balance sheet [4]	1,434	1,061	372	1	—
<b>Total</b>	<b>\$ 243,752</b>	<b>\$ 18,138</b>	<b>\$ 28,266</b>	<b>\$ 23,304</b>	<b>\$ 174,044</b>

- [1] *Estimated life and annuity obligations include death claims, other charges associated with policyholder reserves, policy surrenders and policyholder dividends, offset by expected future deposits on in-force contracts. Estimated life and annuity obligations are based on mortality, morbidity and lapse assumptions comparable with the Company's historical experience, modified for recent observed trends. The Company has also assumed market growth and interest crediting consistent with other assumptions. In contrast to this table, the majority of the Company's obligations are recorded on the balance sheet at the current account values and do not incorporate an expectation of future market growth, interest crediting, or future deposits. Therefore, the estimated obligations presented in this table significantly exceed the liabilities recorded in reserve for future policy benefits, other policyholder funds and benefits payable, and separate account liabilities. Due to the significance of the assumptions used, the amounts presented could materially differ from actual results.*
- [2] *Includes future minimum lease payments on operating lease agreements.*
- [3] *Included in purchase obligations is \$30 relating to contractual commitments to purchase various goods and services such as maintenance and information technology in the normal course of business. Purchase obligations exclude contracts that are cancelable without penalty, or contracts that do not specify minimum levels of goods or services to be purchased.*
- [4] *Includes consumer notes of \$21. Consumer notes include principal payments, contractual interest for fixed rate notes, and interest based on current rates for floating rate notes.*

## **Dividends**

Dividends to the Company from its insurance subsidiaries are restricted by insurance regulation. The payment of dividends by Connecticut-domiciled insurers is limited under the insurance holding company laws of Connecticut. These laws require notice to and approval by the state insurance commissioner for the declaration or payment of any dividend, which, together with other dividends or distributions made within the preceding twelve months, exceeds the greater of (i) 10% of the insurer's policyholder surplus as of December 31 of the preceding year or (ii) net income (or net gain from operations, if such company is a life insurance company) for the twelve-month period ending on the thirty-first day of December last preceding, in each case determined under statutory insurance accounting principles. In addition, if any dividend of a domiciled insurer exceeds the insurer's earned surplus or certain other thresholds as calculated under applicable state insurance law, the dividend requires the prior approval of the domestic regulator. In addition to statutory limitations on paying dividends, the Company also takes other items into consideration when determining dividends from subsidiaries. These considerations include, but are not limited to, expected earnings and capitalization of the subsidiary, regulatory capital requirements and liquidity requirements of the individual operating company.

In 2016, HLAI paid dividends of \$750 to the Company which were subsequently paid to the Company's parent.

In 2017, the Company is permitted to pay up to a maximum of \$1 billion in dividends and the Company's subsidiaries are permitted to pay up to a maximum of approximately \$345 in dividends without prior approval from the applicable insurance commissioner. However, to meet the liquidity needed to pay dividends up to the HFSG Holding Company, the Company may require receiving regulatory approval for extraordinary dividends from HLAI. On January 30, 2017, HLAI paid a dividend of \$300 to the Company which was subsequently paid as a dividend to the Company's parent.

The Company anticipates paying an additional \$300 dividend to its parent during 2017.

## Cash Flows

	2016		2015	
Net cash provided by operating activities	\$	784	\$	682
Net cash provided by investing activities	\$	864	\$	1,446
Net cash used for financing activities	\$	(1,399)	\$	(2,081)
Cash - end of year	\$	554	\$	305

Net cash provided by operating activities increased in 2016 as compared to 2015 primarily due to the receipt of income tax refunds and decreases in claims paid and operating expenses paid in 2016.

Net cash provided by investing activities in 2016 primarily relates to net proceeds from available-for-sale securities of approximately \$1.5 billion , partially offset by net payments for short-term investments of \$769 . Net cash provided by investing activities in 2015 primarily relates to net proceeds from short-term investments of approximately \$1.6 billion .

Net cash used for financing activities in 2016 relates to net payments for deposits, transfers and withdrawals for investment and universal life-type contracts of approximately \$0.9 billion and the return of capital to the parent of approximately \$0.8 billion . Net cash used for financing activities in 2015 relates to the return of capital to the parent of approximately \$1.0 billion and net payments for deposits, transfers and withdrawals for investment and universal life-type contracts of approximately \$1.3 billion .

Operating cash flows in both periods have been adequate to meet liquidity requirements.

### Ratings

Ratings can have an impact on the Company's reinsurance and derivative contracts. There can be no assurance that the Company's ratings will continue for any given period of time or that they will not be changed. In the event the Company's ratings are downgraded, reinsurance contracts may be adversely impacted and the Company may be required to post additional collateral on certain derivative contracts.

The following table summarizes Hartford Life Insurance Company's significant member companies' financial ratings from the major independent rating organizations as of February 22, 2017 :

<b>Insurance Financial Strength Ratings:</b>	<b>A.M. Best</b>	<b>Standard &amp; Poor's</b>	<b>Moody's</b>
Hartford Life Insurance Company	A-	BBB+	Baa2
Hartford Life and Annuity Insurance Company	A-	BBB+	Baa2

These ratings are not a recommendation to buy or hold any of the Company's securities and they may be revised or revoked at any time at the sole discretion of the rating organization.

The agencies consider many factors in determining the final rating of an insurance company. One consideration is the relative level of statutory capital and surplus, (referred to collectively as "statutory capital") necessary to support the business written and is reported in accordance with accounting practices prescribed by the applicable state insurance department.

### Statutory Capital

The Company's stockholder's equity, as prepared using U.S. GAAP, was \$7.8 billion as of December 31, 2016 . The Company's estimated aggregate statutory capital and surplus, as prepared in accordance with the National Association of Insurance Commissioners' Accounting Practices and Procedures Manual ("U.S. STAT"), was \$4.4 billion as of December 31, 2016 .

Significant differences between U.S. GAAP stockholder's equity and aggregate statutory capital prepared in accordance with U.S. STAT include the following:

- U.S. STAT excludes equity of non-insurance and foreign insurance subsidiaries not held by U.S. insurance subsidiaries.
- Costs incurred by the Company to acquire insurance policies are deferred under U.S. GAAP while those costs are expensed immediately under U.S. STAT.
- Temporary differences between the book and tax basis of an asset or liability which are recorded as deferred tax assets are evaluated for recoverability under U.S. GAAP while those amounts deferred are subject to limitations under U.S. STAT.

- The assumptions used in the determination of benefit reserves are prescribed under U.S. STAT, while the assumptions used under U.S. GAAP are generally the Company's best estimates. The methodologies for determining life insurance reserve amounts are also different. For example, reserving for living benefit reserves under U.S. STAT is generally addressed by the Commissioners' Annuity Reserving Valuation Methodology and the related Actuarial Guidelines, while under U.S. GAAP, those same living benefits are either embedded derivatives recorded at fair value or are recorded as additional minimum guarantee benefit reserves. The sensitivity of these life insurance reserves to changes in equity markets, as applicable, will be different between U.S. GAAP and U.S. STAT.
- The difference between the amortized cost and fair value of fixed maturity and other investments, net of tax, is recorded as an increase or decrease to the carrying value of the related asset and to equity under U.S. GAAP, while U.S. STAT only records certain securities at fair value, such as equity securities and certain lower rated bonds required by the NAIC to be recorded at the lower of amortized cost or fair value.
- U.S. STAT for life insurance companies establishes a formula reserve for realized and unrealized losses due to default and equity risks associated with certain invested assets (the Asset Valuation Reserve), while U.S. GAAP does not. Also, for those realized gains and losses caused by changes in interest rates, U.S. STAT for life insurance companies defers and amortizes the gains and losses, caused by changes in interest rates, into income over the original life to maturity of the asset sold (the Interest Maintenance Reserve) while U.S. GAAP does not.

In addition, certain assets, including a portion of premiums receivable and fixed assets, are non-admitted (recorded at zero value and charged against surplus) under U.S. STAT. U.S. GAAP generally evaluates assets based on their recoverability.

### **Risk-based Capital**

The Company's U.S. insurance companies' states of domicile impose risk-based capital ("RBC") requirements. The requirements provide a means of measuring the minimum amount of statutory capital appropriate for an insurance company to support its overall business operations, based on its size and risk profile. Regulatory compliance is determined by a ratio of a company's total adjusted capital ("TAC") to its authorized control level RBC ("ACL RBC"). Companies below specific trigger points or ratios are classified within certain levels, each of which requires specified corrective action. The minimum level of TAC before corrective action commences ("Company Action Level") is two times the ACL RBC. The adequacy of a company's capital is determined by the ratio of a company's TAC to its Company Action Level, known as the "RBC ratio". The Company and all of its operating insurance subsidiaries had RBC ratios in excess of the minimum levels required by the applicable insurance regulations. The RBC ratios for the Company and its principal life insurance operating subsidiaries were all in excess of 400% of their Company Action Levels as of December 31, 2016 and 2015. The reporting of RBC ratios is not intended for the purpose of ranking any insurance company, or for use in connection with any marketing, advertising or promotional activities.

### **Contingencies**

#### *Legal Proceedings*

For further information on other contingencies, see Note 10 - Commitments and Contingencies of Notes to Consolidated Financial Statements.

### **Legislative and Regulatory Developments**

#### *Tax Reform*

Tax proposals and regulatory initiatives which have been or are being considered by Congress and/or the United States Treasury Department could have a material effect on the Company. These proposals and initiatives include, or could include, changes pertaining to the income tax treatment of insurance companies and life insurance products and annuities, repeal or reform of the estate tax and comprehensive federal tax reform, and changes to the regulatory structure for financial institutions. The nature and timing of any Congressional or regulatory action with respect to any such efforts is unclear. For additional information on risks to the Company related to tax reform, please see the risk factor entitled "Changes in federal or state tax laws could adversely affect our business, financial condition, results of operations and liquidity" under "Risk Factors" in Part I.

### **Guaranty Fund and Other Insurance-related Assessments**

For a discussion regarding Guaranty Fund and Other Insurance-related Assessments, see Note 10 - Commitments and Contingencies of Notes to Consolidated Financial Statements.

### **IMPACT OF NEW ACCOUNTING STANDARDS**

For a discussion of accounting standards, see Note 1 - Basis of Presentation and Significant Accounting Policies of Notes to Consolidated Financial Statements.



**Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

The information required by this item is set forth in the Enterprise Risk Management section of Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations and is incorporated herein by reference.

**Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

See Index to Consolidated Financial Statements and Schedules elsewhere herein.

**Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE**

None.

**Item 9A. CONTROLS AND PROCEDURES**

***Evaluation of Disclosure Controls and Procedures***

The Company's principal executive officer and its principal financial officer, based on their evaluation of the Company's disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e)) have concluded that the Company's disclosure controls and procedures are effective for the purposes set forth in the definition thereof in Exchange Act Rule 13a-15(e) as of December 31, 2016 .

***Management's Annual Report on Internal Control Over Financial Reporting***

The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting for the Company as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934.

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 accounting principles generally accepted in the United States. A company's internal control over financial reporting includes 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 accounting principles generally accepted in the United States, 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.

The Company's management assessed its internal controls over financial reporting as of December 31, 2016 in relation to criteria for effective internal control over financial reporting described in "*Internal Control-Integrated Framework (2013)*" issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment under those criteria, The Company's management concluded that its internal control over financial reporting was effective as of December 31, 2016 .

This annual report does not include an attestation report of the company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the Company's registered public accounting firm pursuant to rules of the Securities and Exchange Commission that permit the Company to provide only management's report in this annual report.

***Changes in Internal Control Over Financial Reporting***

There were no changes in the Company's internal control over financial reporting that occurred during the Company's fourth fiscal quarter of 2016 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

**Item 9B. OTHER INFORMATION**

None.

**PART III**

**Item 10. DIRECTORS, AND EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE OF HARTFORD LIFE INSURANCE COMPANY**

Omitted pursuant to General Instruction I(2)(c) of Form 10-K.

**Item 11. EXECUTIVE COMPENSATION**

Omitted pursuant to General Instruction I(2)(c) of Form 10-K.

**Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**

Omitted pursuant to General Instruction I(2)(c) of Form 10-K.

**Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE**

Omitted pursuant to General Instruction I(2)(c) of Form 10-K.

**Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES**

The following table presents fees for professional services rendered by Deloitte & Touche LLP, the member firms of Deloitte Touche Tohmatsu, and their respective affiliates (collectively, the “Deloitte Entities”) for the audit of the Company’s annual financial statements, audit-related services, tax services and all other services for the years ended December 31, 2016 and 2015 .

*(amounts are in whole dollars)*

	Year Ended December 31, 2016	Year Ended December 31, 2015
(1) Audit fees	\$ 5,877,000	\$ 6,249,000
(2) Audit-related fees [1]	12,500	—
(3) Tax fees	—	—
(4) All other fees	—	—
<b>Total [2]</b>	<b>\$ 5,889,500</b>	<b>\$ 6,249,000</b>

[1] Fees for the year ended December 31, 2016 principally consisted of procedures related to a legal entity reorganization project.

[2] 2015 audit fees includes approximately \$76 thousand that was billed in 2016 but related to services provided for the 2015 audit.

The Hartford’s Audit Committee (the “Committee”) concluded that the provision of the non-audit services provided to The Hartford by the Deloitte Entities during 2016 and 2015 was compatible with maintaining the Deloitte Entities’ independence.

The Committee has established policies requiring pre-approval of audit and non-audit services provided by the independent registered public accounting firm. The policies require that the Committee pre-approve specifically described audit, and audit-related services, annually. For the annual pre-approval, the Committee approves categories of audit services, audit-related services and related fee budgets. For all pre-approvals, the Committee considers whether such services are consistent with the rules of the SEC and the Public Company Accounting Oversight Board on auditor independence. The independent registered public accounting firm and management report to the Committee on a timely basis regarding the services rendered by and actual fees paid to the independent registered public accounting firm to ensure that such services are within the limits approved by the Committee. The Committee’s policies require specific pre-approval of all tax services, internal control-related services and all other permitted services on an individual project basis. As provided by the Committee’s policies, the Committee has delegated to its Chairman the authority to address any requests for pre-approval of services between Committee meetings, up to a maximum of \$100 thousand for non-tax services and up to a maximum of \$5 thousand for tax services. The Chairman must report any pre-approvals to the full Committee at its next scheduled meeting.

## **PART IV**

### **Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES**

(a) Documents filed as a part of this report:

- (1) **Consolidated Financial Statements.** See Index to Consolidated Financial Statements and Schedules elsewhere herein.
- (2) **Consolidated Financial Statement Schedules.** See Index to Consolidated Financial Statement and Schedules elsewhere herein.
- (3) **Exhibits.** See Exhibit Index elsewhere herein.

**HARTFORD LIFE INSURANCE COMPANY**  
**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AND SCHEDULES**

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## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholder of  
Hartford Life Insurance Company  
Hartford, Connecticut

We have audited the accompanying consolidated balance sheets of Hartford Life Insurance Company and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive income, changes in stockholder's equity, and cash flows for each of the three years in the period ended December 31, 2016. Our audits also included the consolidated financial statement schedules listed in the Index at Item 15. 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 consolidated financial statements and financial statement schedules based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Hartford Life Insurance Company and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, such consolidated financial statement schedules, when considered in relation to the basic consolidated financial statements taken as a whole, present fairly, in all material respects, the information set forth therein.

/s/ DELOITTE & TOUCHE LLP  
Hartford, Connecticut  
February 24, 2017

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
*Consolidated Statements of Operations*

<i>(In millions)</i>	For the years ended December 31,		
	2016	2015	2014
<b>Revenues</b>			
Fee income and other	\$ 969	\$ 1,097	\$ 1,210
Earned premiums	203	92	32
Net investment income	1,373	1,456	1,543
Net realized capital gains (losses):			
Total other-than-temporary impairment (“OTTI”) losses	(29)	(63)	(31)
OTTI losses recognized in other comprehensive income (losses) (“OCI”)	1	2	2
Net OTTI losses recognized in earnings	(28)	(61)	(29)
Other net realized capital gains (losses)	(135)	(85)	606
Total net realized capital gains (losses)	(163)	(146)	577
<b>Total revenues</b>	<b>2,382</b>	<b>2,499</b>	<b>3,362</b>
<b>Benefits, losses and expenses</b>			
Benefits, loss and loss adjustment expenses	1,437	1,402	1,460
Amortization of deferred policy acquisition costs (“DAC”)	114	69	206
Insurance operating costs and other expenses	472	524	851
Reinsurance gain on disposition	—	(28)	(23)
Dividends to policyholders	3	2	7
<b>Total benefits, losses and expenses</b>	<b>2,026</b>	<b>1,969</b>	<b>2,501</b>
<b>Income before income taxes</b>	<b>356</b>	<b>530</b>	<b>861</b>
Income tax expense	74	30	184
<b>Net income</b>	<b>282</b>	<b>500</b>	<b>677</b>
Net income attributable to noncontrolling interest	—	—	1
<b>Net income attributable to Hartford Life Insurance Company</b>	<b>\$ 282</b>	<b>\$ 500</b>	<b>\$ 676</b>

*See Notes to Consolidated Financial Statements.*

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
*Consolidated Statements of Comprehensive Income (Loss)*

<i>(In millions)</i>	Year Ended December 31,		
	2016	2015	2014
Net income	\$ 282	\$ 500	\$ 677
Other comprehensive income (loss):			
Change in net unrealized gain on securities	154	(615)	659
Change in net gain on cash-flow hedging instruments	(25)	(13)	(9)
Change in foreign currency translation adjustments	—	—	(3)
OCI, net of tax	129	(628)	647
Comprehensive income (loss)	411	(128)	1,324
Less: Comprehensive income attributable to noncontrolling interest	—	—	1
<b>Comprehensive income (loss) attributable to Hartford Life Insurance Company</b>	<b>\$ 411</b>	<b>\$ (128)</b>	<b>\$ 1,323</b>

*See Notes to Consolidated Financial Statements.*



**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
*Consolidated Balance Sheets*

<i>(In millions, except for share data)</i>	As of December 31,	
	2016	2015
<b>Assets</b>		
Investments:		
Fixed maturities, available-for-sale, at fair value (amortized cost of \$22,507 and \$23,559)	\$ 23,819	\$ 24,657
Fixed maturities, at fair value using the fair value option (includes variable interest entity assets, at fair value, of \$0 and \$49)	82	165
Equity securities, available-for-sale, at fair value (cost of \$142 and \$471) (includes equity securities, at fair value using the fair value option, of \$0 and \$281, and variable interest entity assets of \$0 and \$1)	152	459
Mortgage loans (net of allowance for loan losses of \$19 and \$19)	2,811	2,918
Policy loans, at outstanding balance	1,442	1,446
Limited partnerships and other alternative investments (includes variable interest entity assets of \$0 and \$2)	930	1,216
Other investments	293	212
Short-term investments (includes variable interest entity assets of \$0 and \$2)	1,349	572
Total investments	30,878	31,645
Cash	554	305
Premiums receivable and agents' balances, net	18	19
Reinsurance recoverables	20,725	20,499
Deferred policy acquisition costs	463	542
Deferred income taxes, net	1,437	1,581
Other assets	606	648
Separate account assets	115,665	120,111
<b>Total assets</b>	<b>\$ 170,346</b>	<b>\$ 175,350</b>
<b>Liabilities</b>		
Reserve for future policy benefits	\$ 14,000	\$ 13,850
Other policyholder funds and benefits payable	30,588	31,157
Other liabilities (includes variable interest entity liabilities of \$0 and \$12)	2,272	2,070
Separate account liabilities	115,665	120,111
<b>Total liabilities</b>	<b>162,525</b>	<b>167,188</b>
<b>Commitments and Contingencies (Note 10)</b>		
<b>Stockholder's Equity</b>		
Common stock—1,000 shares authorized, issued and outstanding, par value \$5,690	6	6
Additional paid-in capital	4,935	5,687
Accumulated other comprehensive income, net of tax	722	593
Retained earnings	2,158	1,876
<b>Total stockholder's equity</b>	<b>7,821</b>	<b>8,162</b>
<b>Total liabilities and stockholder's equity</b>	<b>\$ 170,346</b>	<b>\$ 175,350</b>

*See Notes to Consolidated Financial Statements.*

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
*Consolidated Statements of Changes in Stockholder's Equity*

<i>(In millions)</i>	Common Stock	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Non-Controlling Interest	Total Stockholder's Equity
<b>Balance, December 31, 2015</b>	\$ 6	\$ 5,687	\$ 593	\$ 1,876	\$ —	\$ 8,162
Return of capital to parent	—	(752)	—	—	—	(752)
Net income	—	—	—	282	—	282
Total other comprehensive income	—	—	129	—	—	129
<b>Balance, December 31, 2016</b>	\$ 6	\$ 4,935	\$ 722	\$ 2,158	\$ —	\$ 7,821
<b>Balance, December 31, 2014</b>	\$ 6	\$ 6,688	\$ 1,221	\$ 1,376	\$ —	\$ 9,291
Return of capital to parent	—	(1,001)	—	—	—	(1,001)
Net income	—	—	—	500	—	500
Total other comprehensive loss	—	—	(628)	—	—	(628)
<b>Balance, December 31, 2015</b>	\$ 6	\$ 5,687	\$ 593	\$ 1,876	\$ —	\$ 8,162
<b>Balance, December 31, 2013</b>	\$ 6	\$ 6,959	\$ 574	\$ 700	\$ —	\$ 8,239
Return of capital to parent	—	(271)	—	—	—	(271)
Net income	—	—	—	676	1	677
Change in non-controlling interest ownership	—	—	—	—	(1)	(1)
Total other comprehensive income	—	—	647	—	—	647
<b>Balance, December 31, 2014</b>	\$ 6	\$ 6,688	\$ 1,221	\$ 1,376	\$ —	\$ 9,291

*See Notes to Consolidated Financial Statements.*

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
*Consolidated Statements of Cash Flows*

<i>(In millions)</i>	<b>For the years ended December 31,</b>		
	<b>2016</b>	<b>2015</b>	<b>2014</b>
<b>Operating Activities</b>			
Net income	\$ 282	\$ 500	\$ 677
<b>Adjustments to reconcile net income to net cash provided by operating activities</b>			
Net realized capital (gains) losses	163	146	(577)
Amortization of deferred policy acquisition costs	114	69	206
Additions to deferred policy acquisition costs	(7)	(7)	(14)
Reinsurance gain on disposition	—	(28)	(23)
Depreciation and amortization (accretion), net	9	(14)	6
Other operating activities, net	33	38	248
<b>Change in assets and liabilities:</b>			
Decrease (increase) in reinsurance recoverables	117	(14)	170
Increase (decrease) in accrued and deferred income taxes	278	(62)	302
Increase in reserve for future policy benefits and unearned premiums	111	276	586
Net changes in other assets and other liabilities	(316)	(222)	(912)
<b>Net cash provided by operating activities</b>	<b>784</b>	<b>682</b>	<b>669</b>
<b>Investing Activities</b>			
Proceeds from the sale/maturity/prepayment of:			
Fixed maturities, available-for-sale	10,152	11,465	10,333
Fixed maturities, fair value option	68	107	358
Equity securities, available-for-sale	321	586	107
Mortgage loans	371	467	377
Partnerships	395	252	152
Payments for the purchase of:			
Fixed maturities and short-term investments, available-for-sale	(8,889)	(11,755)	(7,385)
Fixed maturities, fair value option	(29)	(67)	(217)
Equity securities, available-for-sale	(58)	(535)	(363)
Mortgage loans	(263)	(282)	(146)
Partnerships	(151)	(199)	(104)
Net payments for derivatives	(261)	(167)	(66)
Net increase (decrease) in policy loans	2	(31)	(14)
Net (payments for) proceeds from short-term investments	(769)	1,604	(556)
Other investing activities, net	(25)	1	34
<b>Net cash provided by investing activities</b>	<b>864</b>	<b>1,446</b>	<b>2,510</b>
<b>Financing Activities</b>			
Deposits and other additions to investment and universal life-type contracts	4,162	4,674	4,567
Withdrawals and other deductions from investment and universal life-type contracts	(14,871)	(16,972)	(21,810)
Net transfers from separate accounts related to investment and universal life-type contracts	9,811	10,987	14,167
Net increase in securities loaned or sold under agreements to repurchase	268	264	—
Return of capital to parent	(752)	(1,001)	(275)
Net repayments at maturity or settlement of consumer notes	(17)	(33)	(13)
<b>Net cash used for financing activities</b>	<b>(1,399)</b>	<b>(2,081)</b>	<b>(3,364)</b>
Foreign exchange rate effect on cash	—	—	(3)
Net increase (decrease) in cash	249	47	(188)
Cash — beginning of year	305	258	446
<b>Cash — end of year</b>	<b>\$ 554</b>	<b>\$ 305</b>	<b>\$ 258</b>
<b>Supplemental Disclosure of Cash Flow Information</b>			
Income tax refunds received/(payments)	210	(80)	187
Noncash return of capital	—	—	(4)

*See Notes to Consolidated Financial Statements.*

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

*(Dollar amounts in millions, unless otherwise stated)*

**1 . Basis of Presentation and Significant Accounting Policies**

**Basis of Presentation**

Hartford Life Insurance Company (together with its subsidiaries, "HLIC", "Company", "we" or "our") is a provider of insurance and investment products in the United States ("U.S.") and is a wholly-owned subsidiary of Hartford Life, Inc., a Delaware corporation ("HLI"). The Hartford Financial Services Group, Inc. ("The Hartford") is the ultimate parent of the Company.

On June 30, 2014, HLI completed the sale of the issued and outstanding equity of Hartford Life Insurance KK, a Japanese company ("HLIKK"), to ORIX Life Insurance Corporation ("Buyer"), a subsidiary of ORIX Corporation, a Japanese company. Upon closing HLIKK recaptured certain risks reinsured to the Company and Hartford Life and Annuity Insurance Company ("HLAI"), a wholly owned subsidiary of the Company, by terminating intercompany agreements. The Buyer is responsible for all liabilities related to the recaptured business. However, HLAI has continued to provide reinsurance for yen denominated fixed payout annuities. For further discussion of this transaction, see Note 11 - Transactions with Affiliates of Notes to Consolidated Financial Statements.

Effective April 1, 2014, the Company terminated its modified coinsurance ("modco") and coinsurance with funds withheld reinsurance agreement with White River Life Reinsurance ("WRR"), following receipt of approval from the State of Connecticut Insurance Department ("CTDOI") and Vermont Department of Financial Regulation. On April 30, 2014 The Hartford dissolved WRR. For further discussion of this transaction, see Note 11 - Transactions with Affiliates of Notes to Consolidated Financial Statements.

Effective March 3, 2014, The Hartford made Hartford Life and Accident Insurance Company ("HLA") the single nationwide underwriting company for its Group Benefits business by capitalizing HLA to support the Group Benefits business and separating it from the legal entities that support The Hartford's Talcott Resolution operating segment. On January 30, 2014, The Hartford received approval from the CTDOI for HLAI and the Company to dividend approximately \$800 of cash and invested assets to HLA and this dividend was paid on February 27, 2014. All of the issued and outstanding equity of the Company was then distributed from HLA to HLI and the Company became a direct subsidiary of HLI.

The Consolidated Financial Statements have been prepared on the basis of accounting principles generally accepted in the United States of America ("U.S. GAAP"), which differ materially from the accounting practices prescribed by various insurance regulatory authorities.

**Consolidation**

The Consolidated Financial Statements include the accounts of HLIC and entities the Company directly or indirectly has a controlling financial interest in which the Company is required to consolidate. Entities in which HLIC has significant influence over the operating and financing decisions but is not required to consolidate are reported using the equity method. All intercompany transactions and balances between HLIC and its subsidiaries have been eliminated.

**Use of Estimates**

The preparation of financial statements, in conformity with U.S. GAAP, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

The most significant estimates include those used in determining estimated gross profits used in the valuation and amortization of assets and liabilities associated with variable annuity and other universal life-type contracts; evaluation of other-than-temporary impairments on available-for-sale securities and valuation allowances on investments; living benefits required to be fair valued; valuation of investments and derivative instruments; valuation allowance on deferred tax assets; and contingencies relating to corporate litigation and regulatory matters. Certain of these estimates are particularly sensitive to market conditions, and deterioration and/or volatility in the worldwide debt or equity markets could have a material impact on the Consolidated Financial Statements.

**Reclassifications**

Certain reclassifications have been made to prior year financial information to conform to the current year presentation.

**Adoption of New Accounting Standards**

On January 1, 2016 the Company adopted new consolidation guidance issued by the Financial Accounting Standards Board ("FASB"). The updates revise when to consolidate variable interest entities ("VIEs") and general partners' investments in limited partnerships, end the deferral granted for applying the VIE guidance to certain investment companies, and reduce the number of circumstances where a decision maker's or service provider's fee arrangement is deemed to be a variable interest in an entity. The updates also modify guidance for determining whether limited partnerships are VIEs or voting interest entities. The new guidance did not have a material effect on the Company's Consolidated Financial Statements .

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## **1 . Basis of Presentation and Significant Accounting Policies (continued)**

### **Future Adoption of New Accounting Standards**

#### *Financial Instruments - Credit Losses*

The FASB issued updated guidance for recognition and measurement of credit losses on financial instruments. The new guidance will replace the “incurred loss” approach with an “expected loss” model for recognizing credit losses for instruments carried at other than fair value, which will initially result in the recognition of greater allowances for losses. The allowance will be an estimate of credit losses expected over the life of debt instruments, such as mortgage loans, reinsurance recoverables and receivables. Credit losses on available-for-sale (“AFS”) debt securities carried at fair value will continue to be measured as other-than-temporary impairments (“OTTI”) when incurred; however, the losses will be recognized through an allowance and no longer as an adjustment to the cost basis. Recoveries of OTTI will be recognized as reversals of valuation allowances and no longer accreted as investment income through an adjustment to the investment yield. The allowance on AFS securities cannot cause the net carrying value to be below fair value and, therefore, it is possible that increases in fair value due to decreases in market interest rates could cause the reversal of a valuation allowance and increase net income. The new guidance will also require purchased financial assets with a more-than-insignificant amount of credit deterioration since original issuance to be recorded based on contractual amounts due and an initial allowance recorded at the date of purchase. The guidance is effective January 1, 2020 through a cumulative-effect adjustment to retained earnings for the change in the allowance for credit losses for debt instruments carried at other than fair value. No allowance will be recognized at adoption for AFS debt securities; rather, their cost basis will be evaluated for an allowance for OTTI prospectively. Early adoption is permitted as of January 1, 2019. The Company has not yet determined the timing for adoption or estimated the effect on the Company’s consolidated financial statements. Significant implementation matters yet to be addressed include estimating lifetime expected losses on debt instruments carried at other than fair value, determining the impact of valuation allowances on the effective interest method for recognizing interest income from AFS securities, updating our investment accounting system functionality to adjust valuation allowances based on changes in fair value and developing an implementation plan.

#### *Financial Instruments - Recognition and Measurement*

The FASB issued updated guidance for the recognition and measurement of financial instruments. The new guidance will require investments in equity securities to be measured at fair value with any changes in valuation reported in net income except for those equity securities that result in consolidation or are accounted for under the equity method of accounting. The new guidance will also require a deferred tax asset resulting from net unrealized losses on available-for-sale fixed maturities that are recognized in accumulated other comprehensive income (loss) (“AOCI”) to be evaluated for recoverability in combination with the Company’s other deferred tax assets. Under existing guidance, the Company measures investments in equity securities, available-for-sale, at fair value with changes in fair value reported in other comprehensive income. As required, the Company will adopt the guidance effective January 1, 2018 through a cumulative effect adjustment to retained earnings. Early adoption is not allowed. The impact to the Company will be increased volatility in net income beginning in 2018. Any difference in the evaluation of deferred tax assets may also affect stockholder’s equity. Cash flows will not be affected. The impact will depend on the composition of the Company’s investment portfolio in the future and changes in fair value of the Company’s investments. As of December 31, 2016, equity securities available-for-sale totaled \$152 , with unrealized gains of \$7 in AOCI, that would have been classified in retained earnings. Had the new accounting guidance been in place since the beginning of 2016, the Company would have recognized mark-to-market gains of \$7 after-tax in net income for the year ended December 31, 2016.

#### *Revenue Recognition*

The FASB issued updated guidance for recognizing revenue. The guidance excludes insurance contracts and financial instruments. Revenue is to be recognized when, or as, goods or services are transferred to customers in an amount that reflects the consideration that an entity is expected to be entitled in exchange for those goods or services, and this accounting guidance is similar to current accounting for many transactions. This guidance is effective retrospectively on January 1, 2018, with a choice of restating prior periods or recognizing a cumulative effect for contracts in place as of the adoption. Early adoption is permitted as of January 1, 2017. The Company will adopt on January 1, 2018 and has not determined its method for adoption. The adoption is not expected to have a material effect on the Company’s Consolidated Financial Statements.

### **Significant Accounting Policies**

The Company’s significant accounting policies are as follows:

#### ***Segment Information***

The Company has no reportable segments and is comprised of the run-off operations of annuity, institutional and private-placement life insurance businesses. The Company’s determination that it has no reportable segments is based on the fact that the Company’s chief operating decision maker reviews the Company’s financial performance at a consolidated level.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## **1 . Basis of Presentation and Significant Accounting Policies (continued)**

### ***Revenue Recognition***

For investment and universal life-type contracts, the amounts collected from policyholders are considered deposits and are not included in revenue. Fee income for variable annuity and other universal life-type contracts consists of policy charges for policy administration, cost of insurance charges and surrender charges assessed against policyholders' account balances and are recognized in the period in which services are provided. For the Company's traditional life products, premiums are recognized as revenue when due from policyholders.

### ***Income Taxes***

The Company recognizes taxes payable or refundable for the current year and deferred taxes for the tax consequences of temporary differences between the financial reporting and tax basis of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years the temporary differences are expected to reverse. A deferred tax provision is recorded for the tax effects of differences between the Company's current taxable income and its income before tax under generally accepted accounting principles in the Consolidated Statements of Operations. For deferred tax assets, the Company records a valuation allowance that is adequate to reduce the total deferred tax asset to an amount that will more likely than not be realized.

The Company is included in The Hartford's consolidated U.S. Federal income tax return. The Company and The Hartford have entered into a tax sharing agreement under which each member in the consolidated U.S. Federal income tax return will make payments between them such that, with respect to any period, the amount of taxes to be paid by the Company, subject to certain tax adjustments, is consistent with the "parent down" approach. Under this approach, the Company's deferred tax assets and tax attributes are considered realized by it so long as the group is able to recognize (or currently use) the related deferred tax asset or attribute. Thus the need for a valuation allowance is determined at the consolidated return level rather than at the level of the individual entities comprising the consolidated group.

### ***Dividends to Policyholders***

Policyholder dividends are paid to certain life insurance policyholders. Policies that receive dividends are referred to as participating policies. Participating dividends to policyholders are accrued and reported in other liabilities using an estimate of the amount to be paid based on underlying contractual obligations under policies and applicable state laws.

There were no additional amounts of income allocated to participating policyholders. If limitations exist on the amount of net income from participating life insurance contracts that may be distributed to stockholders, the policyholder's share of net income on those contracts that cannot be distributed is excluded from stockholder's equity by a charge to operations and an increase to a liability.

### ***Investments***

#### ***Overview***

The Company's investments in fixed maturities include bonds, structured securities, redeemable preferred stock and commercial paper. Most of these investments, along with certain equity securities, which include common and non-redeemable preferred stocks, are classified as available-for-sale ("AFS") and are carried at fair value. The after-tax difference between fair value and cost or amortized cost is reflected in stockholders' equity as a component of AOCI, after adjustments for the effect of deducting certain life and annuity deferred policy acquisition costs and reserve adjustments. Also included in equity securities, AFS are certain equity securities for which the Company elected the fair value option. These equity securities are carried at fair value with changes in value recorded in realized capital gains and losses on the Company's Consolidated Statements of Operations. Fixed maturities for which the Company elected the fair value option are classified as FVO and are carried at fair value with changes in value recorded in realized capital gains and losses. Policy loans are carried at outstanding balance. Mortgage loans are recorded at the outstanding principal balance adjusted for amortization of premiums or discounts and net of valuation allowances. Short-term investments are carried at amortized cost, which approximates fair value. Limited partnerships and other alternative investments are reported at their carrying value and accounted for under the equity method with the Company's share of earnings included in net investment income. Recognition of income related to limited partnerships and other alternative investments is delayed due to the availability of the related financial information, as private equity and other funds are generally on a three-month delay and hedge funds on a one-month delay. Accordingly, income for the years ended December 31, 2016, 2015, and 2014 may not include the full impact of current year changes in valuation of the underlying assets and liabilities of the funds, which are generally obtained from the limited partnerships and other alternative investments' general partners. In addition, for investments in a hedge fund of funds which was liquidated during 2016, the Company recognizes changes in the fair value of the underlying funds in net investment income, which is consistent with accounting requirements for investment companies. Other investments primarily consist of derivative instruments which are carried at fair value.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## **1 . Basis of Presentation and Significant Accounting Policies (continued)**

### *Net Realized Capital Gains and Losses*

Net realized capital gains and losses from investment sales are reported as a component of revenues and are determined on a specific identification basis. Net realized capital gains and losses also result from fair value changes in fixed maturities and equity securities FVO, and derivatives contracts (both free-standing and embedded) that do not qualify, or are not designated, as a hedge for accounting purposes, ineffectiveness on derivatives that qualify for hedge accounting treatment, and the change in value of certain fair-value hedging instruments and their associated hedged item . Impairments and mortgage loan valuation allowances are recognized as net realized capital losses in accordance with the Company's impairment and mortgage loan valuation allowance policies as discussed in Note 3 - Investments of Notes to Consolidated Financial Statements. Foreign currency transaction remeasurements are also included in net realized capital gains and losses.

### *Net Investment Income*

Interest income from fixed maturities and mortgage loans is recognized when earned on the constant effective yield method based on estimated timing of cash flows. The amortization of premium and accretion of discount for fixed maturities also takes into consideration call and maturity dates that produce the lowest yield. For securitized financial assets subject to prepayment risk, yields are recalculated and adjusted periodically to reflect historical and/or estimated future repayments using the retrospective method; however, if these investments are impaired, any yield adjustments are made using the prospective method. Prepayment fees and make-whole payments on fixed maturities and mortgage loans are recorded in net investment income when earned. For equity securities, dividends are recognized as investment income on the ex-dividend date. Limited partnerships and other alternative investments primarily use the equity method of accounting to recognize the Company's share of earnings; however, for a portion of those investments, the Company uses investment fund accounting applied to a fund of funds which was liquidated during 2016 . For impaired debt securities, the Company accretes the new cost basis to the estimated future cash flows over the expected remaining life of the security by prospectively adjusting the security's yield, if necessary. The Company's non-income producing investments were not material for the years ended December 31, 2016 , 2015 and 2014 .

### ***Derivative Instruments***

#### *Overview*

The Company utilizes a variety of over-the-counter ("OTC") transactions cleared through central clearing houses ("OTC-cleared"), and exchange-traded derivative instruments as part of its overall risk management strategy as well as to enter into replication transactions . The types of instruments may include swaps, caps, floors, forwards, futures and options to achieve one of four Company-approved objectives:

- to hedge risk arising from interest rate, equity market, commodity market, credit spread and issuer default, price or currency exchange rate risk or volatility;
- to manage liquidity;
- to control transaction costs;
- to enter into synthetic replication transactions.

Interest rate, volatility, dividend, credit default and index swaps involve the periodic exchange of cash flows with other parties, at specified intervals, calculated using agreed upon rates or other financial variables and notional principal amounts. Generally, little to no cash or principal payments are exchanged at the inception of the contract. Typically, at the time a swap is entered into, the cash flow streams exchanged by the counterparties are equal in value.

Interest rate cap and floor contracts entitle the purchaser to receive from the issuer at specified dates, the amount, if any, by which a specified market rate exceeds the cap strike interest rate or falls below the floor strike interest rate, applied to a notional principal amount. A premium payment is made by the purchaser of the contract at its inception and no principal payments are exchanged.

Forward contracts are customized commitments that specify a rate of interest or currency exchange rate to be paid or received on an obligation beginning on a future start date and are typically settled in cash.

Financial futures are standardized commitments to either purchase or sell designated financial instruments, at a future date, for a specified price and may be settled in cash or through delivery of the underlying instrument. Futures contracts trade on organized exchanges. Margin requirements for futures are met by pledging securities or cash, and changes in the futures' contract values are settled daily in cash.

Option contracts grant the purchaser, for a premium payment, the right to either purchase from or sell to the issuer a financial instrument at a specified price, within a specified period or on a stated date. The contracts may reference commodities, which grant the purchaser the right to either purchase from or sell to the issuer commodities at a specified price, within a specified period or on a stated date. Option contracts are typically settled in cash.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**1 . Basis of Presentation and Significant Accounting Policies (continued)**

Foreign currency swaps exchange an initial principal amount in two currencies, agreeing to re-exchange the currencies at a future date, at an agreed upon exchange rate. There may also be a periodic exchange of payments at specified intervals calculated using the agreed upon rates and exchanged principal amounts.

The Company's derivative transactions conducted in insurance company subsidiaries are used in strategies permitted under the derivative use plans required by the State of Connecticut and the State of New York insurance departments.

*Accounting and Financial Statement Presentation of Derivative Instruments and Hedging Activities*

Derivative instruments are recognized on the Consolidated Balance Sheets at fair value and are reported in Other Investments and Other Liabilities. For balance sheet presentation purposes, the Company has elected to offset the fair value amounts, income accruals, and related cash collateral receivables and payables of OTC derivative instruments executed in a legal entity and with the same counterparty or under a master netting agreement, which provides the Company with the legal right of offset.

The Company also clears interest rate swap and certain credit default swap derivative transactions through central clearing houses. OTC-cleared derivatives require initial collateral at the inception of the trade in the form of cash or highly liquid securities, such as U.S. Treasuries and government agency investments. Central clearing houses also require additional cash as variation margin based on daily market value movements. For information on collateral, see the derivative collateral arrangements section in Note 4 - Derivative Instruments of Notes to Consolidated Financial Statements. In addition, OTC-cleared transactions include price alignment interest either received or paid on the variation margin, which is reflected in net investment income. The Company has also elected to offset the fair value amounts, income accruals and related cash collateral receivables and payables of OTC-cleared derivative instruments based on clearing house agreements.

On the date the derivative contract is entered into, the Company designates the derivative as (1) a hedge of the fair value of a recognized asset or liability ("fair value" hedge), (2) a hedge of the variability in cash flows of a forecasted transaction or of amounts to be received or paid related to a recognized asset or liability ("cash flow" hedge), (3) a hedge of a net investment in a foreign operation ("net investment" hedge) or (4) held for other investment and/or risk management purposes, which primarily involve managing asset or liability related risks and do not qualify for hedge accounting.



**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## **1. Basis of Presentation and Significant Accounting Policies (continued)**

**Fair Value Hedges** - Changes in the fair value of a derivative that is designated and qualifies as a fair value hedge, including foreign-currency fair value hedges, along with the changes in the fair value of the hedged asset or liability that is attributable to the hedged risk, are recorded in current period earnings as net realized capital gains and losses with any differences between the net change in fair value of the derivative and the hedged item representing the hedge ineffectiveness. Periodic cash flows and accruals of income/expense (“periodic derivative net coupon settlements”) are recorded in the line item of the Consolidated Statements of Operations in which the cash flows of the hedged item are recorded.

**Cash Flow Hedges** - Changes in the fair value of a derivative that is designated and qualifies as a cash flow hedge, including foreign-currency cash flow hedges, are recorded in AOCI and are reclassified into earnings when the variability of the cash flow of the hedged item impacts earnings. Gains and losses on derivative contracts that are reclassified from AOCI to current period earnings are included in the line item in the Consolidated Statements of Operations in which the cash flows of the hedged item are recorded. Any hedge ineffectiveness is recorded immediately in current period earnings as net realized capital gains and losses. Periodic derivative net coupon settlements are recorded in the line item of the Consolidated Statements of Operations in which the cash flows of the hedged item are recorded.

**Net Investment in a Foreign Operation Hedges** - Changes in fair value of a derivative used as a hedge of a net investment in a foreign operation, to the extent effective as a hedge, are recorded in the foreign currency translation adjustments account within AOCI. Cumulative changes in fair value recorded in AOCI are reclassified into earnings upon the sale or complete, or substantially complete, liquidation of the foreign entity. Any hedge ineffectiveness is recorded immediately in current period earnings as net realized capital gains and losses. Periodic derivative net coupon settlements are recorded in the line item of the Consolidated Statements of Operations in which the cash flows of the hedged item are recorded.

**Other Investment and/or Risk Management Activities** - The Company’s other investment and/or risk management activities primarily relate to strategies used to reduce economic risk or replicate permitted investments and do not receive hedge accounting treatment. Changes in the fair value, including periodic derivative net coupon settlements, of derivative instruments held for other investment and/or risk management purposes are reported in current period earnings as net realized capital gains and losses.

### *Hedge Documentation and Effectiveness Testing*

To qualify for hedge accounting treatment, a derivative must be highly effective in mitigating the designated changes in fair value or cash flow of the hedged item. At hedge inception, the Company formally documents all relationships between hedging instruments and hedged items, as well as its risk-management objective and strategy for undertaking each hedge transaction. The documentation process includes linking derivatives that are designated as fair value, cash flow, or net investment hedges to specific assets or liabilities on the balance sheet or to specific forecasted transactions and defining the effectiveness and ineffectiveness testing methods to be used. The Company also formally assesses both at the hedge’s inception and ongoing on a quarterly basis, whether the derivatives that are used in hedging transactions have been and are expected to continue to be highly effective in offsetting changes in fair values, cash flows or net investment in foreign operations of hedged items. Hedge effectiveness is assessed primarily using quantitative methods as well as using qualitative methods. Quantitative methods include regression or other statistical analysis of changes in fair value or cash flows associated with the hedge relationship. Qualitative methods may include comparison of critical terms of the derivative to the hedged item. Hedge ineffectiveness of the hedge relationships are measured each reporting period using the “Change in Variable Cash Flows Method”, the “Change in Fair Value Method”, the “Hypothetical Derivative Method”, or the “Dollar Offset Method”.

### *Discontinuance of Hedge Accounting*

The Company discontinues hedge accounting prospectively when (1) it is determined that the qualifying criteria are no longer met; (2) the derivative is no longer designated as a hedging instrument; or (3) the derivative expires or is sold, terminated or exercised.

When hedge accounting is discontinued because it is determined that the derivative no longer qualifies as an effective fair value hedge, the derivative continues to be carried at fair value on the balance sheet with changes in its fair value recognized in current period earnings. Changes in the fair value of the hedged item attributable to the hedged risk is no longer adjusted through current period earnings and the existing basis adjustment is amortized to earnings over the remaining life of the hedged item through the applicable earnings component associated with the hedged item.

When hedge accounting is discontinued because the Company becomes aware that it is not probable that the forecasted transaction will occur, the derivative continues to be carried on the balance sheet at its fair value, and gains and losses that were accumulated in AOCI are recognized immediately in earnings.

In other situations in which hedge accounting is discontinued, including those where the derivative is sold, terminated or exercised, amounts previously deferred in AOCI are reclassified into earnings when earnings are impacted by the hedged item.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## **1 . Basis of Presentation and Significant Accounting Policies (continued)**

### *Embedded Derivatives*

The Company purchases and has previously issued financial instruments and products that contain embedded derivative instruments. When it is determined that (1) the embedded derivative possesses economic characteristics that are not clearly and closely related to the economic characteristics of the host contract and (2) a separate instrument with the same terms would qualify as a derivative instrument, the embedded derivative is bifurcated from the host for measurement purposes. The embedded derivative, which is reported with the host instrument in the Consolidated Balance Sheets, is carried at fair value with changes in fair value reported in net realized capital gains and losses.

### *Credit Risk*

Credit risk is defined as the risk of financial loss due to uncertainty of an obligor's or counterparty's ability or willingness to meet its obligations in accordance with agreed upon terms. Credit exposures are measured using the market value of the derivatives, resulting in amounts owed to the Company by its counterparties or potential payment obligations from the Company to its counterparties. The Company generally requires that OTC derivative contracts, other than certain forward contracts, be governed by International Swaps and Derivatives Association ("ISDA") agreements which are structured by legal entity and by counterparty, and permit right of offset. These agreements require daily collateral settlement based upon agreed upon thresholds. For purposes of daily derivative collateral maintenance, credit exposures are generally quantified based on the prior business day's market value and collateral is pledged to and held by, or on behalf of, the Company to the extent the current value of the derivatives exceed the contractual thresholds. For the Company's domestic derivative programs, the maximum uncollateralized threshold for a derivative counterparty for a single legal entity is \$10 . The Company also minimizes the credit risk of derivative instruments by entering into transactions with high quality counterparties primarily rated A or better, which are monitored and evaluated by the Company's risk management team and reviewed by senior management. OTC-cleared derivatives are governed by clearing house rules. Transactions cleared through a central clearing house reduce risk due to their ability to require daily variation margin and act as an independent valuation source. In addition, the Company monitors counterparty credit exposure on a monthly basis to ensure compliance with Company policies and statutory limitations.

### *Cash*

Cash represents cash on hand and demand deposits with banks or other financial institutions.

### *Reinsurance*

The Company cedes insurance to affiliated and unaffiliated insurers in order to limit its maximum losses and to diversify its exposures and provide statutory surplus relief. Such arrangements do not relieve the Company of its primary liability to policyholders. Failure of reinsurers to honor their obligations could result in losses to the Company. The Company also assumes reinsurance from other insurers.

Reinsurance accounting is followed for ceded and assumed transactions that provide indemnification against loss or liability relating to insurance risk (i.e. risk transfer). To meet risk transfer requirements, a reinsurance agreement must include insurance risk, consisting of underwriting, investment, and timing risk, and a reasonable possibility of a significant loss to the reinsurer. If the ceded and assumed transactions do not meet risk transfer requirements, the Company accounts for these transactions as financing transactions.

Premiums, benefits, losses and loss adjustment expenses reflect the net effects of ceded and assumed reinsurance transactions. Included in other assets are prepaid reinsurance premiums, which represent the portion of premiums ceded to reinsurers applicable to the unexpired terms of the reinsurance agreements. Included in reinsurance recoverables are balances due from reinsurance companies for paid and unpaid losses and loss adjustment expenses and are presented net of any necessary allowance for uncollectible reinsurance.

The Company reinsures certain of its risks to other reinsurers under yearly renewable term, coinsurance, and modified coinsurance arrangements, and variations thereof. The cost of reinsurance related to long-duration contracts is accounted for over the life of the underlying reinsured policies using assumptions consistent with those used to account for the underlying policies.

The Company evaluates the financial condition of its reinsurers and concentrations of credit risk. Reinsurance is placed with reinsurers that meet strict financial criteria established by the Company.

### *Deferred Policy Acquisition Costs*

Deferred policy acquisition costs ("DAC") represent costs that are directly related to the acquisition of new and renewal insurance contracts and incremental direct costs of contract acquisition that are incurred in transactions with either independent third parties or employees. Such costs primarily include commissions, premium taxes, costs of policy issuance and underwriting, and certain other expenses that are directly related to successfully issued contracts.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## **1 . Basis of Presentation and Significant Accounting Policies (continued)**

For life insurance products, the DAC asset related to most universal life-type contracts (including variable annuities) is amortized over the estimated life of the contracts acquired in proportion to the present value of estimated gross profits ("EGPs"). EGPs are also used to amortize other assets and liabilities in the Company's Consolidated Balance Sheets, such as sales inducement assets ("SIA"). Components of EGPs are also used to determine reserves for universal life type contracts (including variable annuities) with death or other insurance benefits such as guaranteed minimum death, life-contingent guaranteed minimum withdrawal and universal life insurance secondary guarantee benefits. These benefits are accounted for and collectively referred to as death and other insurance benefit reserves and are held in addition to the account value liability representing policyholder funds.

For most life insurance product contracts, including variable annuities, the Company estimates gross profits over 20 years as EGPs emerging subsequent to that time frame are immaterial. Products sold in a particular year are aggregated into cohorts. Future gross profits for each cohort are projected over the estimated lives of the underlying contracts, based on future account value projections for variable annuity and variable universal life products. The projection of future account values requires the use of certain assumptions including: separate account returns; separate account fund mix; fees assessed against the contract holder's account balance; full surrender and partial withdrawal rates; interest margin; mortality; and the extent and duration of hedging activities and hedging costs.

The Company determines EGPs from a single deterministic reversion to mean ("RTM") separate account return projection which is an estimation technique commonly used by insurance entities to project future separate account returns. Through this estimation technique, the Company's DAC model is adjusted to reflect actual account values at the end of each quarter. Through a consideration of recent market returns, the Company will unlock ("Unlock"), or adjust, projected returns over a future period so that the account value returns to the long-term expected rate of return, providing that those projected returns do not exceed certain caps. This Unlock for future separate account returns is determined each quarter.

In the fourth quarter of 2016, the Company completed a comprehensive policyholder behavior assumption study which resulted in a non-market related after-tax charge and incorporated the results of that study into its projection of future gross profits. Additionally, throughout the year, the Company evaluates various aspects of policyholder behavior and will revise its policyholder assumptions if credible emerging data indicates that changes are warranted. The Company will continue to evaluate its assumptions related to policyholder behavior as initiatives to reduce the size of the variable annuity business are implemented by management. Upon completion of an annual assumption study or evaluation of credible new information, the Company will revise its assumptions to reflect its current best estimate. These assumption revisions will change the projected account values and the related EGPs in the DAC models, as well as, EGPs used in the death and other insurance benefit reserving models.

All assumption changes that affect the estimate of future EGPs including the update of current account values, the use of the RTM estimation technique, and policyholder behavior assumptions are considered an Unlock in the period of revision. An Unlock adjusts the DAC and death and other insurance benefit reserve balances in the Consolidated Balance Sheets with an offsetting benefit or charge in the Consolidated Statements of Operations in the period of the revision. An Unlock revises EGPs to reflect the Company's current best estimate assumptions. The Company also tests the aggregate recoverability of DAC by comparing the existing DAC balance to the present value of future EGPs. An Unlock that results in an after-tax benefit generally occurs as a result of actual experience or future expectations of product profitability being favorable compared to previous estimates. An Unlock that results in an after-tax charge generally occurs as a result of actual experience or future expectations of product profitability being unfavorable compared to previous estimates.

Policyholders may exchange contracts or make modifications to existing contracts. If the new contract or the modification results in a substantially changed replacement contract, DAC is established for the new contract and the existing DAC is written off through income. If the new or modified contract is not substantially changed, the existing DAC continues to be amortized and incremental costs are expensed in the period incurred. Additions to coverage or benefits that are underwritten separately are considered non-integrated features for which DAC is established if additional acquisition costs are incurred. Reductions to coverage or benefits that have a commensurate reduction in price are treated as partial terminations and DAC is reduced through a charge to income.

### ***Reserve for Future Policy Benefits***

#### ***Reserve for Future Policy Benefits on Universal Life-type Contracts***

Certain contracts classified as universal life-type death and other insurance benefit features including guaranteed minimum death benefit ("GMDB"), guaranteed minimum income benefit ("GMIB"), and the life-contingent portion of guaranteed minimum withdrawal benefit ("GMWB") riders offered with variable annuity contracts, as well as secondary guarantee benefits offered with universal life insurance contracts. Universal life insurance secondary guarantee benefits ensure that the policy will not terminate, and will continue to provide a death benefit, even if there is insufficient policy value to cover the monthly deductions and charges. GMDB riders on variable annuities provide a death benefit during the accumulation phase that is generally equal to the greater of (a) the contract value at death or (b) premium payments less any prior withdrawals and may include adjustments that increase the benefit, such as for maximum anniversary value (MAV). For the Company's products with GMWB riders, the withdrawal benefit can exceed the guaranteed remaining balance ("GRB"), which is generally equal to premiums less withdrawals. In addition to recording an account value liability that

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## **1 . Basis of Presentation and Significant Accounting Policies (continued)**

represents policyholder funds, the Company records a death and other insurance benefit liability for GMDBs, GMIBs, the life-contingent portion of GMWBs and the universal life insurance secondary guarantees. This death and other insurance benefit liability is reported in reserve for future policy benefits in the Company's Consolidated Balance Sheets. Changes in the death and other insurance benefit reserves are recorded in benefits, losses and loss adjustment expenses in the Company's Consolidated Statements of Operations.

The death and other insurance benefit liability is determined by estimating the expected present value of the benefits in excess of the policyholder's expected account value in proportion to the present value of total expected assessments and investment margin. Total expected assessments are the aggregate of all contract charges, including those for administration, mortality, expense, and surrender. The liability is accrued as actual assessments are earned. The expected present value of benefits and assessments are generally derived from a set of stochastic scenarios that have been calibrated to our RTM separate account returns and assumptions including market rates of return, volatility, discount rates, lapse rates and mortality experience. Consistent with the Company's policy on the Unlock, the Company regularly evaluates estimates used and adjusts the liability, with a related charge or credit to benefits, losses and loss adjustment expenses. For further information on the Unlock, see the Deferred Policy Acquisition Costs accounting policy section within this footnote.

The Company reinsures a portion of its in-force GMDB and all of its universal life insurance secondary guarantees. Net reinsurance costs are recognized ratably over the accumulation period based on total expected assessments.

### *Reserve for Future Policy Benefits on Traditional Annuity and Other Contracts*

Traditional annuities recorded within the reserve for future policy benefits primarily include life-contingent contracts in the payout phase such as structured settlements and terminal funding agreements. Other contracts within the reserve for policyholder benefits include whole life and guaranteed term life insurance contracts. The reserve for future policy benefits is calculated using standard actuarial methods as the present value of future benefits and related expenses to be paid less the present value of the portion of future premiums required using assumptions "locked in" at the time the policies were issued, including discount rate, withdrawal, mortality and expense assumptions deemed appropriate at the issue date. Future policy benefits are computed at amounts that, with additions from any estimated premiums to be received and with interest on such reserves compounded annually at assumed rates, are expected to be sufficient to meet the Company's policy obligations at their maturities or in the event of an insured's death. While assumptions are locked in upon issuance of new contracts and annuitizations of existing contracts, significant changes in experience or assumptions may require the Company to establish premium deficiency reserves. Premium deficiency reserves, if any, are established based on current assumptions without considering a provision for adverse deviation. Changes in or deviations from the assumptions used can significantly affect the Company's reserve levels and results from operations.

### *Other Policyholder Funds and Benefits Payable*

Other policyholder funds and benefits payable primarily include the non-variable account values associated with variable annuity and other universal life-type contracts, investment contracts, the non-life contingent portion of GMWBs that are accounted for as embedded derivatives at fair value as well as other policyholder account balances associated with our life insurance businesses. Investment contracts are non-life contingent and include institutional and governmental deposits, structured settlements and fixed annuities. The liability for investment contracts is equal to the balance that accrues to the benefit of the contract holder as of the financial statement date, which includes the accumulation of deposits plus credited interest, less withdrawals, payments and assessments through the financial statement date. For discussion of fair value of GMWBs that represent embedded derivatives, see Note 2 - Fair Value Measurements of Notes to Consolidated Financial Statements.

### *Separate Account Liabilities*

The Company records the variable account value portion of variable annuities, variable life insurance products and institutional and governmental investment contracts within separate accounts. Separate account assets are reported at fair value and separate account liabilities are reported at amounts consistent with separate account assets. Investment income and gains and losses from those separate account assets accrue directly to the policyholder, who assumes the related investment risk, and are offset by change in the related liability. Changes in the value of separate account assets and separate account liabilities are reported in the same line item in the Consolidated Statements of Operations. The Company earns fee income for investment management, certain administrative services and mortality and expense risks.

### *Foreign Currency*

Foreign currency translation gains and losses are reflected in stockholder's equity as a component of AOCI. The Company's foreign subsidiaries' balance sheet accounts are translated at the exchange rates in effect at each year end and income statement accounts are translated at the average rates of exchange prevailing during the year. The national currencies of the international operations are generally their functional currencies. Gains and losses resulting from the remeasurement of foreign currency transactions are reflected in earnings in realized capital gains (losses) in the period in which they occur.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements**

The Company carries certain financial assets and liabilities at estimated fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in the principal or most advantageous market in an orderly transaction between market participants. Our fair value framework includes a hierarchy that gives the highest priority to the use of quoted prices in active markets, followed by the use of market observable inputs, followed by the use of unobservable inputs. The fair value hierarchy levels are as follows:

- Level 1 Fair values based primarily on unadjusted quoted prices for identical assets, or liabilities, in active markets that the Company has the ability to access at the measurement date.
- Level 2 Fair values primarily based on observable inputs, other than quoted prices included in Level 1, or based on prices for similar assets and liabilities.
- Level 3 Fair values derived when one or more of the significant inputs are unobservable (including assumptions about risk). With little or no observable market, the determination of fair values uses considerable judgment and represents the Company's best estimate of an amount that could be realized in a market exchange for the asset or liability. Also included are securities that are traded within illiquid markets and/or priced by independent brokers.

The Company will classify the financial asset or liability by level based upon the lowest level input that is significant to the determination of the fair value. In most cases, both observable inputs (e.g., changes in interest rates) and unobservable inputs (e.g., changes in risk assumptions) are used to determine fair values that the Company has classified within Level 3.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**

**Assets and (Liabilities) Carried at Fair Value by Hierarchy Level as of December 31, 2016**

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Assets accounted for at fair value on a recurring basis</b>				
Fixed maturities, AFS				
Asset backed securities ("ABS")	\$ 993	\$ —	\$ 956	\$ 37
Collateralized debt obligations ("CDOs")	940	—	680	260
Commercial mortgage-backed securities ("CMBS")	2,146	—	2,125	21
Corporate	14,693	—	14,127	566
Foreign government/government agencies	345	—	328	17
Municipal	1,189	—	1,117	72
Residential mortgage-backed securities ("RMBS")	1,760	—	1,049	711
U.S. Treasuries	1,753	230	1,523	—
<b>Total fixed maturities</b>	<b>23,819</b>	<b>230</b>	<b>21,905</b>	<b>1,684</b>
Fixed maturities, FVO	82	—	82	—
Equity securities, trading [1]	11	11	—	—
Equity securities, AFS	152	20	88	44
Derivative assets				
Credit derivatives	(1)	—	(1)	—
Foreign exchange derivatives	4	—	4	—
Interest rate derivatives	30	—	30	—
GMWB hedging instruments	74	—	14	60
Macro hedge program	128	—	8	120
<b>Total derivative assets [2]</b>	<b>235</b>	<b>—</b>	<b>55</b>	<b>180</b>
Short-term investments	1,349	637	712	—
Reinsurance recoverable for GMWB	73	—	—	73
Modified coinsurance reinsurance contracts	68	—	68	—
Separate account assets [3]	111,634	71,606	38,856	201
<b>Total assets accounted for at fair value on a recurring basis</b>	<b>\$ 137,423</b>	<b>\$ 72,504</b>	<b>\$ 61,766</b>	<b>\$ 2,182</b>
<b>Liabilities accounted for at fair value on a recurring basis</b>				
Other policyholder funds and benefits payable				
GMWB embedded derivative	\$ (241)	\$ —	\$ —	\$ (241)
Equity linked notes	(33)	—	—	(33)
<b>Total other policyholder funds and benefits payable</b>	<b>(274)</b>	<b>—</b>	<b>—</b>	<b>(274)</b>
Derivative liabilities				
Credit derivatives	1	—	1	—
Equity derivatives	33	—	33	—
Foreign exchange derivatives	(247)	—	(247)	—
Interest rate derivatives	(434)	—	(404)	(30)
GMWB hedging instruments	20	—	(1)	21
Macro hedge program	50	—	3	47
<b>Total derivative liabilities [4]</b>	<b>(577)</b>	<b>—</b>	<b>(615)</b>	<b>38</b>
<b>Total liabilities accounted for at fair value on a recurring basis</b>	<b>\$ (851)</b>	<b>\$ —</b>	<b>\$ (615)</b>	<b>\$ (236)</b>

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**

**Assets and (Liabilities) Carried at Fair Value by Hierarchy Level as of December 31, 2015**

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<b>Assets accounted for at fair value on a recurring basis</b>				
Fixed maturities, AFS				
ABS	\$ 846	\$ —	\$ 841	\$ 5
CDOs	1,408	—	1,078	330
CMBS	1,964	—	1,902	62
Corporate	15,175	—	14,641	534
Foreign government/government agencies	331	—	314	17
Municipal	1,132	—	1,083	49
RMBS	1,503	—	875	628
U.S. Treasuries	2,298	123	2,175	—
Total fixed maturities	24,657	123	22,909	1,625
Fixed maturities, FVO	165	1	162	2
Equity securities, trading [1]	11	11	—	—
Equity securities, AFS	459	396	25	38
Derivative assets				
Credit derivatives	7	—	7	—
Equity derivatives	—	—	—	—
Foreign exchange derivatives	4	—	4	—
Interest rate derivatives	54	—	54	—
GMWB hedging instruments	111	—	27	84
Macro hedge program	74	—	—	74
Total derivative assets [2]	250	—	92	158
Short-term investments	572	131	441	—
Reinsurance recoverable for GMWB	83	—	—	83
Modified coinsurance reinsurance contracts	79	—	79	—
Separate account assets [3]	118,163	78,099	38,700	140
<b>Total assets accounted for at fair value on a recurring basis</b>	<b>\$ 144,439</b>	<b>\$ 78,761</b>	<b>\$ 62,408</b>	<b>\$ 2,046</b>
<b>Liabilities accounted for at fair value on a recurring basis</b>				
Other policyholder funds and benefits payable				
GMWB embedded derivative	\$ (262)	\$ —	\$ —	\$ (262)
Equity linked notes	(26)	—	—	(26)
Total other policyholder funds and benefits payable	(288)	—	—	(288)
Derivative liabilities				
Credit derivatives	(7)	—	(7)	—
Equity derivatives	41	—	41	—
Foreign exchange derivatives	(376)	—	(376)	—
Interest rate derivatives	(431)	—	(402)	(29)
GMWB hedging instruments	47	—	(4)	51
Macro hedge program	73	—	—	73
Total derivative liabilities [4]	(653)	—	(748)	95
<b>Total liabilities accounted for at fair value on a recurring basis</b>	<b>\$ (941)</b>	<b>\$ —</b>	<b>\$ (748)</b>	<b>\$ (193)</b>

[1] Included in other investments on the Consolidated Balance Sheets.

[2] Includes OTC and OTC-cleared derivative instruments in a net positive fair value position after consideration of the accrued interest and impact of collateral posting requirements which may be imposed by agreements, clearing house rules, and applicable law. See footnote 4 to this table for derivative liabilities.

[3] Approximately \$4.0 billion and \$1.8 billion of investment sales receivable, as of December 31, 2016 and December 31, 2015, respectively, are excluded from this disclosure requirement because they are trade receivables in the ordinary course of business where the carrying amount approximates fair value. Included in the total fair value amount are \$ 1.0 billion and \$1.2 billion of investments, as of December 31, 2016 and December 31, 2015 for which the fair value is estimated using the net asset value per unit as a practical expedient which are excluded from the disclosure requirement to classify amounts in the fair value hierarchy.

[4] *Includes OTC and OTC-cleared derivative instruments in a net negative fair value position (derivative liability) after consideration of the accrued interest and impact of collateral posting requirements which may be imposed by agreements, clearing house rules and applicable law.*



**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## **2. Fair Value Measurements (continued)**

### **Fixed Maturities, Equity Securities, Short-term Investments, and Free-standing Derivatives**

#### **Valuation Techniques**

The Company generally determines fair values using valuation techniques that use prices, rates, and other relevant information evident from market transactions involving identical or similar instruments. Valuation techniques also include, where appropriate, estimates of future cash flows that are converted into a single discounted amount using current market expectations. The Company uses a "waterfall" approach comprised of the following pricing sources and techniques, which are listed in priority order:

- Quoted prices, unadjusted, for identical assets or liabilities in active markets, which are classified as Level 1.
- Prices from third-party pricing services, which primarily utilize a combination of techniques. These services utilize recently reported trades of identical, similar, or benchmark securities making adjustments for market observable inputs available through the reporting date. If there are no recently reported trades, they may use a discounted cash flow technique to develop a price using expected cash flows based upon the anticipated future performance of the underlying collateral discounted at an estimated market rate. Both techniques develop prices that consider the time value of future cash flows and provide a margin for risk, including liquidity and credit risk. Most prices provided by third-party pricing services are classified as Level 2 because the inputs used in pricing the securities are observable. However, some securities that are less liquid or trade less actively are classified as Level 3. Additionally, certain long-dated securities, including certain municipal securities, foreign government/government agency securities, and bank loans, include benchmark interest rate or credit spread assumptions that are not observable in the marketplace and are thus classified as Level 3.
- Internal matrix pricing, which is a valuation process internally developed for private placement securities for which the Company is unable to obtain a price from a third-party pricing service. Internal pricing matrices determine credit spreads that, when combined with risk-free rates, are applied to contractual cash flows to develop a price. The Company develops credit spreads using market based data for public securities adjusted for credit spread differentials between public and private securities, which are obtained from a survey of multiple private placement brokers. The market-based reference credit spread considers the issuer's financial strength and term to maturity, using an independent public security index and trade information, while the credit spread differential considers the non-public nature of the security. Securities priced using internal matrix pricing are classified as Level 2 because the inputs are observable or can be corroborated with observable data.
- Independent broker quotes, which are typically non-binding and use inputs that can be difficult to corroborate with observable market based data. Brokers may use present value techniques using assumptions specific to the security types, or they may use recent transactions of similar securities. Due to the lack of transparency in the process that brokers use to develop prices, valuations that are based on independent broker quotes are classified as Level 3.

The fair value of free-standing derivative instruments are determined primarily using a discounted cash flow model or option model technique and incorporate counterparty credit risk. In some cases, quoted market prices for exchange-traded and OTC-cleared derivatives may be used and in other cases independent broker quotes may be used. The pricing valuation models primarily use inputs that are observable in the market or can be corroborated by observable market data. The valuation of certain derivatives may include significant inputs that are unobservable, such as volatility levels, and reflect the Company's view of what other market participants would use when pricing such instruments. Unobservable market data is used in the valuation of customized derivatives that are used to hedge certain GMWB variable annuity riders. See the section "GMWB Embedded, Customized, and Reinsurance Derivatives" below for further discussion of the valuation model used to value these customized derivatives.

#### **Valuation Controls**

The fair value process for investments is monitored by the Valuation Committee, which is a cross-functional group of senior management within the Company that meets at least quarterly. The purpose of the committee is to oversee the pricing policy and procedures, as well as approving changes to valuation methodologies and pricing sources. Controls and procedures used to assess third-party pricing services are reviewed by the Valuation Committee, including the results of annual due-diligence reviews.

There are also two working groups under the Valuation Committee: a Securities Fair Value Working Group ("Securities Working Group") and a Derivatives Fair Value Working Group ("Derivatives Working Group"). The working groups, which include various investment, operations, accounting and risk management professionals, meet monthly to review market data trends, pricing and trading statistics and results, and any proposed pricing methodology changes.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**

The Securities Working Group reviews prices received from third parties to ensure that the prices represent a reasonable estimate of the fair value. The group considers trading volume, new issuance activity, market trends, new regulatory rulings and other factors to determine whether the market activity is significantly different than normal activity in an active market. A dedicated pricing unit follows up with trading and investment sector professionals and challenges prices of third-party pricing services when the estimated assumptions used differ from what the unit believes a market participant would use. If the available evidence indicates that pricing from third-party pricing services or broker quotes is based upon transactions that are stale or not from trades made in an orderly market, the Company places little, if any, weight on the third party service's transaction price and will estimate fair value using an internal process, such as a pricing matrix.

The Derivatives Working Group reviews the inputs, assumptions and methodologies used to ensure that the prices represent a reasonable estimate of the fair value. A dedicated pricing team works directly with investment sector professionals to investigate the impacts of changes in the market environment on prices or valuations of derivatives. New models and any changes to current models are required to have detailed documentation and are validated to a second source. The model validation documentation and results of validation are presented to the Valuation Committee for approval.

The Company conducts other monitoring controls around securities and derivatives pricing including, but not limited to, the following:

- Review of daily price changes over specific thresholds and new trade comparison to third-party pricing services.
- Daily comparison of OTC derivative market valuations to counterparty valuations.
- Review of weekly price changes compared to published bond prices of a corporate bond index.
- Monthly reviews of price changes over thresholds, stale prices, missing prices, and zero prices.
- Monthly validation of prices to a second source for securities in most sectors and for certain derivatives.

In addition, the Company's enterprise-wide Operational Risk Management function, led by the Chief Risk Officer, is responsible for model risk management and provides an independent review of the suitability and reliability of model inputs, as well as an analysis of significant changes to current models.

**Valuation Inputs**

Quoted prices for identical assets in active markets are considered Level 1 and consist of on-the-run U.S. Treasuries, money market funds, exchange-traded equity securities, open-ended mutual funds, short-term investments, and exchange traded futures and option contracts.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**

Level 2 Primary Observable Inputs	Level 3 Primary Unobservable Inputs
<b>Fixed Maturity Investments</b>	
<b>Structured securities (includes ABS, CDOs CMBS and RMBS)</b>	
<ul style="list-style-type: none"> <li>• Benchmark yields and spreads</li> <li>• Monthly payment information</li> <li>• Collateral performance, which varies by vintage year and includes delinquency rates, loss severity rates and refinancing assumptions</li> <li>• Credit default swap indices</li> </ul> <p>Other inputs for ABS and RMBS:</p> <ul style="list-style-type: none"> <li>• Estimate of future principal prepayments, derived based on the characteristics of the underlying structure</li> <li>• Prepayment speeds previously experienced at the interest rate levels projected for the collateral</li> </ul>	<ul style="list-style-type: none"> <li>• Independent broker quotes</li> <li>• Credit spreads beyond observable curve</li> <li>• Interest rates beyond observable curve</li> </ul> <p>Other inputs for less liquid securities or those that trade less actively, including subprime RMBS:</p> <ul style="list-style-type: none"> <li>• Estimated cash flows</li> <li>• Credit spreads, which include illiquidity premium</li> <li>• Constant prepayment rates</li> <li>• Constant default rates</li> <li>• Loss severity</li> </ul>
<b>Corporates</b>	
<ul style="list-style-type: none"> <li>• Benchmark yields and spreads</li> <li>• Reported trades, bids, offers of the same or similar securities</li> <li>• Issuer spreads and credit default swap curves</li> </ul> <p>Other inputs for investment grade privately placed securities that utilize internal matrix pricing :</p> <ul style="list-style-type: none"> <li>• Credit spreads for public securities of similar quality, maturity, and sector, adjusted for non-public nature</li> </ul>	<ul style="list-style-type: none"> <li>• Independent broker quotes</li> <li>• Credit spreads beyond observable curve</li> <li>• Interest rates beyond observable curve</li> </ul> <p>Other inputs for below investment grade privately placed securities:</p> <ul style="list-style-type: none"> <li>• Independent broker quotes</li> <li>• Credit spreads for public securities of similar quality, maturity, and sector, adjusted for non-public nature</li> </ul>
<b>U.S Treasuries, Municipals, and Foreign government/government agencies</b>	
<ul style="list-style-type: none"> <li>• Benchmark yields and spreads</li> <li>• Issuer credit default swap curves</li> <li>• Political events in emerging market economies</li> <li>• Municipal Securities Rulemaking Board reported trades and material event notices</li> <li>• Issuer financial statements</li> </ul>	<ul style="list-style-type: none"> <li>• Independent broker quotes</li> <li>• Credit spreads beyond observable curve</li> <li>• Interest rates beyond observable curve</li> </ul>
<b>Equity Securities</b>	
<ul style="list-style-type: none"> <li>• Quoted prices in markets that are not active</li> </ul>	<ul style="list-style-type: none"> <li>• For privately traded equity securities, internal discounted cash flow models utilizing earnings multiples or other cash flow assumptions that are not observable; or they may be held at cost</li> </ul>
<b>Short Term Investments</b>	
<ul style="list-style-type: none"> <li>• Benchmark yields and spreads</li> <li>• Reported trades, bids, offers</li> <li>• Issuer spreads and credit default swap curves</li> <li>• Material event notices and new issue money market rates</li> </ul>	Not applicable
<b>Derivatives</b>	
<b>Credit derivatives</b>	
<ul style="list-style-type: none"> <li>• The swap yield curve</li> <li>• Credit default swap curves</li> </ul>	<ul style="list-style-type: none"> <li>• Independent broker quotes</li> <li>• Yield curves beyond observable limits</li> </ul>
<b>Equity derivatives</b>	
<ul style="list-style-type: none"> <li>• Equity index levels</li> <li>• The swap yield curve</li> </ul>	<ul style="list-style-type: none"> <li>• Independent broker quotes</li> <li>• Equity volatility</li> </ul>
<b>Foreign exchange derivatives</b>	
<ul style="list-style-type: none"> <li>• Swap yield curve</li> <li>• Currency spot and forward rates</li> <li>• Cross currency basis curves</li> </ul>	<ul style="list-style-type: none"> <li>• Independent broker quotes</li> </ul>
<b>Interest rate derivatives</b>	
<ul style="list-style-type: none"> <li>• Swap yield curve</li> </ul>	<ul style="list-style-type: none"> <li>• Independent broker quotes</li> <li>• Interest rate volatility</li> </ul>

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**

**Significant Unobservable Inputs for Level 3 - Securities**

Assets accounted for at fair value on a recurring basis	Fair Value	Predominant Valuation Technique	Significant Unobservable Input	Minimum	Maximum	Weighted Average [1]	Impact of Increase in Input on Fair Value [2]
<b>As of December 31, 2016</b>							
CMBS [3]	\$ 9	Discounted cash flows	Spread (encompasses prepayment, default risk and loss severity)	10bps	1,273bps	249bps	Decrease
Corporate [4]	265	Discounted cash flows	Spread	122bps	1,021bps	373bps	Decrease
Municipal [3]	56	Discounted cash flows	Spread	135bps	286bps	195bps	Decrease
RMBS [3]	704	Discounted cash flows	Spread	16bps	1,830bps	189bps	Decrease
			Constant prepayment rate	—%	20%	4%	Decrease [5]
			Constant default rate	1%	10%	5%	Decrease
			Loss severity	—%	100%	75%	Decrease
<b>As of December 31, 2015</b>							
CMBS [3]	\$ 61	Discounted cash flows	Spread (encompasses prepayment, default risk and loss severity)	31bps	1,505bps	230bps	Decrease
Corporate [4]	213	Discounted cash flows	Spread	63bps	800bps	290bps	Decrease
Municipal [3]	31	Discounted cash flows	Spread	193bps	193bps	193bps	Decrease
RMBS	628	Discounted cash flows	Spread	30bps	1,696bps	172bps	Decrease
			Constant prepayment rate	—%	20%	3%	Decrease [5]
			Constant default rate	1%	10%	6%	Decrease
			Loss severity	—%	100%	79%	Decrease

[1] The weighted average is determined based on the fair value of the securities.

[2] Conversely, the impact of a decrease in input would have the opposite impact to the fair value as that presented in the table.

[3] Excludes securities for which the Company based fair value on broker quotations.

[4] Excludes securities for which the Company bases fair value on broker quotations; however, included are broker-priced lower-rated private placement securities for which the Company receives spread and yield information to corroborate the fair value.

[5] Decrease for above market rate coupons and increase for below market rate coupons.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**

**Significant Unobservable Inputs for Level 3 - Freestanding Derivatives**

	Fair Value	Predominant Valuation Technique	Significant Unobservable Input	Minimum	Maximum	Impact of Increase in Input on Fair Value [1]
<b>As of December 31, 2016</b>						
Interest rate derivatives						
Interest rate swaps	\$ (29)	Discounted cash flows	Swap curve beyond 30 years	3%	3%	Decrease
GMWB hedging instruments						
Equity variance swaps	(36)	Option model	Equity volatility	20%	23%	Increase
Equity options	17	Option model	Equity volatility	27%	30%	Increase
Customized swaps	100	Discounted cash flows	Equity volatility	12%	30%	Increase
Macro hedge program						
Equity options [2]	188	Option model	Equity volatility	17%	28%	Increase
<b>As of December 31, 2015</b>						
Interest rate derivatives						
Interest rate swaps	(30)	Discounted cash flows	Swap curve beyond 30 years	3%	3%	Decrease
GMWB hedging instruments						
Equity variance swaps	(31)	Option model	Equity volatility	19%	21%	Increase
Equity options	35	Option model	Equity volatility	27%	29%	Increase
Customized swaps	131	Discounted cash flows	Equity volatility	10%	40%	Increase
Macro hedge program						
Equity options	179	Option model	Equity volatility	14%	28%	Increase

[1] Conversely, the impact of a decrease in input would have the opposite impact to the fair value as that presented in the table. Changes are based on long positions, unless otherwise noted. Changes in fair value will be inversely impacted for short positions.

[2] Excludes derivatives for which the Company bases fair value on broker quotations.

The tables above exclude the portion of ABS, CRE CDOs, index options and certain corporate securities for which fair values are predominately based on independent broker quotes. While the Company does not have access to the significant unobservable inputs that independent brokers may use in their pricing process, the Company believes brokers likely use inputs similar to those used by the Company and third-party pricing services to price similar instruments. As such, in their pricing models, brokers likely use estimated loss severity rates, prepayment rates, constant default rates and credit spreads. Therefore, similar to non-broker priced securities, increases in these inputs would generally cause fair values to decrease. For the year ended December 31, 2016, no significant adjustments were made by the Company to broker prices received.

**Transfers between Levels**

Transfers of securities among the levels occur at the beginning of the reporting period. The amount of transfers from Level 1 to Level 2 was \$563 and \$711, for the years ended December 31, 2016 and 2015, respectively, which represented previously on-the-run U.S. Treasury securities that are now off-the-run. For the years ended December 31, 2016 and 2015, there were no transfers from Level 2 to Level 1. See the fair value roll-forward tables for the years ended December 31, 2016 and 2015, for the transfers into and out of Level 3.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## 2. Fair Value Measurements (continued)

### GMWB Embedded, Customized and Reinsurance Derivatives

<i>GMWB Embedded Derivatives</i>	The Company formerly offered certain variable annuity products with GMWB riders that provide the policyholder with a GRB which is generally equal to premiums less withdrawals. If the policyholder's account value is reduced to a specified level through a combination of market declines and withdrawals but the GRB still has value, the Company is obligated to continue to make annuity payments to the policyholder until the GRB is exhausted. When payments of the GRB are not life-contingent, the GMWB represents an embedded derivative carried at fair value reported in other policyholder funds and benefits payable in the Consolidated Balance Sheets with changes in fair value reported in net realized capital gains and losses.
<i>Free-standing Customized Derivatives</i>	The Company holds free-standing customized derivative contracts to provide protection from certain capital markets risks for the remaining term of specified blocks of non-reinsured GMWB riders. These customized derivatives are based on policyholder behavior assumptions specified at the inception of the derivative contracts. The Company retains the risk for differences between assumed and actual policyholder behavior and between the performance of the actively managed funds underlying the separate accounts and their respective indices. These derivatives are reported in the Consolidated Balance Sheets within other investments or other liabilities, as appropriate, after considering the impact of master netting agreements.
<i>GMWB Reinsurance Derivative</i>	The Company has reinsurance arrangements in place to transfer a portion of its risk of loss due to GMWB. These arrangements are recognized as derivatives carried at fair value and reported in reinsurance recoverables in the Consolidated Balance Sheets. Changes in the fair value of the reinsurance agreements are reported in net realized capital gains and losses.

#### Valuation Techniques

Fair values for GMWB embedded derivatives, free-standing customized derivatives and reinsurance derivatives are classified as Level 3 in the fair value hierarchy and are calculated using internally developed models that utilize significant unobservable inputs because active, observable markets do not exist for these items. In valuing the GMWB embedded derivative, the Company attributes to the derivative a portion of the expected fees to be collected over the expected life of the contract from the contract holder equal to the present value of future GMWB claims. The excess of fees collected from the contract holder in the current period over the portion of fees attributed to the embedded derivative in the current period are associated with the host variable annuity contract and reported in fee income.

#### Valuation Controls

Oversight of the Company's valuation policies and processes for GMWB embedded, reinsurance, and customized derivatives is performed by a multidisciplinary group comprised of finance, actuarial and risk management professionals. This multidisciplinary group reviews and approves changes and enhancements to the Company's valuation model as well as associated controls.

#### Valuation Inputs

The fair value for each of the non-life contingent GMWBs, the free-standing customized derivatives and the GMWB reinsurance derivative is calculated as an aggregation of the following components: Best Estimate Claim Payments; Credit Standing Adjustment; and Margins. The Company believes the aggregation of these components results in an amount that a market participant in an active liquid market would require, if such a market existed, to assume the risks associated with the guaranteed minimum benefits and the related reinsurance and customized derivatives. Each component described in the following discussion is unobservable in the marketplace and requires subjectivity by the Company in determining its value.

##### Best Estimate Claim Payments

The Best Estimate Claim Payments are calculated based on actuarial and capital market assumptions related to projected cash flows, including the present value of benefits and related contract charges, over the lives of the contracts, incorporating unobservable inputs including expectations concerning policyholder behavior. These assumptions are input into a stochastic risk neutral scenario process that is used to determine the valuation and involves numerous estimates and subjective judgments regarding a number of variables.

The Company monitors various aspects of policyholder behavior and may modify certain of its assumptions, including living benefit lapses and withdrawal rates, if credible emerging data indicates that changes are warranted. In addition, the Company will continue to evaluate policyholder behavior assumptions should we implement initiatives to reduce the size of the variable annuity business. At a minimum, all policyholder behavior assumptions are reviewed and updated at least annually as part of the Company's annual fourth-quarter comprehensive study to refine its estimate of future gross profits. In addition, the Company recognized non-market-based updates driven by the relative outperformance (underperformance) of the underlying actively managed funds as compared to their respective indices.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**

Credit Standing Adjustment

The credit standing adjustment is an estimate of the additional amount that market participants would require in determining fair value to reflect the risk that GMWB benefit obligations or the GMWB reinsurance recoverables will not be fulfilled. The Company incorporates a blend of observable Company and reinsurer credit default spreads from capital markets, adjusted for market recoverability.

Margins

The behavior risk margin adds a margin that market participants would require, in determining fair value, for the risk that the Company's assumptions about policyholder behavior could differ from actual experience. The behavior risk margin is calculated by taking the difference between adverse policyholder behavior assumptions and best estimate assumptions.

**Valuation Inputs Used in Levels 2 and 3 Measurements for GMWB Embedded, Customized and Reinsurance Derivatives**

Level 2 Primary Observable Inputs	Level 3 Primary Unobservable Inputs
<ul style="list-style-type: none"> <li>• Risk-free rates as represented by the Eurodollar futures, LIBOR deposits and swap rates to derive forward curve rates</li> <li>• Correlations of 10 years of observed historical returns across underlying well-known market indices</li> <li>• Correlations of historical index returns compared to separate account fund returns</li> <li>• Equity index levels</li> </ul>	<ul style="list-style-type: none"> <li>• Market implied equity volatility assumptions</li> </ul> <p>Assumptions about policyholder behavior, including:</p> <ul style="list-style-type: none"> <li>• Withdrawal utilization</li> <li>• Withdrawal rates</li> <li>• Lapse rates</li> <li>• Reset elections</li> </ul>

**Significant Unobservable Inputs for Level 3 GMWB Embedded Customized and Reinsurance Derivatives**

	Unobservable Inputs (Minimum)	Unobservable Inputs (Maximum)	Impact of Increase in Input on Fair Value Measurement [1]
<b>December 31, 2016</b>			
Withdrawal Utilization [2]	15%	100%	Increase
Withdrawal Rates [3]	—%	8%	Increase
Lapse Rates [4]	—%	40%	Decrease
Reset Elections [5]	20%	75%	Increase
Equity Volatility [6]	12%	30%	Increase
<b>December 31, 2015</b>			
Withdrawal Utilization [2]	20%	100%	Increase
Withdrawal Rates [3]	—%	8%	Increase
Lapse Rates [4]	—%	75%	Decrease
Reset Elections [5]	20%	75%	Increase
Equity Volatility [6]	10%	40%	Increase

[1] Conversely, the impact of a decrease in input would have the opposite impact to the fair value as that presented in the table.

[2] Range represents assumed cumulative percentages of policyholders taking withdrawals.

[3] Range represents assumed cumulative annual amount withdrawn by policyholders.

[4] Range represents assumed annual percentages of full surrender of the underlying variable annuity contracts across all policy durations for in force business.

[5] Range represents assumed cumulative percentages of policyholders that would elect to reset their guaranteed benefit base.

[6] Range represents implied market volatilities for equity indices based on multiple pricing sources.

**Separate Account Assets**

Separate account assets are primarily invested in mutual funds. Other separate account assets include fixed maturities, limited partnerships, equity securities, short-term investments and derivatives that are valued in the same manner, and using the same pricing sources and inputs, as those investments held by the Company. For limited partnerships in which fair value represents the separate account's share of the NAV, 39% and 30% were subject to significant liquidation restrictions due to lock-up or gating provisions as of December 31, 2016 and December 31, 2015, respectively. Total limited partnerships that do not allow any form of redemption were 11% and 2%, as of December 31, 2016 and December 31, 2015, respectively. Separate account assets classified as Level 3 primarily include long-dated bank loans, subprime RMBS, and commercial mortgage loans.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**
**Level 3 Assets and Liabilities Measured at Fair Value on a Recurring Basis Using Significant Unobservable Inputs**

The Company uses derivative instruments to manage the risk associated with certain assets and liabilities. However, the derivative instrument may not be classified with the same fair value hierarchy level as the associated asset or liability. Therefore, the realized and unrealized gains and losses on derivatives reported in the Level 3 roll-forward may be offset by realized and unrealized gains and losses of the associated assets and liabilities in other line items of the financial statements.

**Fair Value Roll-forwards for Financial Instruments Classified as Level 3 for the Year Ended December 31, 2016**

	Total realized/unrealized gains (losses)			Purchases	Settlements	Sales	Transfers into Level 3 [4]	Transfers out of Level 3 [4]	Fair value as of December 31, 2016
	Fair value as of January 1, 2016	Included in net income [1] [2] [6]	Included in OCI [3]						
<b>Assets</b>									
Fixed Maturities, AFS									
ABS	\$ 5	\$ —	\$ —	\$ 35	\$ (2)	\$ (2)	\$ 5	\$ (4)	\$ 37
CDOs	330	(1)	(14)	62	(117)	—	—	—	260
CMBS	62	—	(2)	43	(13)	(2)	—	(67)	21
Corporate	534	(6)	10	87	(63)	(126)	368	(238)	566
Foreign Govt./Govt. Agencies	17	—	1	8	(4)	(5)	—	—	17
Municipal	49	—	—	16	(1)	—	8	—	72
RMBS	628	(1)	4	268	(154)	(26)	2	(10)	711
<b>Total Fixed Maturities, AFS</b>	<b>1,625</b>	<b>(8)</b>	<b>(1)</b>	<b>519</b>	<b>(354)</b>	<b>(161)</b>	<b>383</b>	<b>(319)</b>	<b>1,684</b>
Fixed Maturities, FVO	2	—	—	1	—	(1)	—	(2)	—
Equity Securities, AFS	38	(1)	6	4	—	(3)	—	—	44
Freestanding Derivatives									
Equity	—	(8)	—	8	—	—	—	—	—
Interest rate	(29)	(1)	—	—	—	—	—	—	(30)
GMWB hedging instruments	135	(60)	—	—	—	—	—	6	81
Macro hedge program	147	(38)	—	63	(6)	—	—	1	167
<b>Total Freestanding Derivatives [5]</b>	<b>253</b>	<b>(107)</b>	<b>—</b>	<b>71</b>	<b>(6)</b>	<b>—</b>	<b>—</b>	<b>7</b>	<b>218</b>
Reinsurance Recoverable for GMWB	83	(24)	—	—	14	—	—	—	73
Separate Accounts	139	(1)	(3)	320	(15)	(78)	17	(178)	201
<b>Total Assets</b>	<b>\$ 2,140</b>	<b>\$ (141)</b>	<b>\$ 2</b>	<b>\$ 915</b>	<b>\$ (361)</b>	<b>\$ (243)</b>	<b>\$ 400</b>	<b>\$ (492)</b>	<b>\$ 2,220</b>
<b>(Liabilities)</b>									
Other Policyholder Funds and Benefits Payable									
Guaranteed Withdrawal Benefits	(262)	88	—	—	(67)	—	—	—	(241)
Equity Linked Notes	(26)	(7)	—	—	—	—	—	—	(33)
<b>Total Other Policyholder Funds and Benefits Payable</b>	<b>(288)</b>	<b>81</b>	<b>—</b>	<b>—</b>	<b>(67)</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>(274)</b>
<b>Total Liabilities</b>	<b>\$ (288)</b>	<b>\$ 81</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ (67)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ (274)</b>



**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**

**Fair Value Roll-forwards for Financial Instruments Classified as Level 3 for the Year Ended December 31, 2015**

	Total realized/unrealized gains (losses)						Transfers into Level 3 [4]	Transfers out of Level 3 [4]	Fair value as of December 31, 2015
	Fair value as of January 1, 2015	Included in net income [1] [2] [6]	Included in OCI [3]	Purchases	Settlements	Sales			
<b>Assets</b>									
Fixed Maturities, AFS									
ABS	\$ 82	\$ —	\$ (2)	\$ 22	\$ —	\$ (6)	\$ 1	\$ (92)	\$ 5
CDOs	360	(1)	3	—	(26)	—	—	(6)	330
CMBS	119	—	(5)	18	(36)	(3)	4	(35)	62
Corporate	646	(18)	(38)	45	(21)	(43)	99	(136)	534
Foreign Govt./Govt. Agencies	30	—	(3)	5	(3)	(15)	3	—	17
Municipal	54	—	(5)	—	—	—	—	—	49
RMBS	734	(2)	(2)	154	(126)	(127)	16	(19)	628
<b>Total Fixed Maturities, AFS</b>	<b>2,025</b>	<b>(21)</b>	<b>(52)</b>	<b>244</b>	<b>(212)</b>	<b>(194)</b>	<b>123</b>	<b>(288)</b>	<b>1,625</b>
Fixed Maturities, FVO	84	(5)	1	6	(23)	(50)	—	(11)	2
Equity Securities, AFS	48	(5)	1	11	(1)	(13)	—	(3)	38
Freestanding Derivatives									
Credit	(3)	1	—	(8)	—	—	—	10	—
Commodity	—	(3)	—	—	(3)	—	6	—	—
Equity	5	5	—	—	(10)	—	—	—	—
Interest rate	(27)	(1)	—	—	(1)	—	—	—	(29)
GMWB hedging instruments	170	(16)	—	—	(19)	—	—	—	135
Macro hedge program	141	(41)	—	47	—	—	—	—	147
Other contracts	—	—	—	—	—	—	—	—	—
<b>Total Freestanding Derivatives [5]</b>	<b>286</b>	<b>(55)</b>	<b>—</b>	<b>39</b>	<b>(33)</b>	<b>—</b>	<b>6</b>	<b>10</b>	<b>253</b>
Reinsurance Recoverable for GMWB	56	9	—	—	18	—	—	—	83
Separate Accounts	112	28	(5)	375	(20)	(238)	12	(125)	139
<b>Total Assets</b>	<b>\$ 2,611</b>	<b>\$ (49)</b>	<b>\$ (55)</b>	<b>\$ 675</b>	<b>\$ (271)</b>	<b>\$ (495)</b>	<b>\$ 141</b>	<b>\$ (417)</b>	<b>\$ 2,140</b>
<b>(Liabilities)</b>									
Other Policyholder Funds and Benefits Payable									
Guaranteed Withdrawal Benefits	(139)	(59)	—	—	(64)	—	—	—	(262)
Equity Linked Notes	(26)	—	—	—	—	—	—	—	(26)
<b>Total Other Policyholder Funds and Benefits Payable</b>	<b>(165)</b>	<b>(59)</b>	<b>—</b>	<b>—</b>	<b>(64)</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>(288)</b>
Consumer Notes	(3)	3	—	—	—	—	—	—	—
<b>Total Liabilities</b>	<b>\$ (168)</b>	<b>\$ (56)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ (64)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ (288)</b>

[1] The Company classifies realized and unrealized gains (losses) on GMWB reinsurance derivatives and GMWB embedded derivatives as unrealized gains (losses) for purposes of disclosure in this table because it is impracticable to track on a contract-by-contract basis the realized gains (losses) for these derivatives and embedded derivatives.

[2] Amounts in these rows are generally reported in net realized capital gains (losses). The realized/unrealized gains (losses) included in net income for separate account assets are offset by an equal amount for separate account liabilities, which results in a net zero impact on net income for the Company. All amounts are before income taxes and amortization of DAC.

[3] All amounts are before income taxes and amortization of DAC.

[4] Transfers in and/or (out) of Level 3 are primarily attributable to the availability of market observable information and the re-evaluation of the observability of pricing inputs.

[5] Derivative instruments are reported in this table on a net basis for asset (liability) positions and reported in the Consolidated Balance Sheets in other investments and other liabilities.

[6] Includes both market and non-market impacts in deriving realized and unrealized gains (losses).

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)**

**Changes in Unrealized Gains (Losses) included in Net Income for Financial Instruments Classified as Level 3 Still Held at Year End**

	December 31, 2016 [1] [2]	December 31, 2015 [1] [2]
<b>Assets</b>		
Fixed Maturities, AFS		
CDOs	\$ —	\$ (1)
CMBS	(1)	(1)
Corporate	(13)	(17)
RMBS	—	(3)
Total Fixed Maturities, AFS	(14)	(22)
Fixed Maturities, FVO	—	(3)
Equity Securities, AFS	(1)	(5)
Freestanding Derivatives		
GMWB hedging instruments	(52)	(5)
Macro hedge program	(33)	(34)
Total Freestanding Derivatives	(85)	(39)
Reinsurance Recoverable for GMWB	(24)	9
Separate Accounts	—	27
<b>Total Assets</b>	<b>\$ (124)</b>	<b>\$ (33)</b>
<b>(Liabilities)</b>		
Other Policyholder Funds and Benefits Payable		
Guaranteed Withdrawal Benefits	88	(59)
Equity Linked Notes	(7)	—
Total Other Policyholder Funds and Benefits Payable	81	(59)
Consumer Notes	—	3
<b>Total Liabilities</b>	<b>\$ 81</b>	<b>\$ (56)</b>

[1] All amounts in these rows are reported in net realized capital gains (losses). The realized/unrealized gains (losses) included in net income for separate account assets are offset by an equal amount for separate account liabilities, which results in a net zero impact on net income for the Company. All amounts are before income taxes and amortization of DAC.

[2] Amounts presented are for Level 3 only and therefore may not agree to other disclosures included herein.

**Fair Value Option**

The Company has elected the fair value option for certain securities that contain embedded credit derivatives with underlying credit risk, primarily related to residential real estate, and these securities are included within Fixed Maturities, FVO on the Consolidated Balance Sheets. The Company also classifies the underlying fixed maturities held in certain consolidated investment funds within Fixed Maturities, FVO. The Company reports the underlying fixed maturities of these consolidated investment companies at fair value with changes in the fair value of these securities recognized in net realized capital gains and losses, which is consistent with accounting requirements for investment companies. The consolidated investment funds hold fixed income securities in multiple sectors and the Company has management and control of the funds as well as a significant ownership interest.

The Company also elected the fair value option for certain equity securities in order to align the accounting with total return swap contracts that hedge the risk associated with the investments. The swaps do not qualify for hedge accounting and the change in value of both the equity securities and the total return swaps are recorded in net realized capital gains and losses. These equity securities are classified within equity securities, AFS on the Consolidated Balance Sheets. As of December 31, 2016, the Company no longer holds these investments. Income earned from FVO securities is recorded in net investment income and changes in fair value are recorded in net realized capital gains and losses.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)****Changes in Fair Value of Assets using Fair Value Option**

	For the year ended December 31,		
	2016	2015	2014
<b>Assets</b>			
Fixed maturities, FVO			
CDOs	\$ —	\$ 1	\$ 21
Corporate	—	(3)	(3)
Foreign government	—	2	16
RMBS	3	—	—
<b>Total fixed maturities, FVO</b>	<b>\$ 3</b>	<b>\$ —</b>	<b>\$ 34</b>
Equity, FVO	(34)	(12)	(2)
<b>Total realized capital gains (losses)</b>	<b>\$ (31)</b>	<b>\$ (12)</b>	<b>\$ 32</b>

**Fair Value of Assets and Liabilities using the Fair Value Option**

	As of December 31,	
	2016	2015
<b>Assets</b>		
Fixed maturities, FVO		
ABS	\$ —	\$ 4
CDOs	—	1
CMBS	—	6
Corporate	—	31
Foreign government	—	1
RMBS	82	119
U.S. Government	—	3
<b>Total fixed maturities, FVO</b>	<b>\$ 82</b>	<b>\$ 165</b>
<b>Equity, FVO [1]</b>	<b>\$ —</b>	<b>\$ 281</b>

[1] Included in equity securities, AFS on the Consolidated Balance Sheets. The Company did not hold any equity securities, FVO as of December 31, 2016.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**2. Fair Value Measurements (continued)***Financial Instruments Not Carried at Fair Value***Financial Assets and Liabilities Not Carried at Fair Value**

	Fair Value Hierarchy Level	December 31, 2016		December 31, 2015	
		Carrying Amount	Fair Value	Carrying Amount	Fair Value
<b>Assets</b>					
Policy loans	Level 3	\$ 1,442	\$ 1,442	\$ 1,446	\$ 1,446
Mortgage loans	Level 3	2,811	2,843	2,918	2,995
<b>Liabilities</b>					
Other policyholder funds and benefits payable [1]	Level 3	6,436	6,626	6,611	6,802
Consumer notes [2] [3]	Level 3	20	20	38	38
Assumed investment contracts [3]	Level 3	487	526	619	682

[1] Excludes group accident and health and universal life insurance contracts, including corporate owned life insurance.

[2] Excludes amounts carried at fair value and included in preceding disclosures.

[3] Included in other liabilities in the Consolidated Balance Sheets.

Fair values for policy loans were determined using current loan coupon rates, which reflect the current rates available under the contracts. As a result, the fair value approximates the carrying value of the policy loans.

Fair values for mortgage loans were estimated using discounted cash flow calculations based on current lending rates for similar type loans. Current lending rates reflect changes in credit spreads and the remaining terms of the loans.

Fair values for other policyholder funds and benefits payable and assumed investment contracts, not carried at fair value, are estimated based on the cash surrender values of the underlying policies or by estimating future cash flows discounted at current interest rates adjusted for credit risk.

Fair values for consumer notes were estimated using discounted cash flow calculations using current interest rates adjusted for estimated loan durations.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**3. Investments**

**Net Investment Income (Loss)**

<i>(Before-tax)</i>	For the years ended December 31,		
	2016	2015	2014
Fixed maturities [1]	\$ 1,049	\$ 1,095	\$ 1,113
Equity securities	8	7	14
Mortgage loans	135	152	156
Policy loans	83	82	80
Limited partnerships and other alternative investments	86	97	141
Other investments [2]	64	82	111
Investment expenses	(52)	(59)	(72)
<b>Total net investment income</b>	<b>\$ 1,373</b>	<b>\$ 1,456</b>	<b>\$ 1,543</b>

[1] Includes net investment income on short-term investments.

[2] Includes income from derivatives that hedge fixed maturities and qualify for hedge accounting.

**Net Realized Capital Gains (Losses)**

<i>(Before-tax)</i>	For the years ended December 31,		
	2016	2015	2014
Gross gains on sales	\$ 211	\$ 239	\$ 264
Gross losses on sales	(93)	(211)	(235)
Net OTTI losses recognized in earnings	(28)	(61)	(29)
Valuation allowances on mortgage loans	—	(4)	(4)
Japanese fixed annuity contract hedges, net	—	—	(14)
Results of variable annuity hedge program			
GMWB derivatives, net	(38)	(87)	5
Macro hedge program	(163)	(46)	(11)
Total U.S. program	(201)	(133)	(6)
International Program	—	—	(126)
Total results of variable annuity hedge program	(201)	(133)	(132)
GMAB/GMWB reinsurance	—	—	579
Modified coinsurance reinsurance contracts	(12)	46	395
Transactional foreign currency revaluation	(70)	(4)	—
Non-qualifying foreign currency derivatives	57	(16)	(122)
Other, net [1]	(27)	(2)	(125)
<b>Net realized capital losses</b>	<b>\$ (163)</b>	<b>\$ (146)</b>	<b>\$ 577</b>

[1] Includes non-qualifying derivatives, excluding variable annuity hedge program and foreign currency derivatives, of \$(12) , \$46 , and \$972 , respectively for 2016 , 2015 and 2014 .

Net realized capital gains and losses from investment sales are reported as a component of revenues and are determined on a specific identification basis. Before tax, net gains and losses on sales and impairments previously reported as unrealized gains or losses in AOCI were \$89 , \$(27) and \$1 for the years ended December 31, 2016 , 2015 and 2014 , respectively.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**3. Investments (continued)****Sales of AFS Securities**

	For the years ended December 31,		
	2016	2015	2014
<b>Fixed maturities, AFS</b>			
Sale proceeds	\$ 7,409	\$ 9,454	\$ 9,084
Gross gains	206	195	210
Gross losses	(85)	(161)	(183)
<b>Equity securities, AFS</b>			
Sale proceeds	\$ 321	\$ 586	\$ 107
Gross gains	4	26	9
Gross losses	(8)	(26)	(6)

Sales of AFS securities in 2016 were primarily a result of duration and liquidity management, as well as tactical changes to the portfolio as a result of changing market conditions.

**Recognition and Presentation of Other-Than-Temporary Impairments**

The Company will record an other-than-temporary impairment (“OTTI”) for fixed maturities and certain equity securities with debt-like characteristics (collectively “debt securities”) if the Company intends to sell or it is more likely than not that the Company will be required to sell the security before a recovery in value. A corresponding charge is recorded in net realized capital losses equal to the difference between the fair value and amortized cost basis of the security.

The Company will also record an OTTI for those debt securities for which the Company does not expect to recover the entire amortized cost basis. For these securities, the excess of the amortized cost basis over its fair value is separated into the portion representing a credit OTTI, which is recorded in net realized capital losses, and the remaining non-credit amount, which is recorded in OCI. The credit OTTI amount is the excess of its amortized cost basis over the Company’s best estimate of discounted expected future cash flows. The non-credit amount is the excess of the best estimate of the discounted expected future cash flows over the fair value. The Company’s best estimate of discounted expected future cash flows becomes the new cost basis and accretes prospectively into net investment income over the estimated remaining life of the security.

The Company’s best estimate of expected future cash flows is a quantitative and qualitative process that incorporates information received from third-party sources along with certain internal assumptions regarding the future performance. The Company considers, but is not limited to (a) changes in the financial condition of the issuer and the underlying collateral, (b) whether the issuer is current on contractually obligated interest and principal payments, (c) credit ratings, (d) payment structure of the security and (e) the extent to which the fair value has been less than the amortized cost of the security.

For non-structured securities, assumptions include, but are not limited to, economic and industry-specific trends and fundamentals, security-specific developments, industry earnings multiples and the issuer’s ability to restructure and execute asset sales.

For structured securities, assumptions include, but are not limited to, various performance indicators such as historical and projected default and recovery rates, credit ratings, current and projected delinquency rates, loan-to-value (“LTV”) ratios, average cumulative collateral loss rates that vary by vintage year, prepayment speeds, and property value declines. These assumptions require the use of significant management judgment and include the probability of issuer default and estimates regarding timing and amount of expected recoveries which may include estimating the underlying collateral value.

The Company will also record an OTTI for equity securities where the decline in the fair value is deemed to be other-than-temporary. A corresponding charge is recorded in net realized capital losses equal to the difference between the fair value and cost basis of the security. The previous cost basis less the impairment becomes the new cost basis. The Company’s evaluation and assumptions used to determine an equity OTTI include, but is not limited to, (a) the length of time and extent to which the fair value has been less than the cost of the security, (b) changes in the financial condition, credit rating and near-term prospects of the issuer, (c) whether the issuer is current on preferred stock dividends and (d) the intent and ability of the Company to retain the investment for a period of time sufficient to allow for recovery. For the remaining equity securities which are determined to be temporarily impaired, the Company asserts its intent and ability to retain those equity securities until the price recovers.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**3. Investments (continued)**

**Impairments in Earnings by Type**

	For the years ended December 31,		
	2016	2015	2014
Intent-to-sell impairments	\$ 4	\$ 24	\$ 11
Credit impairments	22	23	16
Impairments on equity securities	2	14	1
Other impairments	—	—	1
<b>Total impairments</b>	<b>\$ 28</b>	<b>\$ 61</b>	<b>\$ 29</b>

**Cumulative Credit Impairments**

<i>(Before-tax)</i>	For the years ended December 31,		
	2016	2015	2014
Balance as of beginning of period	\$ (211)	\$ (296)	\$ (410)
<b>Additions for credit impairments recognized on [1]:</b>			
Securities not previously impaired	(9)	(11)	(7)
Securities previously impaired	(13)	(12)	(9)
<b>Reductions for credit impairments previously recognized on:</b>			
Securities that matured or were sold during the period	44	58	111
Securities the Company made the decision to sell or more likely than not will be required to sell	—	1	—
Securities due to an increase in expected cash flows	19	49	19
<b>Balance as of end of period</b>	<b>\$ (170)</b>	<b>\$ (211)</b>	<b>\$ (296)</b>

[1] These additions are included in the net OTTI losses recognized in earnings in the Consolidated Statements of Operations.

**Available-for-Sale Securities**

**AFS Securities by Type**

	December 31, 2016					December 31, 2015				
	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Non-Credit OTTI [1]	Cost or Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Non-Credit OTTI [1]
ABS	\$ 1,011	\$ 9	\$ (27)	\$ 993	\$ —	\$ 864	\$ 16	\$ (34)	\$ 846	\$ —
CDOs [2]	893	49	(2)	940	—	1,354	67	(11)	1,408	—
CMBS	2,135	45	(34)	2,146	(1)	1,936	52	(24)	1,964	(3)
Corporate	13,677	1,111	(95)	14,693	—	14,425	975	(225)	15,175	(3)
Foreign govt./govt. agencies	337	18	(10)	345	—	328	14	(11)	331	—
Municipal	1,098	97	(6)	1,189	—	1,057	80	(5)	1,132	—
RMBS	1,742	34	(16)	1,760	—	1,468	43	(8)	1,503	—
U.S. Treasuries	1,614	153	(14)	1,753	—	2,127	184	(13)	2,298	—
<b>Total fixed maturities, AFS</b>	<b>22,507</b>	<b>1,516</b>	<b>(204)</b>	<b>23,819</b>	<b>(1)</b>	<b>23,559</b>	<b>1,431</b>	<b>(331)</b>	<b>24,657</b>	<b>(6)</b>
Equity securities, AFS [3]	142	12	(2)	152	—	178	11	(11)	178	—
<b>Total AFS securities</b>	<b>\$ 22,649</b>	<b>\$ 1,528</b>	<b>\$ (206)</b>	<b>\$ 23,971</b>	<b>\$ (1)</b>	<b>\$ 23,737</b>	<b>\$ 1,442</b>	<b>\$ (342)</b>	<b>\$ 24,835</b>	<b>\$ (6)</b>

[1] Represents the amount of cumulative non-credit OTTI losses recognized in OCI on securities that also had credit impairments. These losses are included in gross unrealized losses as of December 31, 2016 and 2015.

[2] Gross unrealized gains (losses) exclude the fair value of bifurcated embedded derivatives within certain securities. Subsequent changes in value are recorded in net realized capital gains (losses).

[3] Excludes equity securities, FVO, with a cost and fair value of \$293 and \$281, respectively, as of December 31, 2015. The Company held no equity securities, FVO as of December 31, 2016.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**3. Investments (continued)**

**Fixed maturities, AFS, by Contractual Maturity Year**

Contractual Maturity	December 31, 2016		December 31, 2015	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
One year or less	\$ 722	\$ 727	\$ 953	\$ 974
Over one year through five years	4,184	4,301	4,973	5,075
Over five years through ten years	3,562	3,649	3,650	3,714
Over ten years	8,258	9,303	8,361	9,173
Subtotal	16,726	17,980	17,937	18,936
Mortgage-backed and asset-backed securities	5,781	5,839	5,622	5,721
<b>Total fixed maturities, AFS</b>	<b>\$ 22,507</b>	<b>\$ 23,819</b>	<b>\$ 23,559</b>	<b>\$ 24,657</b>

Estimated maturities may differ from contractual maturities due to security call or prepayment provisions. Due to the potential for variability in payment speeds (i.e. prepayments or extensions), mortgage-backed and asset-backed securities are not categorized by contractual maturity.

**Concentration of Credit Risk**

The Company aims to maintain a diversified investment portfolio including issuer, sector and geographic stratification, where applicable, and has established certain exposure limits, diversification standards and review procedures to mitigate credit risk.

The Company had no investment exposure to any credit concentration risk of a single issuer greater than 10% of the Company's stockholder's equity, other than the U.S. government and certain U.S. government securities as of December 31, 2016 or December 31, 2015. As of December 31, 2016, other than U.S. government and certain U.S. government agencies, the Company's three largest exposures by issuer were National Grid plc, HSBC Holdings plc, and Oracle Corp., which each comprised less than 1% of total invested assets. As of December 31, 2015, other than U.S. government and certain U.S. government agencies, the Company's three largest exposures by issuer were Morgan Stanley, Verizon Communications Inc., and Bank of America Corp., which each comprised less than 1% of total invested assets.

The Company's three largest exposures by sector as of December 31, 2016, were financial services, utilities, and consumer non-cyclical which comprised approximately 10%, 9% and 7%, respectively, of total invested assets. The Company's three largest exposures by sector as of December 31, 2015 were financial services, utilities, and consumer non-cyclical which comprised approximately 11%, 8% and 7%, respectively, of total invested assets.

**Unrealized Losses on AFS Securities**

**Unrealized Loss Aging for AFS securities by Type and Length of Time**

	December 31, 2016								
	Less Than 12 Months			12 Months or More			Total		
	Amortized Cost	Fair Value	Unrealized Losses	Amortized Cost	Fair Value	Unrealized Losses	Amortized Cost	Fair Value	Unrealized Losses
ABS	\$ 249	\$ 248	\$ (1)	\$ 265	\$ 239	\$ (26)	\$ 514	\$ 487	\$ (27)
CDOs [1]	325	325	—	210	208	(2)	535	533	(2)
CMBS	1,058	1,030	(28)	139	133	(6)	1,197	1,163	(34)
Corporate	2,535	2,464	(71)	402	378	(24)	2,937	2,842	(95)
Foreign govt./govt. agencies	164	155	(9)	6	5	(1)	170	160	(10)
Municipal	166	160	(6)	—	—	—	166	160	(6)
RMBS	548	535	(13)	198	195	(3)	746	730	(16)
U.S. Treasuries	385	371	(14)	—	—	—	385	371	(14)
<b>Total fixed maturities, AFS</b>	<b>5,430</b>	<b>5,288</b>	<b>(142)</b>	<b>1,220</b>	<b>1,158</b>	<b>(62)</b>	<b>6,650</b>	<b>6,446</b>	<b>(204)</b>
Equity securities, AFS [2]	59	57	(2)	5	5	—	64	62	(2)
<b>Total securities in an unrealized loss position</b>	<b>\$ 5,489</b>	<b>\$ 5,345</b>	<b>\$ (144)</b>	<b>\$ 1,225</b>	<b>\$ 1,163</b>	<b>\$ (62)</b>	<b>\$ 6,714</b>	<b>\$ 6,508</b>	<b>\$ (206)</b>



**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**3. Investments (continued)**

	December 31, 2015								
	Less Than 12 Months			12 Months or More			Total		
	Amortized Cost	Fair Value	Unrealized Losses	Amortized Cost	Fair Value	Unrealized Losses	Amortized Cost	Fair Value	Unrealized Losses
ABS	\$ 387	\$ 385	\$ (2)	\$ 271	\$ 239	\$ (32)	\$ 658	\$ 624	\$ (34)
CDOs [1]	608	602	(6)	500	493	(5)	1,108	1,095	(11)
CMBS	655	636	(19)	99	94	(5)	754	730	(24)
Corporate	4,880	4,696	(184)	363	322	(41)	5,243	5,018	(225)
Foreign govt./govt. agencies	144	136	(8)	30	27	(3)	174	163	(11)
Municipal	179	174	(5)	—	—	—	179	174	(5)
RMBS	280	279	(1)	230	223	(7)	510	502	(8)
U.S. Treasuries	963	950	(13)	8	8	—	971	958	(13)
<b>Total fixed maturities, AFS</b>	<b>8,096</b>	<b>7,858</b>	<b>(238)</b>	<b>1,501</b>	<b>1,406</b>	<b>(93)</b>	<b>9,597</b>	<b>9,264</b>	<b>(331)</b>
Equity securities, AFS [2]	83	79	(4)	44	37	(7)	127	116	(11)
<b>Total securities in an unrealized loss position</b>	<b>\$ 8,179</b>	<b>\$ 7,937</b>	<b>\$ (242)</b>	<b>\$ 1,545</b>	<b>\$ 1,443</b>	<b>\$ (100)</b>	<b>\$ 9,724</b>	<b>\$ 9,380</b>	<b>\$ (342)</b>

[1] Unrealized losses exclude the change in fair value of bifurcated embedded derivatives within certain securities for which changes in fair value are recorded in net realized capital gains (losses).

[2] As of December 31, 2016 and 2015, excludes equity securities, FVO which are included in equity securities, AFS on the Consolidated Balance Sheets.

As of December 31, 2016, AFS securities in an unrealized loss position consisted of 1,897 securities, primarily in the corporate sector, which were depressed primarily due to an increase in interest rates and/or widening of credit spreads since the securities were purchased. As of December 31, 2016, 95% of these securities were depressed less than 20% of cost or amortized cost. The decrease in unrealized losses during 2016 was primarily attributable to tighter credit spreads, partially offset by higher interest rates.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**3. Investments (continued)**

Most of the securities depressed for twelve months or more primarily relate to student loan ABS and corporate securities concentrated in the financial services and energy sectors. Corporate financial services securities and student loan ABS were primarily depressed because the securities have floating-rate coupons and have long-dated maturities, and current credit spreads are wider than when these securities were purchased. Corporate securities within the energy sector are primarily depressed due to a lower level of oil prices. The Company neither has an intention to sell nor does it expect to be required to sell the securities outlined in the preceding discussion.

**Mortgage Loans**

*Mortgage Loan Valuation Allowances*

Commercial mortgage loans are considered to be impaired when management estimates that, based upon current information and events, it is probable that the Company will be unable to collect amounts due according to the contractual terms of the loan agreement. The Company reviews mortgage loans on a quarterly basis to identify potential credit losses. Among other factors, management reviews current and projected macroeconomic trends, such as unemployment rates, and property-specific factors such as rental rates, occupancy levels, LTV ratios and debt service coverage ratios (“DSCR”). In addition, the Company considers historical, current and projected delinquency rates and property values. Estimates of collectibility require the use of significant management judgment and include the probability and timing of borrower default and loss severity estimates. In addition, cash flow projections may change based upon new information about the borrower's ability to pay and/or the value of underlying collateral such as changes in projected property value estimates.

For mortgage loans that are deemed impaired, a valuation allowance is established for the difference between the carrying amount and estimated value. The mortgage loan's estimated value is most frequently the Company's share of the fair value of the collateral but may also be the Company's share of either (a) the present value of the expected future cash flows discounted at the loan's effective interest rate or (b) the loan's observable market price. A valuation allowance may be recorded for an individual loan or for a group of loans that have an LTV ratio of 90% or greater, a low DSCR or have other lower credit quality characteristics. Changes in valuation allowances are recorded in net realized capital gains and losses. Interest income on impaired loans is accrued to the extent it is deemed collectible and the borrowers continue to make payments under the original or restructured loan terms. The Company stops accruing interest income on loans when it is probable that the Company will not receive interest and principal payments according to the contractual terms of the loan agreement. The company resumes accruing interest income when it determines that sufficient collateral exists to satisfy the full amount of the loan principal and interest payments and when it is probable cash will be received in the foreseeable future. Interest income on defaulted loans is recognized when received.

As of December 31, 2016, commercial mortgage loans had an amortized cost of \$2.8 billion, with a valuation allowance of \$19 and a carrying value of \$2.8 billion. As of December 31, 2015, commercial mortgage loans had an amortized cost of \$2.9 billion, with a valuation allowance of \$19 and a carrying value of \$2.9 billion. Amortized cost represents carrying value prior to valuation allowances, if any.

As of December 31, 2016 and 2015, the carrying value of mortgage loans that had a valuation allowance was \$31 and \$39, respectively. There were no mortgage loans held-for-sale as of December 31, 2016 or December 31, 2015. As of December 31, 2016, the Company had an immaterial amount of mortgage loans that have had extensions or restructurings other than what is allowable under the original terms of the contract.

**Valuation Allowance Activity**

	For the years ended December 31,		
	2016	2015	2014
<b>Balance as of January 1</b>	\$ (19)	\$ (15)	\$ (12)
(Additions)/Reversals	—	(4)	(4)
Deductions	—	—	1
<b>Balance as of December 31</b>	<b>\$ (19)</b>	<b>\$ (19)</b>	<b>\$ (15)</b>

The weighted-average LTV ratio of the Company's commercial mortgage loan portfolio was 51% as of December 31, 2016, while the weighted-average LTV ratio at origination of these loans was 63%. LTV ratios compare the loan amount to the value of the underlying property collateralizing the loan. The loan collateral values are updated no less than annually through reviews of the underlying properties. Factors considered in estimating property values include, among other things, actual and expected property cash flows, geographic market data and the ratio of the property's net operating income to its value. DSCR compares a property's net operating income to the borrower's principal and interest payments. The weighted average DSCR of the Company's commercial mortgage loan portfolio was 2.55x as of December 31, 2016. As of December 31, 2016 and December 31, 2015, the Company held one delinquent commercial mortgage loan past due by 90 days or more. The loan had a total carrying value and valuation allowance of \$15 and \$16, respectively, and was not accruing income.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**3. Investments (continued)**

**Commercial Mortgage Loans Credit Quality**

Loan-to-value	December 31, 2016		December 31, 2015	
	Carrying Value	Avg. Debt-Service Coverage Ratio	Carrying Value	Avg. Debt-Service Coverage Ratio
Greater than 80%	\$ 20	0.59x	\$ 15	0.91x
65% - 80%	182	2.17x	280	1.78x
Less than 65%	2,609	2.61x	2,623	2.54x
<b>Total commercial mortgage loans</b>	<b>\$ 2,811</b>	<b>2.55x</b>	<b>\$ 2,918</b>	<b>2.45x</b>

**Mortgage Loans by Region**

	December 31, 2016		December 31, 2015	
	Carrying Value	Percent of Total	Carrying Value	Percent of Total
East North Central	\$ 54	1.9%	\$ 66	2.3%
East South Central	14	0.5%	14	0.5%
Middle Atlantic	237	8.4%	210	7.2%
New England	93	3.3%	163	5.6%
Pacific	814	29.0%	933	32.0%
South Atlantic	613	21.8%	579	19.8%
West South Central	128	4.6%	125	4.3%
Other [1]	858	30.5%	828	28.3%
<b>Total mortgage loans</b>	<b>\$ 2,811</b>	<b>100%</b>	<b>\$ 2,918</b>	<b>100%</b>

[1] Primarily represents loans collateralized by multiple properties in various regions.

**Mortgage Loans by Property Type**

	December 31, 2016		December 31, 2015	
	Carrying Value	Percent of Total	Carrying Value	Percent of Total
Commercial				
Agricultural	\$ 16	0.6%	\$ 16	0.5%
Industrial	793	28.2%	829	28.4%
Lodging	25	0.9%	26	0.9%
Multifamily	535	19.0%	557	19.1%
Office	605	21.5%	729	25.0%
Retail	611	21.8%	650	22.3%
Other	226	8.0%	111	3.8%
<b>Total mortgage loans</b>	<b>\$ 2,811</b>	<b>100%</b>	<b>\$ 2,918</b>	<b>100%</b>

**Variable Interest Entities**

The Company is engaged with various special purpose entities and other entities that are deemed to be VIEs primarily as an investor through normal investment activities but also as an investment manager and as a means of accessing capital through a contingent capital facility ("the facility").

A VIE is an entity that either has investors that lack certain essential characteristics of a controlling financial interest, such as simple majority kick-out rights, or lacks sufficient funds to finance its own activities without financial support provided by other entities. The Company performs ongoing qualitative assessments of its VIEs to determine whether the Company has a controlling financial interest in the VIE and therefore is the primary beneficiary. The Company is deemed to have a controlling financial interest when it has both the ability to direct the activities that most significantly impact the economic performance of the VIE and the obligation to absorb losses or right to receive benefits from the VIE that could potentially be significant to the VIE. Based on the Company's assessment, if it determines it is the primary beneficiary, the Company consolidates the VIE in the Company's Consolidated Financial Statements.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**3. Investments (continued)**

*Consolidated VIEs*

The following table presents the carrying value of assets and liabilities, and the maximum exposure to loss relating to the VIEs for which the Company is the primary beneficiary. Creditors have no recourse against the Company in the event of default by these VIEs nor does the Company have any implied or unfunded commitments to these VIEs. The Company's financial or other support provided to these VIEs is limited to its collateral or investment management services and original investment. Since December 31, 2015, the Company has disposed of the VIEs for which it was the primary beneficiary.

**Consolidated VIEs**

	December 31, 2016			December 31, 2015		
	Total Assets	Total Liabilities	Maximum	Total Assets	Total Liabilities	Maximum
		[1]	Exposure to Loss		[1]	Exposure to Loss
Investment funds [3]	\$ —	\$ —	\$ —	\$ 52	\$ 11	\$ 42
Limited partnerships and other alternative investments [4]	—	—	—	2	1	1
<b>Total</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 54</b>	<b>\$ 12</b>	<b>\$ 43</b>

[1] Included in other liabilities on the Company's Consolidated Balance Sheets.

[2] The maximum exposure to loss represents the maximum loss amount that the Company could recognize as a reduction in net investment income or as a realized capital loss and is the cost basis of the Company's investment.

[3] Total assets included in fixed maturities, FVO, short-term investments, and equity, AFS on the Company's Consolidated Balance Sheets.

[4] Total assets included in limited partnerships and other alternative investments on the Company's Consolidated Balance Sheets.

*Non-Consolidated VIEs*

The Company, through normal investment activities, makes passive investments in limited partnerships and other alternative investments. Upon the adoption of the new consolidation guidance discussed above, these investments are now considered VIEs. For these non-consolidated VIEs, the Company has determined it is not the primary beneficiary as it has no ability to direct activities that could significantly affect the economic performance of the investments. The Company's maximum exposure to loss as of December 31, 2016 and December 31, 2015 is limited to the total carrying value of \$859 and \$729, respectively, which are included in limited partnerships and other alternative investments in the Company's Consolidated Balance Sheets. As of December 31, 2016 and December 31, 2015, the Company has outstanding commitments totaling \$497 and \$299, respectively, whereby the Company is committed to fund these investments and may be called by the partnership during the commitment period to fund the purchase of new investments and partnership expenses. These investments are generally of a passive nature in that the Company does not take an active role in management.

In addition, the Company also makes passive investments in structured securities issued by VIEs for which the Company is not the manager and, therefore does not consolidate. These investments are included in ABS, CDOs, CMBS and RMBS in the Available-for-Sale Securities table and fixed maturities, FVO, in the Company's Consolidated Balance Sheets. The Company has not provided financial or other support with respect to these investments other than its original investment. For these investments, the Company determined it is not the primary beneficiary due to the relative size of the Company's investment in comparison to the principal amount of the structured securities issued by the VIEs, the level of credit subordination which reduces the Company's obligation to absorb losses or right to receive benefits and the Company's inability to direct the activities that most significantly impact the economic performance of the VIEs. The Company's maximum exposure to loss on these investments is limited to the amount of the Company's investment.

**Securities Lending, Repurchase Agreements and Other Collateral Transactions**

The Company enters into securities financing transactions as a way to earn income on securities loaned (securities lending) or on securities sold and repurchased (repurchase agreements). Under a securities lending program, the Company lends certain fixed maturities within the corporate, foreign government/government agencies, and municipal sectors as well as equity securities to qualifying third-party borrowers in return for collateral in the form of cash or securities. For domestic and non-domestic loaned securities, respectively, borrowers provide collateral of 102% and 105% of the fair value of the securities lent at the time of the loan. Borrowers will return the securities to the Company for cash or securities collateral at maturity dates generally of 90 days or less. Security collateral on deposit from counterparties in connection with securities lending transactions may not be sold or re-pledged, except in the event of default by the counterparty, and is not reflected on the Company's consolidated balance sheets. Additional collateral is obtained if the fair value of the collateral falls below 100% of the fair value of the loaned securities. The agreements provide the counterparty the right to sell or re-pledge the securities loaned. If cash, rather than securities, is received as collateral, the cash is typically invested in short-term investments or fixed maturities and is reported as an asset on the consolidated balance sheets. Income associated with securities lending transactions is reported as a component of net investment income on the Company's consolidated statements of operations. As of December 31, 2016, the fair value of securities on loan and the associated liability for cash collateral received was \$435 and \$420.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**3. Investments (continued)**

respectively. The Company also received securities collateral of \$26 which was not included in the Company's Consolidated Balance Sheets. As of December 31, 2015, the fair value of securities on loan and the associated liability for cash collateral received was \$15 and \$15, respectively.

From time to time, the Company enters into repurchase agreements to manage liquidity or to earn incremental spread income. A repurchase agreement is a transaction in which one party (transferor) agrees to sell securities to another party (transferee) in return for cash (or securities), with a simultaneous agreement to repurchase the same securities at a specified price at a later date. A dollar roll is a type of repurchase agreement where a mortgage backed security is sold with an agreement to repurchase substantially the same security at a specified date in the future. These transactions generally have a contractual maturity of ninety days or less.

Under repurchase agreements, the Company transfers collateral of U.S. government and government agency securities and receives cash. For repurchase agreements, the Company obtains cash in an amount equal to at least 95% of the fair value of the securities transferred. The agreements require additional collateral to be transferred when necessary and provide the counterparty the right to sell or re-pledge the securities transferred. The cash received from the repurchase program is typically invested in short-term investments or fixed maturities and is reported as an asset on the Company's consolidated balance sheets. Repurchase agreements include master netting provisions that provide both counterparties the right to offset claims and apply securities held by them with respect to their obligations in the event of a default. Although the Company has the contractual right to offset claims, fixed maturities do not meet the specific conditions for net presentation under U.S. GAAP. The Company accounts for the repurchase agreements as collateralized borrowings. The securities transferred under repurchase agreements are included in fixed maturities, AFS with the obligation to repurchase those securities recorded in other liabilities on the Company's Consolidated Balance Sheets.

As of December 31, 2016, the Company reported in fixed maturities, AFS on the Consolidated Balance Sheets financial collateral pledged relating to repurchase agreements of \$112 in fixed maturities, AFS and \$9 in cash. The Company reported a corresponding obligation to repurchase the pledged securities of \$118 in other liabilities on the Consolidated Balance Sheets. As of December 31, 2015, the Company reported in financial collateral pledged relating to repurchase agreements of \$249. The Company reported a corresponding obligation to repurchase the pledged securities of \$249 in other liabilities on the Consolidated Balance Sheets. The Company had no outstanding dollar roll transactions as of December 31, 2016 or December 31, 2015.

The Company is required by law to deposit securities with government agencies in certain states in which it conducts business. As of December 31, 2016 and 2015 the fair value of securities on deposit was approximately \$21 and \$14, respectively.

For disclosure of collateral in support of derivative transactions, refer to the Derivative Collateral Arrangements section of Note 4 - Derivative Instruments.

**Equity Method Investments**

The majority of the Company's investments in limited partnerships and other alternative investments, including hedge funds, mortgage and real estate funds, and private equity and other funds (collectively, "limited partnerships"), are accounted for under the equity method of accounting. The Company's maximum exposure to loss as of December 31, 2016 is limited to the total carrying value of \$930. In addition, the Company has outstanding commitments totaling approximately \$497, to fund limited partnership and other alternative investments as of December 31, 2016. The Company's investments in limited partnerships are generally of a passive nature in that the Company does not take an active role in the management of the limited partnerships. In 2016, aggregate investment income (losses) from limited partnerships and other alternative investments exceeded 10% of the Company's pre-tax consolidated net income. Accordingly, the Company is disclosing aggregated summarized financial data for the Company's limited partnership investments. This aggregated summarized financial data does not represent the Company's proportionate share of limited partnership assets or earnings. Aggregate total assets of the limited partnerships in which the Company invested totaled \$100.6 billion and \$82.2 billion as of December 31, 2016 and 2015, respectively. Aggregate total liabilities of the limited partnerships in which the Company invested totaled \$17.6 billion and \$14.0 billion as of December 31, 2016 and 2015, respectively. Aggregate net investment income (loss) of the limited partnerships in which the Company invested totaled \$0.9 billion, \$0.8 billion and \$3.5 billion for the periods ended December 31, 2016, 2015 and 2014, respectively. Aggregate net income of the limited partnerships in which the Company invested totaled \$7.4 billion, \$5.2 billion, and \$8.7 billion for the periods ended December 31, 2016, 2015 and 2014, respectively. As of, and for the period ended, December 31, 2016, the aggregated summarized financial data reflects the latest available financial information.

## 4. Derivatives

### Derivative Instruments

The Company utilizes a variety of OTC, OTC-cleared and exchange traded derivative instruments as a part of its overall risk management strategy as well as to enter into replication transactions. Derivative instruments are used to manage risk associated with interest rate, equity market, commodity market, credit spread, issuer default, price, and currency exchange rate risk or volatility. Replication transactions are used as an economical means to synthetically replicate the characteristics and performance of assets that are permissible investments under the Company's investment policies. The Company also may enter into and has previously issued financial instruments and products that either are accounted for as free-standing derivatives, such as certain reinsurance contracts, or as embedded derivative instruments, such as certain GMWB riders included with certain variable annuity products.

### Strategies that Qualify for Hedge Accounting

Some of the Company's derivatives satisfy hedge accounting requirements as outlined in Note 1 of these financial statements. Typically, these hedging instruments include interest rate swaps and, to a lesser extent, foreign currency swaps where the terms or expected cash flows of the hedged item closely match the terms of the swap. The interest rate swaps are typically used to manage interest rate duration of certain fixed maturity securities or liability contracts. The hedge strategies by hedge accounting designation include:

#### *Cash Flow Hedges*

Interest rate swaps are predominantly used to manage portfolio duration and better match cash receipts from assets with cash disbursements required to fund liabilities. These derivatives primarily convert interest receipts on floating-rate fixed maturity securities to fixed rates. The Company also enters into forward starting swap agreements to hedge the interest rate exposure related to the future purchase of fixed-rate securities, primarily to hedge interest rate risk inherent in the assumptions used to price certain product liabilities.

Foreign currency swaps are used to convert foreign currency-denominated cash flows related to certain investment receipts and liability payments to U.S. dollars in order to reduce cash flow fluctuations due to changes in currency rates.

#### *Fair Value Hedges*

Interest rate swaps are used to hedge the changes in fair value of fixed maturity securities due to fluctuations in interest rates. These swaps are typically used to manage interest rate duration.

### Non-qualifying Strategies

Derivative relationships that do not qualify for hedge accounting ("non-qualifying strategies") primarily include the hedge program for the Company's variable annuity products as well as the hedging and replication strategies that utilize credit default swaps. In addition, hedges of interest rate, foreign currency and equity risk of certain fixed maturities, equities and liabilities do not qualify for hedge accounting.

The non-qualifying strategies include:

#### *Interest Rate Swaps, Swaptions, and Futures*

The Company uses interest rate swaps, swaptions, and futures to manage interest rate duration between assets and liabilities in certain investment portfolios. In addition, the Company enters into interest rate swaps to terminate existing swaps, thereby offsetting the changes in value of the original swap. As of December 31, 2016 and 2015, the notional amount of interest rate swaps in offsetting relationships was \$2.7 billion and \$4.6 billion, respectively.

#### *Foreign Currency Swaps and Forwards*

Foreign currency forwards are used to hedge non-U.S. dollar denominated cash and equity securities. The Company also enters into foreign currency swaps and forwards to convert the foreign currency exposures of certain foreign currency-denominated fixed maturity investments to U.S. dollars.

#### *Fixed Payout Annuity Hedge*

The Company has obligations for certain yen denominated fixed payout annuities under an assumed reinsurance contract. The Company invests in U.S. dollar denominated assets to support the assumed reinsurance liability. The Company has in place pay U.S. dollar, receive yen swap contracts to hedge the currency and yen interest rate exposure between the U.S. dollar denominated assets and the yen denominated fixed liability reinsurance payments.

#### *Credit Contracts*

Credit default swaps are used to purchase credit protection on an individual entity or referenced index to economically hedge against default risk and credit-related changes in the value of fixed maturity securities. Credit default swaps are also used to assume credit risk related to an individual entity or referenced index as a part of replication transactions. These contracts require the Company to pay or receive a periodic fee in exchange for compensation from the counterparty should the referenced security issuers experience a credit

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

#### 4. Derivatives (continued)

event, as defined in the contract. The Company is also exposed to credit risk related to certain structured fixed maturity securities that have embedded credit derivatives, which reference a standard index of corporate securities. In addition, the Company enters into credit default swaps to terminate existing credit default swaps, thereby offsetting the changes in value of the original swap going forward.

##### *Equity Index Swaps and Options*

The Company enters into equity index options to hedge the impact of a decline in the equity markets on the investment portfolio. During 2015, the Company entered into a total return swap to hedge equity risk of specific common stock investments which were accounted for using fair value option in order to align the accounting treatment within net realized capital gains (losses). The swap matured in January 2016 and the specific common stock investments were sold at that time. In addition, the Company formerly offered certain equity indexed products that remain in force, a portion of which contain embedded derivatives that require changes in value to be bifurcated from the host contract. The Company uses equity index swaps to economically hedge the equity volatility risk associated with the equity indexed products.

##### *Commodity Contracts*

The Company has used put option contracts on oil futures to partially offset potential losses related to certain fixed maturity securities that could be impacted by changes in oil prices. These options were terminated at the end of 2015.

##### *GMWB Derivatives, net*

The Company formerly offered certain variable annuity products with GMWB riders. The GMWB product is a bifurcated embedded derivative (“GMWB product derivatives”) that has a notional value equal to the GRB. The Company uses reinsurance contracts to transfer a portion of its risk of loss due to GMWB. The reinsurance contracts covering GMWB (“GMWB reinsurance contracts”) are accounted for as free-standing derivatives with a notional amount equal to the GRB reinsured.

The Company utilizes derivatives (“GMWB hedging instruments”) as part of a dynamic hedging program designed to hedge a portion of the capital market risk exposures of the non-reinsured GMWB riders. The GMWB hedging instruments hedge changes in interest rates, equity market levels, and equity volatility. These derivatives include customized swaps, interest rate swaps and futures, and equity swaps, options and futures, on certain indices including the S&P 500 index, EAFE index and NASDAQ index. The Company retains the risk for differences between assumed and actual policyholder behavior and between the performance of the actively managed funds underlying the separate accounts and their respective indices. The following table presents notional and fair value for GMWB hedging instruments.

	Notional Amount		Fair Value	
	December 31, 2016	December 31, 2015	December 31, 2016	December 31, 2015
Customized swaps	\$ 5,191	\$ 5,877	\$ 100	\$ 131
Equity swaps, options, and futures	1,362	1,362	(27)	2
Interest rate swaps and futures	3,703	3,740	21	25
<b>Total</b>	<b>\$ 10,256</b>	<b>\$ 10,979</b>	<b>\$ 94</b>	<b>\$ 158</b>

##### *Macro Hedge Program*

The Company utilizes equity swaps, options, futures, and forwards to provide partial protection against the statutory tail scenario risk arising from GMWB and the GMDB liabilities on the Company's statutory surplus. These derivatives cover some of the residual risks not otherwise covered by the dynamic hedging program.

##### *Modified Coinsurance Reinsurance Contracts*

As of December 31, 2016 and 2015, the Company had approximately \$875 and \$895, respectively, of invested assets supporting other policyholder funds and benefits payable reinsured under a modified coinsurance arrangement in connection with the sale of the Individual Life business, which was structured as a reinsurance transaction. The assets are primarily held in a trust established by the Company. The Company pays or receives cash quarterly to settle the operating results of the reinsured business, including the investment results. As a result of this modified coinsurance arrangement, the Company has an embedded derivative that transfers to the reinsurer certain unrealized changes in fair value of investments subject to interest rate and credit risk. The notional amount of the embedded derivative reinsurance contracts are the invested assets which are carried at fair value and support the reinsured reserves.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**4. Derivatives (continued)**

**Derivative Balance Sheet Classification**

For reporting purposes, the Company has elected to offset within assets or liabilities based upon the net of the fair value amounts, income accruals, and related cash collateral receivables and payables of OTC derivative instruments executed in a legal entity and with the same counterparty under a master netting agreement, which provides the Company with the legal right of offset. The Company has also elected to offset within assets or liabilities based upon the net of the fair value amounts, income accruals and related cash collateral receivables and payables of OTC-cleared derivative instruments based on clearing house agreements. The following fair value amounts do not include income accruals or related cash collateral receivables and payables, which are netted with derivative fair value amounts to determine balance sheet presentation. Derivatives in the Company's separate accounts, where the associated gains and losses accrue directly to policyholders are not included in the table below. The Company's derivative instruments are held for risk management purposes, unless otherwise noted in the following table. The notional amount of derivative contracts represents the basis upon which pay or receive amounts are calculated and is presented in the table to quantify the volume of the Company's derivative activity. Notional amounts are not necessarily reflective of credit risk. The following tables exclude investments that contain an embedded credit derivative for which the Company has elected the fair value option. For further discussion, see the Fair Value Option section in Note 2 - Fair Value Measurements of Notes to the Consolidated Financial Statements.



**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**4. Derivatives (continued)**

Hedge Designation/ Derivative Type	Net Derivatives				Asset Derivatives		Liability Derivatives	
	Notional Amount		Fair Value		Fair Value		Fair Value	
	Dec 31, 2016	Dec 31, 2015	Dec 31, 2016	Dec 31, 2015	Dec 31, 2016	Dec 31, 2015	Dec 31, 2016	Dec 31, 2015
<b>Cash flow hedges</b>								
Interest rate swaps	\$ 1,794	\$ 1,766	\$ 7	\$ 38	\$ 9	\$ 38	\$ (2)	\$ —
Foreign currency swaps	164	143	(16)	(19)	10	7	(26)	(26)
<b>Total cash flow hedges</b>	<b>1,958</b>	<b>1,909</b>	<b>(9)</b>	<b>19</b>	<b>19</b>	<b>45</b>	<b>(28)</b>	<b>(26)</b>
<b>Fair value hedges</b>								
Interest rate swaps	—	23	—	—	—	—	—	—
<b>Total fair value hedges</b>	<b>—</b>	<b>23</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Non-qualifying strategies</b>								
<i>Interest rate contracts</i>								
Interest rate swaps and futures	2,774	4,710	(411)	(415)	249	285	(660)	(700)
<i>Foreign exchange contracts</i>								
Foreign currency swaps and forwards	382	386	36	4	36	4	—	—
Fixed payout annuity hedge	804	1,063	(263)	(357)	—	—	(263)	(357)
<i>Credit contracts</i>								
Credit derivatives that purchase credit protection	131	249	(3)	10	—	12	(3)	(2)
Credit derivatives that assume credit risk [1]	458	1,435	4	(10)	5	5	(1)	(15)
Credit derivatives in offsetting positions	1,006	1,435	(1)	(1)	16	17	(17)	(18)
<i>Equity contracts</i>								
Equity index swaps and options	100	404	—	15	33	41	(33)	(26)
<i>Variable annuity hedge program</i>								
GMWB product derivatives [2]	13,114	15,099	(241)	(262)	—	—	(241)	(262)
GMWB reinsurance contracts	2,709	3,106	73	83	73	83	—	—
GMWB hedging instruments	10,256	10,979	94	158	190	264	(96)	(106)
Macro hedge program	6,532	4,548	178	147	201	179	(23)	(32)
<i>Other</i>								
Modified coinsurance reinsurance contracts	875	895	68	79	68	79	—	—
<b>Total non-qualifying strategies</b>	<b>39,141</b>	<b>44,309</b>	<b>(466)</b>	<b>(549)</b>	<b>871</b>	<b>969</b>	<b>(1,337)</b>	<b>(1,518)</b>
<b>Total cash flow hedges, fair value hedges, and non-qualifying strategies</b>	<b>\$ 41,099</b>	<b>\$ 46,241</b>	<b>\$ (475)</b>	<b>\$ (530)</b>	<b>\$ 890</b>	<b>\$ 1,014</b>	<b>\$ (1,365)</b>	<b>\$ (1,544)</b>
<b>Balance Sheet Location</b>								
Fixed maturities, available-for-sale	\$ 121	\$ 184	\$ —	\$ (1)	\$ —	\$ —	\$ —	\$ (1)
Other investments	12,732	11,837	235	250	325	360	(90)	(110)
Other liabilities	11,498	15,071	(577)	(653)	424	492	(1,001)	(1,145)
Reinsurance recoverables	3,584	4,000	141	162	141	162	—	—
Other policyholder funds and benefits payable	13,164	15,149	(274)	(288)	—	—	(274)	(288)
<b>Total derivatives</b>	<b>\$ 41,099</b>	<b>\$ 46,241</b>	<b>\$ (475)</b>	<b>\$ (530)</b>	<b>\$ 890</b>	<b>\$ 1,014</b>	<b>\$ (1,365)</b>	<b>\$ (1,544)</b>

[1] The derivative instruments related to this strategy are held for other investment purposes.

[2] These derivatives are embedded within liabilities and are not held for risk management purposes.

**Offsetting of Derivative Assets/Liabilities**

The following tables present the gross fair value amounts, the amounts offset, and net position of derivative instruments eligible for offset in the Company's Consolidated Balance Sheets. Amounts offset include fair value amounts, income accruals and related cash collateral receivables and payables associated with derivative instruments that are traded under a common master netting agreement, as described in the preceding discussion. Also included in the tables are financial collateral receivables and payables, which are contractually permitted to be offset upon an event of default, although are disallowed for offsetting under U.S. GAAP.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**4. Derivatives (continued)**

	(i)		(ii)		(iii) = (i) - (ii)			(v) = (iii) - (iv)				
	Gross Amounts of Recognized Assets (Liabilities)		Gross Amounts Offset in the Statement of Financial Position		Net Amounts Presented in the Statement of Financial Position			Collateral Disallowed for Offset in the Statement of Financial Position				
					Derivative Assets [1] (Liabilities) [2]	Accrued Interest and Cash Collateral (Received) [3] Pledged [2]	Financial Collateral (Received) Pledged [4]	Net Amount				
<b>As of December 31, 2016</b>												
Other investments	\$	749	\$	588	\$	235	\$	(74)	\$	101	\$	60
Other liabilities		(1,091)		(396)		(577)		(118)		(655)		(40)
<b>As of December 31, 2015</b>												
Other investments	\$	852	\$	692	\$	250	\$	(90)	\$	99	\$	61
Other liabilities		(1,255)		(499)		(653)		(103)		(753)		(3)

[1] Included in other investments in the Company's Consolidated Balance Sheets.

[2] Included in other liabilities in the Company's Consolidated Balance Sheets and is limited to the net derivative receivable associated with each counterparty.

[3] Included in other investments in the Company's Consolidated Balance Sheets and is limited to the net derivative payable associated with each counterparty.

[4] Excludes collateral associated with exchange-traded derivative instruments.

**Cash Flow Hedges**

For derivative instruments that are designated and qualify as cash flow hedges, the effective portion of the gain or loss on the derivative is reported as a component of OCI and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Gains and losses on the derivative representing hedge ineffectiveness are recognized in current period earnings. All components of each derivative's gain or loss were included in the assessment of hedge effectiveness.

The following table presents the components of the gain or loss on derivatives that qualify as cash flow hedges:

	<b>Derivatives in Cash Flow Hedging Relationships</b>					
	Gain (Loss) Recognized in OCI on Derivative (Effective Portion)			Net Realized Capital Gains (Losses) Recognized in Income on Derivative (Ineffective Portion)		
	2016	2015	2014	2016	2015	2014
Interest rate swaps	\$ (16)	\$ 3	\$ 34	\$ —	\$ —	\$ 2
Foreign currency swaps	2	—	(10)	—	—	—
<b>Total</b>	<b>\$ (14)</b>	<b>\$ 3</b>	<b>\$ 24</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 2</b>

	<b>Derivatives in Cash Flow Hedging Relationships</b>			
	Gain (Loss) Reclassified from AOCI into Income (Effective Portion)			
	2016	2015	2014	
Interest rate swaps	Net realized capital gains (losses)	\$ 1	\$ (1)	\$ (1)
Interest rate swaps	Net investment income (loss)	25	33	50
Foreign currency swaps	Net realized capital gains (losses)	(2)	(9)	(13)
<b>Total</b>		<b>\$ 24</b>	<b>\$ 23</b>	<b>\$ 36</b>

As of December 31, 2016, the before-tax deferred net gains on derivative instruments recorded in AOCI that are expected to be reclassified to earnings during the next twelve months are \$13. This expectation is based on the anticipated interest payments on hedged investments in fixed maturity securities that will occur over the next twelve months, at which time the Company will recognize the deferred net gains (losses) as an adjustment to net investment income over the term of the investment cash flows. The maximum term over which the Company is hedging its exposure to the variability of future cash flows for forecasted transactions, excluding interest payments on existing variable-rate financial instruments, is approximately less than one year.

During the years ended December 31, 2016, 2015, and 2014, the Company had no net reclassifications from AOCI to earnings resulting from the discontinuance of cash-flow hedges due to forecasted transactions that were no longer probable of occurring.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

#### 4. Derivatives (continued)

##### Fair Value Hedges

For derivative instruments that are designated and qualify as fair value hedges, the gain or loss on the derivatives as well as the offsetting loss or gain on the hedged items attributable to the hedged risk are recognized in current earnings. The Company includes the gain or loss on the derivative in the same line item as the offsetting loss or gain on the hedged item. All components of each derivative's gain or loss were included in the assessment of hedge effectiveness.

For the years ended December 31, 2016, 2015, and 2014, the Company recognized in income immaterial gains and (losses) for the ineffective portion of fair value hedges related to the derivative instrument and the hedged item.

##### Non-qualifying Strategies

For non-qualifying strategies, including embedded derivatives that are required to be bifurcated from their host contracts and accounted for as derivatives, the gain or loss on the derivative is recognized currently in earnings within net realized capital gains (losses). The following table presents the gain or loss recognized in income on non-qualifying strategies:

	Non-qualifying Strategies		
	Gain (Loss) Recognized within Net Realized Capital Gains (Losses)		
	December 31,		
	2016	2015	2014
<b>Variable annuity hedge program</b>			
GMWB product derivatives	\$ 88	\$ (59)	\$ (2)
GMWB reinsurance contracts	(14)	17	4
GMWB hedging instruments	(112)	(45)	3
Macro hedge program	(163)	(46)	(11)
International program hedging instruments	—	—	(126)
<i>Total variable annuity hedge program</i>	(201)	(133)	(132)
<b>Foreign exchange contracts</b>			
Foreign currency swaps and forwards	32	5	4
Fixed payout annuity hedge	25	(21)	(148)
Japanese fixed annuity hedging instruments	—	—	22
<i>Total foreign exchange contracts</i>	57	(16)	(122)
<b>Other non-qualifying derivatives</b>			
<i>Interest rate contracts</i>			
Interest rate swaps, swaptions, and futures	(18)	(7)	(6)
<i>Credit contracts</i>			
Credit derivatives that purchase credit protection	(9)	3	(6)
Credit derivatives that assume credit risk	15	(4)	10
<i>Equity contracts</i>			
Equity index swaps and options	30	19	7
<i>Commodity contracts</i>			
Commodity options	—	(5)	—
<i>Other</i>			
GMAB and GMWB reinsurance contracts	—	—	579
Modified coinsurance reinsurance contracts	(12)	46	395
Derivative instruments formerly associated with HLIKK [1]	—	—	(2)
<i>Total other non-qualifying derivatives</i>	(12)	46	972
<b>Total [2]</b>	<b>\$ (138)</b>	<b>\$ (97)</b>	<b>\$ 723</b>

[1] These amounts relate to the termination of the hedging program associated with the Japan variable annuity product due to the sale of HLIKK.

[2] Excludes investments that contain an embedded credit derivative for which the Company has elected the fair value option. For further discussion, see the Fair Value Option section in Note 2 - Fair Value Measurements.

##### Credit Risk Assumed through Credit Derivatives

The Company enters into credit default swaps that assume credit risk of a single entity or referenced index in order to synthetically replicate investment transactions that would be permissible under the Company's investment policies. The Company will receive periodic payments based on an agreed upon rate and notional amount and will only make a payment if there is a credit event. A credit event payment will typically be equal to the notional value of the swap contract less the value of the referenced security issuer's debt obligation after the occurrence of the credit event. A credit event is generally defined as a default on contractually obligated interest or



**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**4. Derivatives (continued)**

principal payments or bankruptcy of the referenced entity. The credit default swaps in which the Company assumes credit risk primarily reference investment grade single corporate issuers and baskets, which include standard diversified portfolios of corporate and CMBS issuers. The diversified portfolios of corporate issuers are established within sector concentration limits and may be divided into tranches that possess different credit ratings.

**As of December 31, 2016**

Credit Derivative type by derivative risk exposure	Notional Amount [2]	Fair Value	Weighted Average Years to Maturity	Underlying Referenced Credit Obligation(s) [1]		Average Credit Rating	Offsetting Notional Amount [3]	Offsetting Fair Value [3]
				Type				
Single name credit default swaps								
Investment grade risk exposure	\$ 88	\$ —	3 years	Corporate Credit/ Foreign Gov.		A	\$ 45	\$ —
Below investment grade risk exposure	43	—	1 year	Corporate Credit		B-	43	—
Basket credit default swaps [4]								
Investment grade risk exposure	493	5	3 years	Corporate Credit		BBB+	225	(1)
Below investment grade risk exposure	22	2	4 years	Corporate Credit		B	22	(2)
Investment grade risk exposure	158	(2)	2 years	CMBS Credit		AA+	111	1
Below investment grade risk exposure	57	(13)	1 year	CMBS Credit		CCC	57	13
Embedded credit derivatives								
Investment grade risk exposure	100	100	Less than 1 year	Corporate Credit		A+	—	—
<b>Total [5]</b>	<b>\$ 961</b>	<b>\$ 92</b>					<b>\$ 503</b>	<b>\$ 11</b>

**As of December 31, 2015**

Credit Derivative type by derivative risk exposure	Notional Amount [2]	Fair Value	Weighted Average Years to Maturity	Underlying Referenced Credit Obligation(s) [1]		Average Credit Rating	Offsetting Notional Amount [3]	Offsetting Fair Value [3]
				Type				
Single name credit default swaps								
Investment grade risk exposure	\$ 118	\$ —	1 year	Corporate Credit/ Foreign Gov.		BBB+	\$ 115	(1)
Below investment grade risk exposure	43	(2)	2 years	Corporate Credit		CCC+	43	1
Basket credit default swaps [4]								
Investment grade risk exposure	1,265	7	4 years	Corporate Credit		BBB+	345	(2)
Investment grade risk exposure	503	(14)	6 years	CMBS Credit		AAA-	141	1
Below investment grade risk exposure	74	(13)	1 year	CMBS Credit		CCC	74	13
Embedded credit derivatives								
Investment grade risk exposure	150	148	1 year	Corporate Credit		A+	—	—
<b>Total [5]</b>	<b>\$ 2,153</b>	<b>\$ 126</b>					<b>\$ 718</b>	<b>\$ 12</b>

- [1] The average credit ratings are based on availability and are generally the midpoint of the available ratings among Moody's, S&P, Fitch and Morningstar. If no rating is available from a rating agency, then an internally developed rating is used.
- [2] Notional amount is equal to the maximum potential future loss amount. These derivatives are governed by agreements, clearing house rules and applicable law which include collateral posting requirements. There is no additional specific collateral related to these contracts or recourse provisions included in the contracts to offset losses.
- [3] The Company has entered into offsetting credit default swaps to terminate certain existing credit default swaps, thereby offsetting the future changes in value of, or losses paid related to, the original swap.
- [4] Includes \$1.8 billion as of December 31, 2016 and 2015, of notional amount on swaps of standard market indices of diversified portfolios of corporate and CMBS issuers referenced through credit default swaps. These swaps are subsequently valued based upon the observable standard market index.
- [5] Excludes investments that contain an embedded credit derivative for which the Company has elected the fair value option. For further discussion, see the Fair Value Option section in Note 2 - Fair Value Measurements.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**4. Derivatives (continued)**

**Derivative Collateral Arrangements**

The Company enters into various collateral arrangements in connection with its derivative instruments, which require both the pledging and accepting of collateral. As of December 31, 2016 and 2015, the Company pledged cash collateral associated with derivative instruments with a fair value of \$134 and \$173, respectively, for which the collateral receivable has been primarily included within other investments on the Company's Consolidated Balance Sheets. As of December 31, 2016 and 2015, the Company also pledged securities collateral associated with derivative instruments with a fair value of \$830 and \$873, respectively, which have been included in fixed maturities on the Consolidated Balance Sheets. The counterparties have the right to sell or re-pledge these securities.

As of December 31, 2016 and 2015, the Company accepted cash collateral associated with derivative instruments of \$333 and \$341, respectively, which was invested and recorded in the Consolidated Balance Sheets in fixed maturities and short-term investments with corresponding amounts recorded in other investments or other liabilities as determined by the Company's election to offset on the balance sheet. The Company also accepted securities collateral as of December 31, 2016 and 2015 with a fair value of \$107 and \$100, respectively, of which the Company has the ability to sell or repledge \$81 and \$100, respectively. As of December 31, 2016 and 2015, the Company had no repledged securities and did not sell any securities. In addition, as of December 31, 2016 and 2015, non-cash collateral accepted was held in separate custodial accounts and was not included in the Company's Consolidated Balance Sheets.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## 5. Reinsurance

The Company cedes insurance to affiliated and unaffiliated insurers to enable the Company to manage capital and risk exposure. Such arrangements do not relieve the Company of its primary liability to policyholders. Failure of reinsurers to honor their obligations could result in losses to the Company. The Company's procedures include careful initial selection of its reinsurers, structuring agreements to provide collateral funds where necessary, and regularly monitoring the financial condition and ratings of its reinsurers.

### Reinsurance Recoverables

Reinsurance recoverables include balances due from reinsurance companies and are presented net of an allowance for uncollectible reinsurance. Reinsurance recoverables include an estimate of the amount of gross losses and loss adjustment expense reserves that may be ceded under the terms of the reinsurance agreements, including incurred but not reported unpaid losses. The Company's estimate of losses and loss adjustment expense reserves ceded to reinsurers is based on assumptions that are consistent with those used in establishing the gross reserves for business ceded to the reinsurance contracts. The Company calculates its ceded reinsurance projection based on the terms of any applicable reinsurance agreements, including an estimate of how incurred but not reported losses will ultimately be ceded under reinsurance agreements. Accordingly, the Company's estimate of reinsurance recoverables is subject to similar risks and uncertainties as the estimate of the gross reserve for future policy benefits.

The Company's reinsurance recoverables are summarized as follows:

<b>Reinsurance Recoverables</b>	<b>As of December 31,</b>	
	<b>2016</b>	<b>2015</b>
Reserve for future policy benefits and other policyholder funds and benefits payable		
Sold businesses (MassMutual and Prudential)	\$ 19,363	\$ 18,993
Other reinsurers	1,362	1,506
<b>Gross reinsurance recoverables</b>	<b>\$ 20,725</b>	<b>\$ 20,499</b>

As of December 31, 2016, the Company has reinsurance recoverables from MassMutual and Prudential of \$8.6 billion and \$10.8 billion, respectively. As of December 31, 2015, the Company has reinsurance recoverables from MassMutual and Prudential of \$8.6 billion and \$10.4 billion, respectively. The Company's obligations to its direct policyholders that have been reinsured to MassMutual and Prudential are secured by invested assets held in trust. Net of invested assets held in trust, as of December 31, 2016, the Company has \$1.2 billion of reinsurance recoverables from Prudential representing approximately 15% of the Company's consolidated stockholder's equity. As of December 31, 2016, the Company has no other reinsurance-related concentrations of credit risk greater than 10% of the Company's Consolidated Stockholder's Equity.

No allowance for uncollectible reinsurance is required as of December 31, 2016 and December 31, 2015. The allowance for uncollectible reinsurance reflects management's best estimate of reinsurance cessions that may be uncollectible in the future due to reinsurers' unwillingness or inability to pay. The Company analyzes recent developments in commutation activity between reinsurers and cedants, recent trends in arbitration and litigation outcomes in disputes between reinsurers and cedants and the overall credit quality of the Company's reinsurers. Based on this analysis, the Company may adjust the allowance for uncollectible reinsurance or charge off reinsurer balances that are determined to be uncollectible. Where its contracts permit, the Company secures future claim obligations with various forms of collateral, including irrevocable letters of credit, secured trusts, funds held accounts and group-wide offsets.

Due to the inherent uncertainties as to collection and the length of time before reinsurance recoverables become due, it is possible that future adjustments to the Company's reinsurance recoverables, net of the allowance, could be required, which could have a material adverse effect on the Company's consolidated results of operations or cash flows in a particular quarter or annual period.

### Insurance Revenues

The effect of reinsurance on earned premiums, fee income and other is as follows:

	<b>Year Ended December 31,</b>		
	<b>2016</b>	<b>2015</b>	<b>2014</b>
Gross earned premiums, fee income and other	\$ 2,659	\$ 2,877	\$ 3,228
Reinsurance assumed	129	113	74
Reinsurance ceded	(1,616)	(1,801)	(2,060)
<b>Net earned premiums, fee income and other</b>	<b>\$ 1,172</b>	<b>\$ 1,189</b>	<b>\$ 1,242</b>

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**5. Reinsurance (continued)**

The cost of reinsurance related to long-duration contracts is accounted for over the life of the underlying reinsured policies using assumptions consistent with those used to account for the underlying policies. Insurance recoveries on ceded reinsurance agreements, which reduce death and other benefits, were \$1,131 , \$1,094 , and \$845 for the years ended December 31, 2016 , 2015, and 2014, respectively. In addition, the Company has reinsured a portion of the risk associated with U.S. variable annuities and the associated GMDB and GMWB riders.

The Company also maintains a reinsurance agreement with HLA, whereby the Company cedes both group life and group accident and health risk. Under this treaty, the Company ceded group life premium of \$40 , \$64 , and \$85 for the years ended December 31, 2016 , 2015, and 2014, respectively. The Company ceded accident and health premiums to HLA of \$86 , \$129 , and \$365 for the years ended December 31, 2016 , 2015, and 2014, respectively.

**6. Deferred Policy Acquisition Costs**

Changes in the DAC balance are as follows:

	For the years ended December 31,		
	2016	2015	2014
<b>Balance, beginning of period</b>	\$ 542	\$ 521	\$ 689
Deferred costs	7	7	14
Amortization — DAC	(40)	(82)	(110)
Amortization — Unlock benefit (charge), pre-tax	(74)	13	(96)
Adjustments to unrealized gains and losses on securities AFS and other	28	83	24
<b>Balance, end of period</b>	<b>\$ 463</b>	<b>\$ 542</b>	<b>\$ 521</b>



**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**7. Reserves for Future Policy Benefits and Separate Account Liabilities**

Changes in Reserves for future policy benefits are as follows:

	Universal Life-Type Contracts		Traditional Annuity and Other Contracts [2]	Total
	GMDB/GMWB [1]	Life Secondary Guarantees		
<b>Liability balance as of January 1, 2016</b>	\$ 863	\$ 2,313	\$ 10,674	\$ 13,850
Less Shadow Reserve	—	—	(211)	(211)
<b>Liability balance as of January 1, 2016, excluding shadow reserve</b>	<b>863</b>	<b>2,313</b>	<b>10,463</b>	<b>13,639</b>
Incurred [3]	37	314	671	1,022
Paid	(114)	—	(785)	(899)
<b>Liability balance as of December 31, 2016, excluding shadow reserve</b>	<b>786</b>	<b>2,627</b>	<b>10,349</b>	<b>13,762</b>
Add Shadow Reserve	—	—	238	238
<b>Liability balance as of December 31, 2016</b>	<b>\$ 786</b>	<b>\$ 2,627</b>	<b>\$ 10,587</b>	<b>\$ 14,000</b>
<b>Reinsurance recoverable asset, as of January 1, 2016</b>	<b>\$ 523</b>	<b>\$ 2,313</b>	<b>\$ 1,823</b>	<b>\$ 4,659</b>
Incurred [3]	—	314	(56)	258
Paid	(91)	—	(70)	(161)
<b>Reinsurance recoverable asset, as of December 31, 2016</b>	<b>\$ 432</b>	<b>\$ 2,627</b>	<b>\$ 1,697</b>	<b>\$ 4,756</b>

	Universal Life-Type Contracts		Traditional Annuity and Other Contracts [2]	Total Future Policy Benefits
	GMDB/GMWB [1]	Life Secondary Guarantees		
<b>Liability balance as of January 1, 2015</b>	\$ 812	\$ 2,041	\$ 10,771	\$ 13,624
Less Shadow Reserve	—	—	(265)	(265)
<b>Liability balance as of January 1, 2015, excluding shadow reserve</b>	<b>812</b>	<b>2,041</b>	<b>10,506</b>	<b>13,359</b>
Incurred [3]	163	272	741	1,176
Paid	(112)	—	(784)	(896)
<b>Liability balance as of December 31, 2015, excluding shadow reserve</b>	<b>863</b>	<b>2,313</b>	<b>10,463</b>	<b>13,639</b>
Add Shadow Reserve	—	—	211	211
<b>Liability balance as of December 31, 2015</b>	<b>\$ 863</b>	<b>\$ 2,313</b>	<b>\$ 10,674</b>	<b>\$ 13,850</b>
<b>Reinsurance recoverable asset, as of January 1, 2015</b>	<b>\$ 480</b>	<b>\$ 2,041</b>	<b>\$ 1,795</b>	<b>\$ 4,316</b>
Incurred [3]	132	272	107	511
Paid	(89)	—	(79)	(168)
<b>Reinsurance recoverable asset, as of December 31, 2015</b>	<b>\$ 523</b>	<b>\$ 2,313</b>	<b>\$ 1,823</b>	<b>\$ 4,659</b>

[1] These liability balances include all GMDB benefits, plus the life-contingent portion of GMWB benefits in excess of the return of the GRB. GMWB benefits that make up a shortfall between the account value and the GRB are embedded derivatives held at fair value and are excluded from these balances.

[2] Represents life-contingent reserves for which the company is subject to insurance and investment risk.

[3] Includes the portion of assessments established as additions to reserves as well as changes in estimates affecting the reserves.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**7. Reserves for Future Policy Benefits and Separate Account Liabilities (continued)**

The following table provides details concerning GMDB/GMWB exposure as of December 31, 2016 :

Account Value by GMDB/GMWB Type					
Maximum anniversary value ("MAV") [1]	Account Value ("AV") [8]	Net amount at Risk ("NAR") [9]	Retained Net Amount at Risk ("RNAR") [9]	Weighted Average Attained Age of Annuitant	
MAV only	\$ 13,565	\$ 2,285	\$ 350		71
With 5% rollup [2]	1,156	187	60		71
With Earnings Protection Benefit Rider ("EPB") [3]	3,436	464	75		70
With 5% rollup & EPB	467	102	22		73
<b>Total MAV</b>	<b>18,624</b>	<b>3,038</b>	<b>507</b>		
Asset Protection Benefit ("APB") [4]	10,438	172	114		69
Lifetime Income Benefit ("LIB") – Death Benefit [5]	464	6	6		70
Reset [6] (5-7 years)	2,406	13	12		70
Return of Premium ("ROP") [7] /Other	8,766	69	65		69
<b>Subtotal Variable Annuity with GMDB/GMWB [10]</b>	<b>\$ 40,698</b>	<b>\$ 3,298</b>	<b>\$ 704</b>		<b>70</b>
Less: General Account Value with GMDB/GMWB	3,773				
<b>Subtotal Separate Account Liabilities with GMDB</b>	<b>36,925</b>				
Separate Account Liabilities without GMDB	78,740				
<b>Total Separate Account Liabilities</b>	<b>\$ 115,665</b>				

[1] MAV GMDB is the greatest of current AV, net premiums paid and the highest AV on any anniversary before age 80 years (adjusted for withdrawals).

[2] Rollup GMDB is the greatest of the MAV, current AV, net premium paid and premiums (adjusted for withdrawals) accumulated at generally 5% simple interest up to the earlier of age 80 years or 100% of adjusted premiums.

[3] EPB GMDB is the greatest of the MAV, current AV, or contract value plus a percentage of the contract's growth. The contract's growth is AV less premiums net of withdrawals, subject to a cap of 200% of premiums net withdrawals.

[4] APB GMDB is the greater of current AV or MAV, not to exceed current AV plus 25% times the greater of net premiums and MAV (each adjusted for premiums in the past 12 months).

[5] LIB GMDB is the greatest of current AV; net premiums paid; or for certain contracts, a benefit amount generally based on market performance that ratchets over time.

[6] Reset GMDB is the greatest of current AV, net premiums paid and the most recent five to seven year anniversary AV before age 80 years (adjusted for withdrawals).

[7] ROP GMDB is the greater of current AV and net premiums paid.

[8] AV includes the contract holder's investment in the separate account and the general account.

[9] NAR is defined as the guaranteed benefit in excess of the current AV. RNAR represents NAR reduced for reinsurance. NAR and RNAR are highly sensitive to equity market movements and increase when equity markets decline.

[10] Some variable annuity contracts with GMDB also have a life-contingent GMWB that may provide for benefits in excess of the return of the GRB. Such contracts included in this amount have \$6.4 billion of total account value and weighted average attained age of 72 years. There is no NAR or retained NAR related to these contracts.

The account balances of contracts with guarantees were invested in variable separate accounts as follows:

Asset type	December 31, 2016		December 31, 2015	
Equity securities (including mutual funds)	\$	33,880	\$	36,970
Cash and cash equivalents		3,045		3,453
<b>Total</b>	<b>\$</b>	<b>36,925</b>	<b>\$</b>	<b>40,423</b>

As of December 31, 2016 and December 31, 2015, approximately 16% and 17% of the equity securities (including mutual funds), in the preceding table were funds invested in fixed income securities and approximately 84% and 83% were funds invested in equity securities.

For further information on guaranteed living benefits that are accounted for at fair value, such as GMWB, see Note 2 - Fair Value Measurements of Notes to Consolidated Financial Statements.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**8. Debt**

**Collateralized Advances**

The Company is a member of the Federal Home Loan Bank of Boston (“FHLBB”). Membership allows the Company access to collateralized advances, which may be used to support various spread-based business and enhance liquidity management. FHLBB membership requires the company to own member stock and advances require the purchase of activity stock. The amount of advances that can be taken are dependent on the asset types pledged to secure the advances. The CTDOI will permit the Company to pledge up to \$1.1 billion in qualifying assets to secure FHLBB advances for 2017 . The pledge limit is recalculated annually based on statutory admitted assets and capital and surplus. The Company would need to seek the prior approval of the CTDOI in order to exceed these limits. As of December 31, 2016 , the Company had no advances outstanding under the FHLBB facility.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## 9. Income Taxes

The provision (benefit) for income taxes consists of the following:

	For the years ended December 31,		
	2016	2015	2014
<b>Income Tax Expense (Benefit)</b>			
Current - U.S. Federal	\$ 2	\$ 36	\$ (339)
Deferred - U.S. Federal	72	(6)	523
<b>Total income tax expense</b>	<b>\$ 74</b>	<b>\$ 30</b>	<b>\$ 184</b>

Deferred tax assets and liabilities on the consolidated balance sheets represent the tax consequences of differences between the financial reporting and tax basis of assets and liabilities. Deferred tax assets (liabilities) include the following:

Deferred Tax Assets	As of December 31,	
	2016	2015
Tax basis deferred policy acquisition costs	\$ 101	\$ 119
Unearned premium reserve and other underwriting related reserves	6	4
Financial statement deferred policy acquisition costs and reserves	32	—
Investment-related items	135	524
Insurance product derivatives	79	90
Net operating loss carryover	1,155	1,166
Alternative minimum tax credit	232	232
Foreign tax credit carryover	40	122
Other	191	16
<b>Total Deferred Tax Assets</b>	<b>1,971</b>	<b>2,273</b>
<b>Net Deferred Tax Assets</b>	<b>1,971</b>	<b>2,273</b>
<b>Deferred Tax Liabilities</b>		
Financial statement deferred policy acquisition costs and reserves	—	(220)
Net unrealized gain on investments	(480)	(432)
Employee benefits	(54)	(40)
<b>Total Deferred Tax Liabilities</b>	<b>(534)</b>	<b>(692)</b>
<b>Net Deferred Tax Assets</b>	<b>\$ 1,437</b>	<b>\$ 1,581</b>

The Company has a current income tax receivable of \$64 and \$276 as of December 31, 2016 and 2015, respectively.

Under a separate entity approach, no current tax benefits would have been required to be recorded to equity in 2016, 2015, or 2014.

The Company believes it is more likely than not that all deferred tax assets will be fully realized. In assessing the need for a valuation allowance, management considered future taxable temporary difference reversals, future taxable income exclusive of reversing temporary differences and carryovers, taxable income in open carry back years and other tax planning strategies. From time to time, tax planning strategies could include holding a portion of debt securities with market value losses until recovery, altering the level of tax exempt securities held, making investments which have specific tax characteristics, and business considerations such as asset-liability matching.

Net deferred income taxes include the future tax benefits associated with the net operating loss carryover, alternative minimum tax credit carryover and foreign tax credit carryover as follows:

### Net Operating Loss Carryover

As of December 31, 2016 and 2015, the net deferred tax asset included the expected tax benefit attributable to net operating losses of \$3,301 and \$3,333, respectively. If unutilized, \$3,299 of the losses expire from 2023- 2029. Utilization of these loss carryovers is dependent upon the generation of sufficient future taxable income.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**9. Income Taxes (continued)**

Most of the net operating loss carryover originated from the Company's U.S. annuity business, including from the hedging program. Given the continued runoff of the U.S. fixed and variable annuity business, the exposure to taxable losses is significantly lessened. Accordingly, given the expected future ultimate parent's consolidated group earnings, the Company believes sufficient taxable income will be generated in the future to utilize its net operating loss carryover. Although the Company believes there will be sufficient future taxable income to fully recover the remainder of the loss carryover, the Company's estimate of the likely realization may change over time.

*Alternative Minimum Tax Credit and Foreign Tax Credit Carryover*

As of December 31, 2016 and 2015, the net deferred tax asset included the expected tax benefit attributable to alternative minimum tax credit carryover of \$232 and \$232 and foreign tax credit carryover of \$40 and \$122 respectively. The alternative minimum tax credits have no expiration date and the foreign tax credit carryover expire from 2020 to 2024. These credits are available to offset regular federal income taxes from future taxable income and although the Company believes there will be sufficient future regular federal taxable income, there can be no certainty that future events will not affect the ability to utilize the credits. Additionally, the use of the foreign tax credits generally depends on the generation of sufficient taxable income to first utilize all of the U.S. net operating loss carryover. However, the Company has identified and purchased certain investments which allow for utilization of the foreign tax credits without first using the net operating loss carryover. Consequently, the Company believes it is more likely than not the foreign tax credit carryover will be fully realized. Accordingly, no valuation allowance has been provided on either the alternative minimum tax carryover or foreign tax credit carryover.

The Company or one or more of its subsidiaries files income tax returns in the U.S. federal jurisdiction, and various states and foreign jurisdictions. The federal audit of the years 2012 and 2013 began in March 2015 and is expected to be completed in 2017. Management believes that adequate provision has been made in the financial statements for any potential assessments that may result from tax examinations and other tax-related matters for all open tax years.

The Company's unrecognized tax benefits are settled with the parent consistent with the terms of a tax sharing agreement. The Company's effective tax rate for the year ended December 31, 2015 reflects a \$36 net reduction in the provision for income taxes from intercompany tax settlements.

A reconciliation of the tax provision at the U.S. Federal statutory rate to the provision (benefit) for income taxes is as follows:

	<b>For the years ended December 31,</b>		
	<b>2016</b>	<b>2015</b>	<b>2014</b>
Tax provision at the U.S. federal statutory rate	\$ 125	\$ 186	\$ 301
Dividends received deduction ("DRD")	(76)	(152)	(109)
Foreign related investments	(7)	(3)	(8)
IRS audit adjustments	31	—	—
Other	1	(1)	—
<b>Provision for income taxes</b>	<b>\$ 74</b>	<b>\$ 30</b>	<b>\$ 184</b>

The separate account DRD is estimated for the current year using information from the most recent return, adjusted for current year equity market performance and other appropriate factors, including estimated levels of corporate dividend payments and level of policy owner equity account balances. The actual current year DRD can vary from estimates based on, but not limited to, changes in eligible dividends received in the mutual funds, amounts of distributions from these mutual funds, amounts of short-term capital gains at the mutual fund level and the Company's taxable income before the DRD. The Company evaluates its DRD computations on a quarterly basis.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**10. Commitments and Contingencies**

**Contingencies Relating to Corporate Litigation and Regulatory Matters**

Management evaluates each contingent matter separately. A loss is recorded if probable and reasonably estimable. Management establishes reserves for these contingencies at its "best estimate," or, if no one number within the range of possible losses is more probable than any other, the Company records an estimated liability at the low end of the range of losses.

**Litigation**

The Company is involved in claims litigation arising in the ordinary course of business with respect to life, disability and accidental death and dismemberment insurance policies and with respect to annuity contracts. The Company accounts for such activity through the establishment of reserves for future policy benefits. Management expects that the ultimate liability, if any, with respect to such ordinary-course claims litigation, after consideration of provisions made for potential losses and costs of defense, will not be material to the consolidated financial condition, results of operations or cash flows of the Company.

The Company is also involved in other kinds of legal actions, some of which assert claims for substantial amounts. Such actions have alleged, for example, bad faith in the handling of insurance claims and improper sales practices in connection with the sale of insurance and investment products. Some of these actions also seek punitive damages. Management expects that the ultimate liability, if any, with respect to such lawsuits, after consideration of provisions made for estimated losses, will not be material to the consolidated financial condition of the Company. Nonetheless, given the large or indeterminate amounts sought in certain of these actions, and the inherent unpredictability of litigation, it is possible that an adverse outcome in certain matters could, from time to time, have a material adverse effect on the Company's consolidated financial condition, results of operations or cash flows in particular quarterly or annual periods.

**Lease Commitments**

The rent paid to Hartford Fire Insurance Company ("Hartford Fire") for operating leases was \$2 , \$9 and \$7 for the years ended December 31, 2016 , 2015 and 2014 , respectively. Future minimum lease commitments as of December 31, 2016 are immaterial.

**Unfunded Commitments**

As of December 31, 2016 , the Company has outstanding commitments totaling \$645 , of which \$497 is committed to fund limited partnership and other alternative investments, which may be called by the partnership during the commitment period to fund the purchase of new investments and partnership expenses. Additionally, \$106 of the outstanding commitments relate to various funding obligations associated with private placement securities. The remaining outstanding commitments of \$42 relate to mortgage loans the Company is expecting to fund in the first half of 2017.

**Guaranty Fund and Other Insurance-related Assessments**

In all states, insurers licensed to transact certain classes of insurance are required to become members of a guaranty fund. In most states, in the event of the insolvency of an insurer writing any such class of insurance in the state, members of the funds are assessed to pay certain claims of the insolvent insurer. A particular state's fund assesses its members based on their respective written premiums in the state for the classes of insurance in which the insolvent insurer was engaged. Assessments are generally limited for any year to one or two percent of premiums written per year depending on the state.

Liabilities for guaranty funds and other insurance-related assessments are accrued when an assessment is probable, when it can be reasonably estimated, and when the event obligating the Company to pay an imposed or probable assessment has occurred. Liabilities for guaranty funds and other insurance-related assessments are not discounted and are included as part of other liabilities in the Consolidated Balance Sheets. As of December 31, 2016 and 2015 the liability balance was \$8 and \$15 , respectively. As of December 31, 2016 and 2015 was \$15 and \$27 , respectively, related to premium tax offsets was included in other assets.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**10. Commitments and Contingencies (continued)**

**Derivative Commitments**

Certain of the Company's derivative agreements contain provisions that are tied to the financial strength ratings, as set by nationally recognized statistical agencies, of the individual legal entity that entered into the derivative agreement. If the legal entity's financial strength were to fall below certain ratings, the counterparties to the derivative agreements could demand immediate and ongoing full collateralization and in certain instances enable the counterparties to terminate the agreements and demand immediate settlement of all outstanding derivative positions traded under each impacted bilateral agreement. The settlement amount is determined by netting the derivative positions transacted under each agreement. If the termination rights were to be exercised by the counterparties, it could impact the legal entity's ability to conduct hedging activities by increasing the associated costs and decreasing the willingness of counterparties to transact with the legal entity. The aggregate fair value of all derivative instruments with credit-risk-related contingent features that are in a net liability position as of December 31, 2016, was \$794. Of this \$794 the legal entities have posted collateral of \$939 in the normal course of business. In addition, the Company has posted collateral of \$31 associated with a customized GMWB derivative. Based on derivative market values as of December 31, 2016, a downgrade of one or two levels below the current financial strength ratings by either Moody's or S&P would not require additional assets to be posted as collateral. These collateral amounts could change as derivative market values change, as a result of changes in our hedging activities or to the extent changes in contractual terms are negotiated. The nature of the collateral that we post, when required, is primarily in the form of U.S. Treasury bills, U.S. Treasury notes and government agency securities.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## **11. Transactions with Affiliates**

### **Parent Company Transactions**

Transactions of the Company with Hartford Fire Insurance Company ("Hartford Fire"), Hartford Holdings Inc. ("HHI") and its affiliates relate principally to tax settlements, reinsurance, insurance coverage, rental and service fees, payment of dividends and capital contributions, and employee costs. In addition, the Company has issued structured settlement contracts to fund claims settlements of property casualty insurance companies and self-insured entities. In many cases, the structured settlement contracts are to fund claim settlements of the Company's affiliated property and casualty companies whereby these property and casualty companies transferred funds to another affiliate of the Company to purchase the contracts. As of December 31, 2016 and 2015, the Company had \$53 and \$53, respectively, of reserves for claim annuities purchased by affiliated entities. For the years ended December 31, 2016, 2015 and 2014, the Company recorded earned premiums of \$4, \$3, and \$3 for these intercompany claim annuities. Under some of the structured settlement agreements, the claimants have released The Hartford's property and casualty subsidiaries of their primary claim obligation. Reserves for annuities issued by the Company to fund structured settlement payments where the claimant has not released The Hartford's property and casualty subsidiaries of their primary obligation totaled \$711 and \$746 as of December 31, 2016 and 2015, respectively.

Substantially all general insurance expenses related to the Company, including rent and employee benefit plan expenses are initially paid by The Hartford. Expenses are allocated to the Company using specific identification if available, or other applicable methods that would include a blend of revenue, expense and capital.

The Company has issued a guarantee to retirees and vested terminated employees ("Retirees") of The Hartford Retirement Plan for U.S. Employees ("the Plan") who retired or terminated prior to January 1, 2004. The Plan is sponsored by The Hartford. The guarantee is an irrevocable commitment to pay all accrued benefits which the Retiree or the Retiree's designated beneficiary is entitled to receive under the Plan in the event the Plan assets are insufficient to fund those benefits and The Hartford is unable to provide sufficient assets to fund those benefits. The Company believes that the likelihood that payments will be required under this guarantee is remote.

In 1990, Hartford Fire guaranteed the obligations of the Company with respect to life, accident and health insurance and annuity contracts issued after January 1, 1990. The guarantee was issued to provide an increased level of security to potential purchasers of the Company's products. Although the guarantee was terminated in 1997, it still covers policies that were issued from 1990 to 1997. As of December 31, 2016 and 2015, no recoverables have been recorded for this guarantee, as the Company was able to meet these policyholder obligations.

### **Reinsurance Assumed from Affiliates**

The Company and HLAI formerly reinsured certain fixed annuity products and variable annuity product GMDB, GMIB, GMWB and GMAB riders from HLIKK, a former Japanese affiliate that was sold on June 30, 2014 to ORIX Life Insurance Corporation. Concurrent with the sale, HLIKK recaptured certain risks that had been reinsured to the Company and HLAI by terminating or modifying intercompany agreements. As a result, the Company recognized a loss on this recapture of \$213 in 2014. Upon closing, HLIKK is responsible for all liabilities of the recaptured business.

HLAI continues to provide reinsurance for yen denominated fixed payout annuities approximating \$487 and \$619 as of December 31, 2016 and 2015, respectively.

### **Reinsurance Ceded to Affiliates**

Effective August 1, 2016, the Company recaptured a reinsurance agreement with HLA, a wholly owned subsidiary of Hartford Life, Inc. whereby the Company had ceded a single group annuity contract to HLA under a 100% quota share agreement. As a result of this recapture, the Company received a return of premium of \$90 and increased reserves by \$63 resulting in a recognized pre-tax gain of approximately \$27.

The Company also maintains a reinsurance agreement with Hartford Life and Accident Insurance Company ("HLA"), a wholly-owned subsidiary of Hartford Life, Inc., whereby the Company cedes both group life and group accident and health risk. Under this treaty, the Company ceded group life premium of \$40, \$64, and \$85 for the years ended December 31, 2016, 2015, and 2014, respectively. The Company ceded accident and health premiums to HLA of \$86, \$129, and \$365 for the years ended December 31, 2016, 2015, and 2014, respectively.

Effective April 1, 2014, HLAI, terminated its modco and coinsurance with funds withheld reinsurance agreement with WRR, following receipt of approval from the CTDOI and Vermont Department of Financial Regulation. As a result, the Company recognized a gain of \$213 in the year ended December 31, 2014 resulting from the termination of derivatives associated with the reinsurance transaction.



**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**11. Transactions with Affiliates (continued)**

The impact of the modco and coinsurance with funds withheld reinsurance agreement with WRR on the Company's Consolidated Statements of Operations prior to termination in 2014 was as follows:

	<b>For the Year Ended December 31,</b>	
	<b>2014</b>	
Earned premiums	\$	(5)
Net realized losses [1]		(103)
<b>Total revenues</b>		<b>(108)</b>
Benefits, losses and loss adjustment expenses		(1)
Insurance operating costs and other expenses		(4)
<b>Total expenses</b>		<b>(5)</b>
<b>Loss before income taxes</b>		<b>(103)</b>
Income tax benefit		(36)
<b>Net loss</b>	<b>\$</b>	<b>(67)</b>

[1] Amounts represent the change in valuation of the derivative associated with this transaction.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

## 12. Statutory Results

The domestic insurance subsidiaries of the Company prepare their statutory financial statements in conformity with statutory accounting practices prescribed or permitted by the applicable state insurance department which vary materially from U.S. GAAP. Prescribed statutory accounting practices include publications of the National Association of Insurance Commissioners ("NAIC"), as well as state laws, regulations and general administrative rules. The differences between statutory financial statements and financial statements prepared in accordance with U.S. GAAP vary between domestic and foreign jurisdictions. The principal differences are that statutory financial statements do not reflect deferred policy acquisition costs and limit deferred income taxes, predominately use interest rate and mortality assumptions prescribed by the NAIC for life benefit reserves, generally carry bonds at amortized cost and present reinsurance assets and liabilities net of reinsurance. For reporting purposes, statutory capital and surplus is referred to collectively as "statutory capital".

Statutory net income and statutory capital are as follows:

	For the years ended December 31,					
	2016		2015		2014	
Combined statutory net income	\$	349	\$	371	\$	132
Statutory capital	\$	4,398	\$	4,939	\$	5,564

Statutory accounting practices do not consolidate the net income (loss) of subsidiaries that report under U.S. GAAP. The combined statutory net income above represents the total statutory net income of the Company, and its other insurance subsidiaries.

### Regulatory Capital Requirements

The Company's U.S. insurance companies' states of domicile impose risk-based capital ("RBC") requirements. The requirements provide a means of measuring the minimum amount of statutory capital appropriate for an insurance company to support its overall business operations based on its size and risk profile. Regulatory compliance is determined by a ratio of a company's total adjusted capital ("TAC") to its authorized control level RBC ("ACL RBC"). Companies below specific trigger points or ratios are classified within certain levels, each of which requires specified corrective action. The minimum level of TAC before corrective action commences ("Company Action Level") is two times the ACL RBC. The adequacy of a company's capital is determined by the ratio of a company's TAC to its Company Action Level, known as the "RBC ratio". The Company and all of its operating insurance subsidiaries had RBC ratios in excess of the minimum levels required by the applicable insurance regulations. The RBC ratios for the Company and its principal life insurance operating subsidiaries were all in excess of 400% of their Company Action Levels as of December 31, 2016 and 2015. The reporting of RBC ratios is not intended for the purpose of ranking any company, or for use in connection with any marketing, advertising or promotional activities.

### Dividends and Capital Contributions

Dividends to the Company from its insurance subsidiaries are restricted, as is the ability of the Company to pay dividends to its parent company. Future dividend decisions will be based on, and affected by, a number of factors, including the operating results and financial requirements of the Company on a stand-alone basis and the impact of regulatory restrictions.

The payment of dividends by Connecticut-domiciled insurers is limited under the insurance holding company laws of Connecticut. These laws require notice to and approval by the state insurance commissioner for the declaration or payment of any dividend, which, together with other dividends or distributions made within the preceding twelve months, exceeds the greater of (i) 10% of the insurer's policyholder surplus as of December 31 of the preceding year or (ii) net income (or net gain from operations) for the twelve-month period ending on the thirty-first day of December last preceding, in each case determined under statutory insurance accounting principles. In addition, if any dividend of a Connecticut-domiciled insurer exceeds the insurer's earned surplus, it requires the prior approval of the CTDOI.

In 2016, HLAI paid dividends of \$750 to the Company which were subsequently paid to the Company's parent.

In 2017, the Company is permitted to pay up to a maximum of \$1 billion in dividends and the Company's subsidiaries are permitted to pay up to a maximum of approximately \$345 in dividends without prior approval from the applicable insurance commissioner. However, to meet the liquidity needed to pay dividends up to the HFSG Holding Company, the Company may require receiving regulatory approval for extraordinary dividends from HLAI. On January 30, 2017, HLAI paid a dividend of \$300 to the Company which was subsequently paid as a dividend to the Company's parent.

The Company anticipates paying an additional \$300 dividends to its parent during 2017.

### Year Ended December 31, 2015

In 2015 the Company paid dividends of approximately \$1.0 billion to its parent, based on the approval of the CTDOI.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**12. Statutory Results (continued)**

The Company's subsidiaries were permitted to pay up to a maximum of approximately \$415 in dividends without prior approval from the applicable insurance commissioner. On January 29, 2016, Hartford Life and Annuity paid an extraordinary dividend of \$500 to the Company which was subsequently paid as an extraordinary dividend to HLI.

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**13. Changes in and Reclassifications From Accumulated Other Comprehensive Income**

Changes in AOCI, net of tax, by component consist of the following:

For the year ended December 31, 2016

	Changes in			
	Net Unrealized Gain on Securities	Net Gain on Cash Flow Hedging Instruments	Foreign Currency Translation Adjustments	AOCI, net of tax
Beginning balance	\$ 539	\$ 57	\$ (3)	\$ 593
OCI before reclassifications	212	(9)	—	203
Amounts reclassified from AOCI	(58)	(16)	—	(74)
OCI, net of tax	154	(25)	—	129
<b>Ending balance</b>	<b>\$ 693</b>	<b>\$ 32</b>	<b>\$ (3)</b>	<b>\$ 722</b>

For the year ended December 31, 2015

	Changes in			
	Net Unrealized Gain on Securities	Net Gain on Cash Flow Hedging Instruments	Foreign Currency Translation Adjustments	AOCI, net of tax
Beginning balance	\$ 1,154	\$ 70	\$ (3)	\$ 1,221
OCI before reclassifications	(633)	2	—	(631)
Amounts reclassified from AOCI	18	(15)	—	3
OCI, net of tax	(615)	(13)	—	(628)
<b>Ending balance</b>	<b>\$ 539</b>	<b>\$ 57</b>	<b>\$ (3)</b>	<b>\$ 593</b>

For the year ended December 31, 2014

	Changes in			
	Net Unrealized Gain on Securities	Net Gain on Cash Flow Hedging Instruments	Foreign Currency Translation Adjustments	AOCI, net of tax
Beginning balance	\$ 495	\$ 79	\$ —	\$ 574
OCI before reclassifications	660	14	(3)	671
Amounts reclassified from AOCI	(1)	(23)	—	(24)
OCI, net of tax	659	(9)	(3)	647
<b>Ending balance</b>	<b>\$ 1,154</b>	<b>\$ 70</b>	<b>\$ (3)</b>	<b>\$ 1,221</b>

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)**

**13. Changes In and Reclassifications From Accumulated Other Comprehensive Income (continued)**

Reclassifications from AOCI consist of the following:

AOCI	Amount Reclassified from AOCI			Affected Line Item in the Consolidated Statement of Operations
	For the Year Ended December 31, 2016	For the Year Ended December 31, 2015	For the Year Ended December 31, 2014	
<b>Net Unrealized Gain on Securities</b>				
Available-for-sale securities	\$ 89	\$ (27)	\$ 1	Net realized capital gains (losses)
	<b>89</b>	<b>(27)</b>	<b>1</b>	<b>Total before tax</b>
	31	(9)	—	Income tax expense
	<b>\$ 58</b>	<b>\$ (18)</b>	<b>\$ 1</b>	<b>Net income</b>
<b>Net Gains on Cash-Flow Hedging Instruments</b>				
Interest rate swaps	\$ 1	\$ (1)	\$ (1)	Net realized capital gains (losses)
Interest rate swaps	25	33	50	Net investment income
Foreign currency swaps	(2)	(9)	(13)	Net realized capital gains (losses)
	<b>24</b>	<b>23</b>	<b>36</b>	<b>Total before tax</b>
	8	8	13	Income tax expense
	<b>\$ 16</b>	<b>\$ 15</b>	<b>\$ 23</b>	<b>Net income</b>
<b>Total amounts reclassified from AOCI</b>	<b>\$ 74</b>	<b>\$ (3)</b>	<b>\$ 24</b>	<b>Net income</b>

**14 . Quarterly Results (Unaudited)**

	Three months ended							
	March 31,		June 30,		September 30,		December 31,	
	2016	2015	2016	2015	2016	2015	2016	2015
Total revenues	\$ 487	\$ 668	\$ 622	\$ 702	\$ 702	\$ 630	\$ 571	\$ 499
Total benefits, losses and expenses	478	483	474	461	610	500	464	525
Net income	28	145	118	230	79	118	57	7
Less: Net income (loss) attributable to the noncontrolling interest	—	—	—	—	—	1	—	(1)
Net income attributable to Hartford Life Insurance Company	\$ 28	\$ 145	\$ 118	\$ 230	\$ 79	\$ 117	\$ 57	\$ 8

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**SCHEDULE I**  
**SUMMARY OF INVESTMENTS—OTHER THAN INVESTMENTS IN AFFILIATES**  
*(\$ in millions)*

Type of Investment	As of December 31, 2016		
	Cost	Fair Value	Amount at which shown on Balance Sheet
<b>Fixed Maturities</b>			
Bonds and notes			
U.S. government and government agencies and authorities (guaranteed and sponsored)	\$ 3,125	\$ 3,275	\$ 3,275
States, municipalities and political subdivisions	1,098	1,189	1,189
Foreign governments	337	345	345
Public utilities	2,665	2,873	2,873
All other corporate bonds	11,012	11,820	11,820
All other mortgage-backed and asset-backed securities	4,270	4,317	4,317
<b>Total fixed maturities, available-for-sale</b>	<b>22,507</b>	<b>23,819</b>	<b>23,819</b>
Fixed maturities, at fair value using fair value option	80	82	82
<b>Total fixed maturities</b>	<b>22,587</b>	<b>23,901</b>	<b>23,901</b>
<b>Equity Securities</b>			
Common stocks			
Industrial, miscellaneous and all other	61	71	71
Non-redeemable preferred stocks	81	81	81
<b>Total equity securities, available-for-sale</b>	<b>142</b>	<b>152</b>	<b>152</b>
Equity securities, trading	10	11	11
<b>Total equity securities</b>	<b>152</b>	<b>163</b>	<b>163</b>
Mortgage loans	2,811	2,843	2,811
Policy loans	1,442	1,442	1,442
Futures, options and miscellaneous	493	282	282
Short-term investments	1,349	1,349	1,349
Investments in partnerships and trusts	930	930	930
<b>Total investments</b>	<b>\$ 29,764</b>	<b>\$ 30,878</b>	<b>\$ 30,878</b>

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**SCHEDULE IV**  
**REINSURANCE**  
*(In millions)*

	Gross Amount	Ceded to Other Companies	Assumed From Other Companies	Net Amount	Percentage of Amount Assumed to Net
<b>For the year ended December 31, 2016</b>					
Life insurance in force	\$ 284,779	\$ 213,221	\$ 558	\$ 72,116	1%
<b>Insurance revenues</b>					
Life insurance and annuities	\$ 2,524	\$ 1,527	\$ 129	\$ 1,126	11%
Accident and health insurance	135	89	—	46	—%
<b>Total insurance revenues</b>	<b>\$ 2,659</b>	<b>\$ 1,616</b>	<b>\$ 129</b>	<b>\$ 1,172</b>	<b>11%</b>
<b>For the year ended December 31, 2015</b>					
Life insurance in force	\$ 306,472	\$ 234,306	\$ 713	\$ 72,879	1%
<b>Insurance revenues</b>					
Life insurance and annuities	\$ 2,687	\$ 1,673	\$ 113	\$ 1,127	10%
Accident and health insurance	190	128	—	62	—%
<b>Total insurance revenues</b>	<b>\$ 2,877</b>	<b>\$ 1,801</b>	<b>\$ 113</b>	<b>\$ 1,189</b>	<b>10%</b>
<b>For the year ended December 31, 2014</b>					
Life insurance in force	\$ 327,772	\$ 255,185	\$ 797	\$ 73,384	1%
<b>Insurance revenues</b>					
Life insurance and annuities	\$ 2,979	\$ 1,691	\$ 74	\$ 1,362	5%
Accident and health insurance	249	369	—	(120)	—%
<b>Total insurance revenues</b>	<b>\$ 3,228</b>	<b>\$ 2,060</b>	<b>\$ 74</b>	<b>\$ 1,242</b>	<b>6%</b>

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**SCHEDULE V**  
**VALUATION AND QUALIFYING ACCOUNTS**  
*(In millions)*

	Charged to Costs and				
	Balance January 1,	Expenses	Write-offs/Payments/Other	Balance December 31,	
<b>2016</b>					
Valuation allowance on mortgage loans	\$ 19	\$ —	\$ —	\$ 19	
<b>2015</b>					
Valuation allowance on mortgage loans	\$ 15	\$ 4	\$ —	\$ 19	
<b>2014</b>					
Valuation allowance on mortgage loans	\$ 12	\$ 4	\$ (1)	\$ 15	



## 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, hereunto duly authorized.

### HARTFORD LIFE INSURANCE COMPANY

/s/ Peter F. Sannizzaro

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Peter F. Sannizzaro  
Senior Vice President, Chief Financial Officer and Principal Accounting Officer

Date: February 24, 2017

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Brion S. Johnson</u> Brion S. Johnson	President	February 24, 2017
<u>/s/ Peter F. Sannizzaro</u> Peter F. Sannizzaro	Senior Vice President, Chief Financial Officer and Principal Accounting Officer	February 24, 2017
<u>/s/ Robert Paiano</u> Robert Paiano	Senior Vice President and Director	February 24, 2017

**HARTFORD LIFE INSURANCE COMPANY AND SUBSIDIARIES**  
**FOR THE FISCAL YEAR ENDED DECEMBER 31, 2016**  
**FORM 10-K**  
**EXHIBITS INDEX**

*The exhibits attached to this Form 10-K are those that are required by Item 601 of Regulation S-K.*

<b><u>Exhibit No.</u></b>	<b><u>Description</u></b>
<b>3.01</b>	Restated Certificate of Incorporation of Hartford Life Insurance Company (the “Company”), effective April 2, 1982, as amended by Amendment No. 1, effective August 3, 1984, as amended by Amendment No. 2 effective December 31, 1996, as amended by Amendment No. 3, effective July 25, 2000 (incorporated herein by reference to Exhibit 3.01 to the Company’s Form 10-K for the fiscal year ended December 31, 2004).
<b>3.02</b>	Amended and Restated By-Laws of Hartford Life Insurance Company, effective March 15, 2013, (incorporated herein by reference to Exhibit 3.01 to the Company’s Form 10-Q for the quarterly period ended March 31, 2013).
<b>4.01</b>	Restated Certificate of Incorporation and Amended and Restated By-Laws of Hartford Life Insurance Company (incorporated by reference as indicated in Exhibits 3.01 and 3.02 hereto, respectively).
<b>10.01</b>	Intercompany Liquidity Agreement between The Hartford Financial Services Group, Inc., Hartford Life and Accident Insurance Company and certain affiliates, including Hartford Life Insurance Company, effective December 31, 2010 (incorporated by reference to Exhibit 10.1 of the Company’s Current Report on Form 8-K, filed on January 5, 2011).
<b>12.01</b>	Computation of Ratio of Earnings to Fixed Charges*
<b>23.01</b>	Consent of Deloitte & Touche LLP*
<b>31.01</b>	Certification of Brion S. Johnson, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
<b>31.02</b>	Certification of Peter F. Sannizzaro, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
<b>32.01</b>	Certification of Brion S. Johnson, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*
<b>32.02</b>	Certification of Peter F. Sannizzaro, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*
<b>101.INS</b>	XBRL Instance Document
<b>101.SCH</b>	XBRL Taxonomy Extension Schema
<b>101.CAL</b>	XBRL Taxonomy Extension Calculation Linkbase
<b>101.DEF</b>	XBRL Taxonomy Extension Definition Linkbase
<b>101.LAB</b>	XBRL Taxonomy Extension Label Linkbase
<b>101.PRE</b>	XBRL Taxonomy Extension Presentation Linkbase

\* Filed with the Securities and Exchange Commission as an exhibit to this report.

## HARTFORD LIFE INSURANCE COMPANY

COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES AND EARNINGS  
TO COMBINED FIXED CHARGES AND PREFERRED STOCK DIVIDENDS

(In millions)

	For the years Ended December 31,				
	2016	2015	2014	2013	2012
<b>EARNINGS:</b>					
Income from continuing operations, before income taxes	\$ 356	\$ 530	\$ 861	\$ 561	\$ 531
Add: Total fixed charges, before interest credited to contractholders	—	—	—	—	—
<b>Total earnings (loss), before interest credited to contractholders</b>	<b>356</b>	<b>530</b>	<b>861</b>	<b>561</b>	<b>531</b>
Interest credited to contractholders [1]	631	682	725	952	1,526
<b>Total earnings</b>	<b>\$ 987</b>	<b>\$ 1,212</b>	<b>\$ 1,586</b>	<b>\$ 1,513</b>	<b>\$ 2,057</b>
<b>FIXED CHARGES:</b>					
Interest expense	\$ —	\$ —	\$ —	\$ —	\$ —
Interest factor attributable to rentals and other	—	—	—	—	—
<b>Total fixed charges, before interest credited to contractholders</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
Interest credited to contractholders [1]	631	682	725	952	1,526
<b>Total fixed charges</b>	<b>\$ 631</b>	<b>\$ 682</b>	<b>\$ 725</b>	<b>\$ 952</b>	<b>\$ 1,526</b>
<b>RATIOS:</b>					
Total earnings to total fixed charges [2]	1.6	1.8	2.2	1.6	1.3
Deficiency of total earnings to total fixed charges [3]	\$ —	\$ —	\$ —	\$ —	\$ —
<b>Ratio before interest credited to contractholders</b>					
Total earnings to total fixed charges [2] [4]	NM	NM	NM	NM	NM

[1] Interest credited to contractholders includes interest credited on general account assets and interest credited on consumer notes.

[2] Ratios of less than one-to-one are presented as "NM" or not meaningful.

[3] Represents additional earnings that would be necessary to result in a one-to-one ratio.

[4] This secondary ratio is disclosed for the convenience of policyholders invested in the Company's general account and Consumer Note holders.

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in the following registration statements on Form S-3 of our report dated February 24, 2017 , relating to the consolidated financial statements and financial statement schedules of Hartford Life Insurance Company (the “Company”) appearing in this Annual Report on Form 10-K of Hartford Life Insurance Company for the year ended December 31, 2016 .

**Form S-3 Registration Nos.**

**333-214334**

**333-214335**

**333-214336**

**333-214337**

**333-214338**

**333-214339**

/s/ DELOITTE & TOUCHE LLP  
Hartford, Connecticut  
February 24, 2017



**HARTFORD LIFE INSURANCE COMPANY****CERTIFICATION PURSUANT TO****18 U.S.C. SECTION 1350****AS ENACTED BY SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Peter F. Sannizzaro, certify that:

1. I have reviewed this Annual Report on Form 10-K of Hartford Life Insurance Company;
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 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 controls 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 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 24, 2017

By:       /s/ Peter F. Sannizzaro

Peter F. Sannizzaro

Senior Vice President and Principal Accounting Officer

**CERTIFICATION PURSUANT TO**

**18 U.S.C. SECTION 1350**

**AS ENACTED BY SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K for the period ended December 31, 2016 of Hartford Life Insurance Company (the "Company"), filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned hereby certifies, pursuant to 18 U.S.C. section 1350 as enacted by section 906 of the Sarbanes-Oxley Act of 2002, that:

- 1) The Report fully complies with the requirements of section 13(a) or section 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.

/s/ Brion S. Johnson

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Brion S. Johnson  
President  
February 24, 2017

**CERTIFICATION PURSUANT TO**

**18 U.S.C. SECTION 1350**

**AS ENACTED BY SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K for the period ended December 31, 2016 of Hartford Life Insurance Company (the "Company"), filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned hereby certifies, pursuant to 18 U.S.C. section 1350 as enacted by section 906 of the Sarbanes-Oxley Act of 2002, that:

- 1) The Report fully complies with the requirements of section 13(a) or section 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.

/s/ Peter F. Sannizzaro

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Peter F. Sannizzaro  
Senior Vice President and Principal Accounting Officer  
February 24, 2017