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, 2019

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: 001-31911

American Equity Investment Life Holding Company
(Exact name of registrant as specified in its charter)

Iowa	**42-1447959**
(State or other jurisdiction of Incorporation)	(I.R.S. Employer Identification No.)

6000 Westown Parkway
West Des Moines, Iowa 50266
(Address of principal executive offices, including zip code)

(515) 221-0002
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $1	AEL	New York Stock Exchange
Depositary Shares, each representing a 1/1,000th interest in a share of 5.95% Fixed-Rate Reset Non-Cumulative Preferred Stock, Series A	AELPRA	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: Common Stock, par value $1

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No o

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes o No ☒

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files). Yes ☒ No o

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

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

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

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

Aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant was $2,432,845,919 based on the closing price of $27.16 per share, the closing price of the common stock on the New York Stock Exchange on June 28, 2019.

Shares of common stock outstanding as of February 19, 2020: 91,291,805

Documents incorporated by reference: Portions of the registrant's definitive proxy statement for the annual meeting of shareholders to be held June 4, 2020, which will be filed within 120 days after December 31, 2019, are incorporated by reference into Part III of this report.

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY
FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2019
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PART I

Item 1. Business

Introduction

We are a leader in the development and sale of fixed index and fixed rate annuity products. We were incorporated in the state of Iowa on December 15, 1995. We issue fixed annuity products through our wholly-owned life insurance subsidiaries, American Equity Investment Life Insurance Company ("American Equity Life"), American Equity Investment Life Insurance Company of New York and Eagle Life Insurance Company ("Eagle Life"). We have one business segment which represents our core business comprised of the sale of fixed index and fixed rate annuities. Our business strategy is focused on growing our policyholder funds and earning predictable returns by managing investment spreads and investment risk. We are licensed to sell our products in 50 states and the District of Columbia. Throughout this report, unless otherwise specified or the context otherwise requires, all references to "American Equity", the "Company", "we", "our" and similar references are to American Equity Investment Life Holding Company and its consolidated subsidiaries.

Investor related information, including periodic reports filed on Forms 10-K, 10-Q and 8-K and any amendments may be found on our website at *www.american-equity.com* as soon as reasonably practicable after such reports are filed with the Securities and Exchange Commission ("SEC"). In addition, we have available on our website our: (i) code of business conduct and ethics; (ii) audit committee charter; (iii) compensation committee charter; (iv) nominating and corporate governance committee charter and (v) corporate governance guidelines. The information incorporated herein by reference is also electronically accessible from the SEC's website at *www.sec.gov*.

Annuity Market Overview

Our target market includes the group of individuals ages 45-75 who are seeking to accumulate tax-deferred savings or create guaranteed lifetime income. We believe that significant growth opportunities exist for annuity products because of favorable demographic and economic trends. According to the U.S. Census Bureau, there were approximately 39 million Americans age 65 and older in 2010, representing 13% of the U.S. population and this group has grown to 49.2 million in 2016. By 2030, this sector of the population is expected to increase to 20% of the total population. Our fixed index and fixed rate annuity products are particularly attractive to this group due to their principal protection, competitive rates of credited interest, tax-deferred growth, guaranteed lifetime income and alternative payout options. Our competitive fixed index and fixed rate annuity products have enabled us to enjoy favorable growth in recent years and since our formation.

According to Wink's Sales and Market Report published by Wink, Inc., total industry sales of fixed index annuities increased 14% to $56.1 billion for the first nine months of 2019 from $49.3 billion for the first nine months of 2018. Total industry sales of fixed index annuities have increased 46% over the five-year period from 2014 to 2018 (data provided in the following table according to Wink's Sales and Market Report published by Wink, Inc.), which we believe is attributable to more Americans reaching retirement age and seeking products that will provide principal protection and guaranteed lifetime income.

	For the Year Ended December 31,				
	2018	2017	2016	2015	2014
	(Dollars in thousands)				
Total industry sales of fixed index annuities	$ 68,471,294	$ 53,992,850	$ 58,235,265	$ 53,069,850	$ 46,896,350
Increase (decrease) from prior year	14,478,444	(4,242,415)	5,165,415	6,173,500	8,249,486
Increase (decrease) from prior year	26.8%	(7.3)%	9.7%	13.2%	21.3%

Strategy

Key elements of executing our strategy include the following:

Expand and Enhance our Distribution Network. We currently distribute through several distribution channels, including independent agents, broker/dealers, banks and registered investment advisors. American Equity Life has relationships with 42 national marketing organizations, through which nearly 21,000 independent agents are under contract. Our objective is to improve the productivity and efficiency of our independent agent distribution channel by focusing our marketing and recruiting efforts on those independent agents capable of selling $1 million or more of annuity premium annually. We will also be alert for opportunities to establish relationships with successful national marketing organizations and agents not presently associated with us. Eagle Life has relationships with 10 third party wholesale distribution partners, through which there are 75 selling agreements and more than 8,300 representatives. Seventeen of these selling agreements are with broker/dealers affiliated with banks. We are developing our employee wholesaling force, which will be a key to our success at Eagle Life. Beginning in 2020, the majority of our third-party wholesaling partners will no longer market Eagle Life products to new accounts as new account acquisition will be handled almost entirely on an internal basis. According to Wink's Sales and Market Report published by Wink, Inc., sales of fixed index annuities through broker/dealers and banks represented 38% of industry sales in the third quarter of 2019. Eagle Life is focused solely on the broker/dealer, bank and registered investment advisor channel and is developing a network of broker/dealers, banks and registered investment advisors that have the ability to distribute fixed index and fixed rate annuity products in large volume. We also offer broker/dealer and bank friendly products for those broker/dealers and banks that choose to associate with us through American Equity Life. We continue to strive to provide all of our distribution partners with the highest quality service possible.

Continue to Introduce Innovative and Competitive Products. We intend to be at the forefront of the fixed index and fixed rate annuity industry in developing and introducing innovative and competitive products. We were one of the first companies to offer a fixed index annuity that allows a choice among interest crediting strategies including both equity and bond indices as well as a traditional fixed rate strategy. We were one of the first companies to include a lifetime income benefit rider with our fixed index annuities and the first to have a no-fee lifetime income benefit rider on certain products. We believe that our continued focus on anticipating and being responsive to the product needs of the ever-growing population of retirees will lead to increased customer loyalty, revenues and profitability.

Use our Expertise to Achieve Targeted Spreads on Annuity Products. We have had a successful track record in achieving the targeted spreads on our annuity products. This historical success has been challenged in the current extended low interest rate environment. However, we intend to continue to leverage our experience and expertise in managing the investment spread during a range of interest rate environments to achieve, or work towards achieving, our targeted spreads.

Maintain our Profitability Focus and Improve Operating Efficiency. We are committed to improving our profitability by advancing the scope and sophistication of our investment management and spread capabilities and continuously seeking out efficiencies within our operations. The expanded use of technological resources will continue to allow us to improve our processes, scalability and response times.

Take Advantage of the Growing Popularity of Index Products. We believe the growing popularity of fixed index annuity products that allow equity market participation without the risk of loss of the premium deposit presents an attractive opportunity to grow our business. The popularity of fixed index annuity products has increased in recent years with the availability of lifetime income benefit riders that provide an attractive alternative for converting accumulated retirement savings into lifetime income. We intend to capitalize on our reputation as a leading provider of fixed index annuities in this expanding segment of the annuity market.

Focus on High Quality Service to Agents and Policyholders. We have maintained high quality personal service as one of our highest priorities since our inception and continue to strive for an unprecedented level of timely and accurate service to both our agents and policyholders. Examples of our high quality service include a live person answering phone calls and issuing policies within 24 hours of receiving the application if the paperwork is in good order. We also continue to focus on technological advancements to enable us to maintain high quality digital service to agents and policyholders. Our goal is to achieve digital service on par with the high quality personal service provided by our employees. We believe high quality service is one of our strongest competitive advantages.

Be Proactive in the Changing Regulatory Environment. We have been a strong and vocal defender of our products and our industry through continued regulatory challenges and have long been an advocate for appropriate regulation. We intend to remain flexible and responsive to the ever changing regulatory environment and will continue to engage with our key regulators to ensure policyholder protections are in place and adequate while permitting continued access to our much needed retirement products.

Products

Annuities offer our policyholders a tax-deferred means of accumulating retirement savings, as well as a reliable source of income during the payout period. When our policyholders deposit cash for an annuity, we account for these receipts as policy benefit reserves in the liability section of our consolidated balance sheet. The annuity deposits collected, by product type, during the three most recent fiscal years are as follows:

	Year Ended December 31,					
	2019		2018		2017	
Product Type	**Deposits Collected**	**Deposits as a % of Total**	**Deposits Collected**	**Deposits as a % of Total**	**Deposits Collected**	**Deposits as a % of Total**
	(Dollars in thousands)					
Fixed index annuities	$ 4,705,541	95%	$ 4,221,282	96%	$ 3,966,839	95 %
Annual reset fixed rate annuities	11,444	—%	47,191	1%	74,829	2 %
Multi-year fixed rate annuities	234,226	5%	112,677	3%	110,596	3 %
Single premium immediate annuities	12,002	—%	23,813	—%	24,946	— %
	$ 4,963,213	100%	$ 4,404,963	100%	$ 4,177,210	100 %

Fixed Index Annuities

Fixed index annuities allow policyholders to earn index credits based on the performance of a particular index without the risk of loss of their account value. Most of these products allow policyholders to transfer funds once a year among several different crediting strategies, including one or more index based strategies and a traditional fixed rate strategy. Bonus products represented 76%, 81% and 87% of our net annuity account values at December 31, 2019, 2018 and 2017, respectively. The initial annuity deposit on these policies is increased at issuance by a specified premium bonus ranging from 5% to 10%. Generally, the surrender charge and bonus vesting provisions of our policies are structured such that we have comparable protection from early termination between bonus and non-bonus products.

The annuity contract value is equal to the sum of premiums paid, premium bonuses and interest credited ("index credits" for funds allocated to an index based strategy), which is based upon an overall limit (or "cap") or a percentage (the "participation rate") of the appreciation (based in certain situations on monthly averages or monthly point-to-point calculations) in a recognized index or benchmark. Caps and participation rates limit the amount of interest the policyholder may earn in any one contract year and may be adjusted by us annually subject to stated minimums. Caps generally range from 1% to 12% and participation rates range from 10% to 175%. In addition, some products have a spread or "asset fee" generally ranging from 0.75% to 5%, which is deducted from interest to be credited. For products with asset fees, if the appreciation in the index does not exceed the asset fee, the policyholder's index credit is zero. The minimum guaranteed surrender values are equal to no less than 87.5% of the premium collected plus interest credited at an annual rate ranging from 0.5% to 3%.

The initial caps and participation rates are largely a function of the cost of the call options we purchase to fund the index credits, the interest rate we can earn on invested assets acquired with new annuity deposits and the rates offered on similar products by our competitors. For subsequent adjustments to caps and participation rates, we take into account the cost of the call options we purchase to fund the index credits, yield on our investment portfolio, annuity surrender and withdrawal assumptions and crediting rate history for particular groups of annuity policies with similar characteristics.

Fixed Rate Annuities

Fixed rate deferred annuities include annual reset and multi-year rate guaranteed products ("MYGAs"). Our annual reset fixed rate annuities have an annual interest rate (the "crediting rate") that is guaranteed for the first policy year. After the first policy year, we have the discretionary ability to change the crediting rate once annually to any rate at or above a guaranteed minimum rate. Our MYGAs are similar to our annual reset products except that the initial crediting rate is guaranteed for up to seven years before it may be changed at our discretion. The minimum guaranteed rate on our annual reset fixed rate deferred annuities ranges from 1% to 4% and the initial guaranteed rate on our multi-year rate guaranteed deferred annuities ranges from 1.70% to 3.35%.

The initial crediting rate is largely a function of the interest rate we can earn on invested assets acquired with new annuity deposits and the rates offered on similar products by our competitors. For subsequent adjustments to crediting rates, we take into account the yield on our investment portfolio, annuity surrender and withdrawal assumptions and crediting rate history for particular groups of annuity policies with similar characteristics. As of December 31, 2019, crediting rates on our outstanding fixed rate deferred annuities generally ranged from 1.0% to 4.0%. The average crediting rates on our outstanding annual reset and multi-year rate guaranteed fixed rate deferred annuities at December 31, 2019 were 1.75% and 2.74%, respectively.

We also sell single premium immediate annuities ("SPIAs"). Our SPIAs provide a series of periodic payments for a fixed period of time or for life, according to the policyholder's choice at the time of issue. The amounts, frequency and length of time of the payments are fixed at the outset of the annuity contract. SPIAs are often purchased by persons at or near retirement age who desire a steady stream of payments over a future period of years.

Withdrawal Options - Fixed Index and Fixed Rate Annuities

Policyholders are typically permitted penalty-free withdrawals up to 10% of the contract value in each year after the first year, subject to limitations. Withdrawals in excess of allowable penalty-free amounts are assessed a surrender charge during a penalty period which ranges from 5 to 17 years for fixed index annuities and 5 to 15 years for fixed rate annuities from the date the policy is issued. This surrender charge initially ranges from 5% to 20% for fixed index annuities and 8% to 20% for fixed rate annuities of the contract value and generally decreases by approximately one-half to two percentage points per year during the surrender charge period. For certain policies, the premium bonus is considered in the establishment of the surrender charge percentages. For other policies, there is a vesting schedule ranging from 10 to 14 years that applies to the premium bonus and any interest earned on that premium bonus. Surrender charges and bonus vesting are set at levels aimed at protecting us from loss on early terminations and reducing the likelihood of policyholders terminating their policies during periods of increasing interest rates. This practice enhances our ability to maintain profitability on such policies. Policyholders may elect to take the proceeds of the annuity either in a single payment or in a series of payments for life, for a fixed number of years or a combination of these payment options. Information on surrender charge protection and net account values are as follows:

	December 31,		
	2019	**2018**	**2017**
	(Dollars in thousands)		
Annuity Surrender Charges:			
Average years at issue	12.7	13.2	13.4
Average years remaining	6.7	7.5	8.1
Average surrender charge percentage remaining	10.8%	12.1%	13.0%
Annuity Account Value (net of coinsurance)	$ 53,233,898	$ 51,053,450	$ 48,400,755

A significant amount of our fixed index annuity policies and many of our annual reset fixed rate deferred annuities have been issued with a lifetime income benefit rider. This rider provides an additional liquidity option to policyholders. With the lifetime income benefit rider, a policyholder can elect to receive guaranteed payments for life from their contract without requiring them to annuitize their contract value. The amount of the lifetime income benefit available is determined by the growth in the policy's income account value and the policyholder's age at the time the policyholder elects to begin receiving lifetime income benefit payments. The growth in the policy's income account value is based on the growth rate specified in the policy which ranges from 3.0% to 8.5% and the time period over which that growth rate is applied which ranges from 5 to 20 years for the majority of these policies. Generally, the time period consists of an initial period of up to 10 years and the policyholder has the option to elect to continue the time period for an additional period of up to 10 years. We have the option to either increase the rider fee or decrease the specified growth rate depending on the specifics of the policy at the time the policyholder elects to continue the time period. Lifetime income benefit payments may be stopped and restarted at the election of the policyholder. Policyholders have the choice of selecting a rider with a base level of benefit for no explicit fee or paying a fee for a rider that has a higher level of benefits, and since 2013 we have issued products where the addition of a rider to the policy is completely optional. Rider fees range from 0.15% to 1.20% of the policy's account value. The additional value to the policyholder provided by these riders through the lifetime income benefit base is not transferable to other contracts and we believe will improve the persistency of the contract.

Investments/Spread Management

Investment activities are an integral part of our business, and net investment income is a significant component of our total revenues. Profitability of our annuity products is significantly affected by spreads between interest yields on investments, the cost of options to fund the index credits on our fixed index annuities and rates credited on our fixed rate annuities and the fixed rate strategy in our fixed index annuities. We manage the index-based risk component of our fixed index annuities by purchasing call options on the applicable indices to fund the index credits on these annuities and by adjusting the caps, participation rates and asset fees on policy anniversary dates to reflect the change in the cost of such options which varies based on market conditions. All options are purchased on the respective policy anniversary dates, and new options are purchased on each of the anniversary dates to fund the next index credits. All credited rates on annual reset fixed rate deferred annuities and the fixed rate strategy in fixed index annuities may be changed annually, subject to minimum guarantees. Changes in caps, participation rates and asset fees on fixed index annuities and crediting rates on fixed rate and fixed index annuities may not be sufficient to maintain targeted investment spreads in all economic and market environments. In addition, competition and other factors, including the potential for increases in surrenders and withdrawals, may limit our ability to adjust or to maintain caps, participation rates, asset fees and crediting rates at levels necessary to avoid narrowing of spreads under certain market conditions.

For additional information regarding the composition of our investment portfolio and our interest rate risk management, see Management's Discussion and Analysis of Financial Condition and Results of Operations—Financial Condition—Investments, Quantitative and Qualitative Disclosures About Market Risk and Note 3 to our audited consolidated financial statements.

Marketing/Distribution

We market our products through a variable cost distribution network, including independent agents through national marketing organizations, broker/dealers, banks and registered investment advisors. We emphasize high quality service to our agents, distribution partners and policyholders along with the prompt payment of commissions to our agents and distribution partners. We believe this has been significant in building excellent relationships with our distribution network.

Our independent agents and agencies range in profile from national sales organizations to personal producing general agents. We actively recruit new agents and terminate those agents who have not produced business for us in recent periods and are unlikely to sell our products in the future. In our recruitment efforts, we emphasize that agents have direct access to our senior leadership, giving us an edge in recruiting over larger and foreign-owned competitors. We also emphasize our products, service and our focused fixed annuity expertise. We also have favorable relationships with our national marketing organizations, which have enabled us to efficiently sell through an expanded number of independent agents.

The independent agent distribution system is comprised of insurance brokers and marketing organizations. We are pursuing a strategy to increase the efficiency of our independent agent distribution network by strengthening our relationships with key national and regional marketing organizations and are alert for opportunities to establish relationships with organizations not presently associated with us. These organizations typically recruit agents for us by advertising our products and our commission structure through direct mail advertising or seminars for insurance agents and brokers. These organizations bear most of the cost incurred in marketing our products. We compensate marketing organizations by paying them a percentage of the commissions earned on new annuity policy sales generated by the agents recruited by such organizations. We generally do not enter into exclusive arrangements with these marketing organizations.

Agents contracted with us through two national marketing organizations accounted for approximately 38% of the annuity deposits and insurance premiums collected during 2019, and we expect these organizations to continue as marketers for American Equity Life with a focus on selling our products. The states with the largest share of direct premium collected during 2019 were: Florida (8.7%), Texas (8.0%), Pennsylvania (6.2%), California (5.6%) and Illinois (4.5%).

Eagle Life's fixed index and fixed rate annuities are distributed pursuant to selling agreements with broker/dealers, banks and registered investment advisors. Relationships with certain of these firms are facilitated by third party wholesalers who promote Eagle Life and are compensated based upon the sales of the firms that they have contracted with Eagle Life. We are developing our employee wholesaling force, which will be a key to our success at Eagle Life. Beginning in 2020, the majority of our third-party wholesaling partners will no longer market Eagle Life products to new accounts as new account acquisition will be handled almost entirely on an internal basis. American Equity Life to a lesser extent also sells through broker/dealers and we have introduced products specifically for this distribution channel.

Competition and Ratings

We operate in a highly competitive industry. Our annuity products compete with fixed index, fixed rate and variable annuities sold by other insurance companies and also with mutual fund products, traditional bank products and other investment and retirement funding alternatives offered by asset managers, banks, and broker/dealers. Our insurance products compete with products of other insurance companies, financial intermediaries and other institutions based on a number of features, including crediting rates, index options, policy terms and conditions, service provided to distribution channels and policyholders, ratings, reputation and distributor compensation.

The sales agents for our products use the ratings assigned to an insurer by independent rating agencies as one factor in determining which insurer's annuity to market. The degree to which ratings adjustments have affected and will affect our sales and persistency is unknown. Following is a summary of American Equity Life's financial strength ratings:

	Financial Strength Rating	Outlook Statement
A.M. Best Company, Inc.		
January 2011 - current	A-	Stable
S&P Global		
August 2015 - current	A-	Stable
June 2013 - August 2015	BBB+	Positive
October 2011 - June 2013	BBB+	Stable
Fitch Ratings Ltd.		
August 2019 - current	A-	Stable
September 2018 - August 2019	BBB+	Positive
May 2013 - September 2018	BBB+	Stable

Financial strength ratings generally involve quantitative and qualitative evaluations by rating agencies of a company's financial condition and operating performance. Generally, rating agencies base their ratings upon information furnished to them by the insurer and upon their own investigations, studies and assumptions. Ratings are based upon factors of concern to policyholders, agents and intermediaries and are not directed toward the protection of investors and are not recommendations to buy, sell or hold securities.

In addition to the financial strength ratings, rating agencies use an "outlook statement" to indicate a medium or long-term trend which, if continued, may lead to a rating change. A positive outlook indicates a rating may be raised and a negative outlook indicates a rating may be lowered. A stable outlook is assigned when ratings are not likely to be changed. Outlook statements should not be confused with expected stability of the insurer's financial or economic performance. A rating may have a "stable" outlook to indicate that the rating is not expected to change, but a "stable" outlook does not preclude a rating agency from changing a rating at any time without notice.

In December 2019, A.M. Best affirmed its rating outlook on the U.S. life/annuity sector as 'stable', reflecting its view that the sector is well-capitalized, liquidity positions have improved and the regulatory environment is manageable. In December 2019, Fitch changed its rating outlook on the U.S. life insurance sector to 'negative' from 'stable', reflecting its view that the continued low interest rate environment affects reserve and capital adequacy and will bleed into earnings over time and that within the long term care insurance space, statutory reserving is based on overly aggressive assumptions. In January 2020, S&P affirmed its rating outlook on the U.S. life insurance sector as 'stable', reflecting its view that insurers continue to exhibit strong capitalization and liquidity.

A.M. Best financial strength ratings currently range from "A++" (superior) to "F" (in liquidation), and include 16 separate ratings categories. Within these categories, "A++" (superior) and "A+" (superior) are the highest, followed by "A" (excellent) and "A-" (excellent) then followed by "B++" (good) and "B+" (good). Publications of A.M. Best indicate that the "A-" rating is assigned to those companies that, in A.M. Best's opinion, have demonstrated an excellent ability to meet their ongoing obligations to policyholders.

S&P financial strength ratings currently range from "AAA" (extremely strong) to "R" (under regulatory supervision), and include 21 separate ratings categories, while "NR" indicates that S&P has no opinion about the insurer's financial strength. Within these categories, "AAA" and "AA" are the highest, followed by "A" and "BBB". Publications of S&P indicate that an insurer rated "A-" is regarded as having strong financial security characteristics, but is somewhat more likely to be affected by adverse business conditions than are higher rated insurers.

Fitch financial strength ratings currently range from "AAA" (exceptionally strong) to "C" (distressed). Ratings of "BBB-" and higher are considered to be "secure," and those of "BB+" and lower are considered to be "vulnerable."

A.M. Best, S&P and Fitch review their ratings of insurance companies from time to time. There can be no assurance that any particular rating will continue for any given period of time or that it will not be changed or withdrawn entirely if, in their judgment, circumstances so warrant. If our ratings were to be negatively adjusted for any reason, we could experience a material decline in the sales of our products and the persistency of our existing business, as well as an increase in the cost of debt or equity financing.

Reinsurance

We follow the industry practice of reinsuring a portion of our annuity risks with unaffiliated reinsurers. Our reinsurance agreements play a part in managing our regulatory capital.

Coinsurance

American Equity Life has three coinsurance agreements with Athene Life Re Ltd. ("Athene"), an unauthorized life reinsurer domiciled in Bermuda. One agreement ceded 20% of certain of American Equity Life's fixed index annuities issued from January 1, 2009 through March 31, 2010. The business reinsured under this agreement is no longer eligible for recapture. The second agreement ceded 80% of American Equity Life's multi-year rate guaranteed annuities issued from July 1, 2009 through December 31, 2013 and 80% of Eagle Life's multi-year rate guaranteed annuities issued from November 20, 2013 through December 31, 2013. The business reinsured under this agreement may not be recaptured. The third agreement cedes 80% of American Equity Life's and Eagle Life's multi-year rate guaranteed annuities issued on or after January 1, 2014, 80% of Eagle Life's fixed index annuities issued prior to January 1, 2017, 50% of certain of Eagle Life's fixed index annuities issued from January 1, 2017 through December 31, 2018, 20% of certain of Eagle Life's fixed index annuities issued on or after January 1, 2019 and 80% of certain of American Equity Life's fixed index annuities issued from August 1, 2016 through December 31, 2016. The business reinsured under this agreement may not be recaptured. American Equity Life is an intermediary for reinsurance of Eagle Life's business ceded to Athene. American Equity Life and Eagle Life remain liable to policyholders with respect to the policy liabilities ceded to Athene should Athene fail to meet the obligations it has coinsured. The annuity deposits that have been ceded to Athene are secured by assets held in trusts and American Equity Life is the sole beneficiary of the trusts. The assets in the trusts are required to remain at a value that is sufficient to support the current balance of policy benefit liabilities of the ceded business on a statutory basis. If the value of the trust accounts would ever be less than the amount of the ceded policy benefit liabilities on a statutory basis, Athene is required to either establish a letter of credit or deposit securities in the trusts for the amount of any shortfall. Athene has received a financial strength rating of "A" (Excellent) with a stable outlook from A.M. Best. None of the coinsurance deposits with Athene are deemed by management to be uncollectible.

American Equity Life has two coinsurance agreements with EquiTrust Life Insurance Company ("EquiTrust"), covering 70% of certain of American Equity Life's fixed index and fixed rate annuities issued from August 1, 2001 through December 31, 2001, 40% of those contracts issued during 2002 and 2003, and 20% of those contracts issued from January 1, 2004 to July 31, 2004. The business reinsured under these agreements may not be recaptured. We remain liable to policyholders with respect to the policy liabilities ceded to EquiTrust should EquiTrust fail to meet the obligations it has coinsured. EquiTrust has received a financial strength rating of "B++" (Good) with a stable outlook from A.M. Best. None of the coinsurance deposits with EquiTrust are deemed by management to be uncollectible.

Financing Arrangements

American Equity Life has a reinsurance agreement with Hannover Life Reassurance Company of America, ("Hannover"), which is treated as reinsurance under statutory accounting practices and as a financing arrangement under U.S. generally accepted accounting principles ("GAAP"). The statutory surplus benefit under this agreement is eliminated under GAAP and the associated charges are recorded as risk charges and included in other operating costs and expenses in the consolidated statements of operations. The agreement, which replaced a previous agreement with Hannover, became effective April 1, 2019 and is a coinsurance funds withheld reinsurance agreement for statutory purposes covering 80% of lifetime income benefit rider payments in excess of policy fund values and waived surrender charges related to penalty free withdrawals on certain business. We may recapture the risks reinsured under this agreement without penalty as of the end of the accounting period in which every reinsured policy in the issue year cohort reaches its 12th anniversary date. We can elect to recapture the business by issue year cohort any time prior to the 12th anniversary date however we are subject to paying a make-whole payment to Hannover in the event of an early recapture. The agreement also makes it punitive to us if we do not recapture the business on or before the 12th anniversary of each issue year cohort.

For more information regarding reinsurance, see Note 7 to our audited consolidated financial statements. For risks involving reinsurance see "Item 1A. Risk Factors."

Regulation

Life insurance companies are subject to regulation and supervision by the states in which they transact business. State insurance laws establish supervisory agencies with broad regulatory authority, including the power to:

- grant and revoke licenses to transact business;
- regulate and supervise trade practices and market conduct;
- establish guaranty associations;
- license agents;
- approve policy forms;
- approve premium rates for some lines of business;
- establish reserve requirements;
- prescribe the form and content of required financial statements and reports;
- determine the reasonableness and adequacy of statutory capital and surplus;
- perform financial, market conduct and other examinations;
- define acceptable accounting principles for statutory reporting;
- regulate the type and amount of permitted investments; and
- limit the amount of dividends and surplus note payments that can be paid without obtaining regulatory approval.

Our life subsidiaries are subject to periodic examinations by state regulatory authorities. The Iowa Insurance Division is currently conducting financial examinations of American Equity Life and Eagle Life for the five-year period ending December 31, 2018. In addition, the New York Insurance Department is currently conducting its financial examination of American Equity Life Insurance Company of New York for the five-year period ending December 31, 2018.

In 2015, the Iowa Insurance Division completed financial examinations of American Equity Life and Eagle Life for the five-year period ending December 31, 2013. There were no adjustments to American Equity Life's or Eagle Life's statutory financial statements as a result of these examinations. In 2017, the New York Insurance Department completed its financial examination of American Equity Investment Life Insurance Company of New York for the three-year period ending December 31, 2013. There were no adjustments to American Equity Investment Life Insurance Company of New York's statutory financial statements as a result of this examination.

The payment of dividends or the distributions, including surplus note payments, by our life subsidiaries is subject to regulation by each subsidiary's state of domicile's insurance department. Currently, American Equity Life may pay dividends or make other distributions without the prior approval of the Iowa Insurance Commissioner, unless such payments, together with all other such payments within the preceding twelve months, exceed the greater of (1) American Equity Life's statutory net gain from operations for the preceding calendar year, or (2) 10% of American Equity Life's statutory surplus at the preceding December 31. For 2020, up to $349.0 million can be distributed as dividends by American Equity Life without prior approval of the Iowa Insurance Commissioner. In addition, dividends and surplus note payments may be made only out of earned surplus, and all surplus note payments are subject to prior approval by regulatory authorities. American Equity Life had $2.1 billion of statutory earned surplus at December 31, 2019.

Most states have also enacted regulations on the activities of insurance holding company systems, including acquisitions, extraordinary dividends, the terms of surplus notes, the terms of affiliate transactions and other related matters. We are registered pursuant to such legislation in Iowa. A number of state legislatures have also considered or have enacted legislative proposals that alter and, in many cases, increase the authority of state agencies to regulate insurance companies and holding company systems.

Most states, including Iowa and New York where our life subsidiaries are domiciled, have enacted legislation or adopted administrative regulations affecting the acquisition of control of insurance companies as well as transactions between insurance companies and persons controlling them. The nature and extent of such legislation and regulations currently in effect vary from state to state. However, most states require administrative approval of the direct or indirect acquisition of 10% or more of the outstanding voting securities of an insurance company incorporated in the state. The acquisition of 10% of such securities is generally deemed to be the acquisition of "control" for the purpose of the holding company statutes and requires not only the filing of detailed information concerning the acquiring parties and the plan of acquisition, but also administrative approval prior to the acquisition. In many states, the insurance authority may find that "control" in fact does not exist in circumstances in which a person owns or controls more than 10% of the voting securities.

Historically, the federal government has not directly regulated the business of insurance. However, federal legislation and administrative policies in several areas, including pension regulation, age and sex discrimination, financial services regulation, securities regulation and federal taxation can significantly affect the insurance business. Additionally, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Dodd-Frank Act") generally provides for enhanced federal supervision of financial institutions, including insurance companies in certain circumstances, and financial activities that represent a systemic risk to financial stability or the U.S. economy. Under the Dodd-Frank Act, a Federal Insurance Office has been established within the U.S. Treasury Department to monitor all aspects of the insurance industry and its authority may extend to our business, although the Federal Insurance Office is not empowered with any general regulatory authority over insurers. The director of the Federal Insurance Office serves in an advisory capacity to the Financial Stability Oversight Council ("FSOC").

State insurance regulators and the National Association of Insurance Commissioners ("NAIC") are continually reexamining existing laws and regulations and developing new legislation for passage by state legislatures and new regulations for adoption by insurance authorities. Proposed laws and regulations or those still under development pertain to insurer solvency and market conduct and in recent years have focused on:

- insurance company investments;
- risk-based capital ("RBC") guidelines, which consist of regulatory targeted surplus levels based on the relationship of statutory capital and surplus, with prescribed adjustments, to the sum of stated percentages of each element of a specified list of company risk exposures;
- suitability/best interest standard;
- the implementation of non-statutory guidelines and the circumstances under which dividends may be paid;
- principles-based reserving;
- own risk solvency and enterprise risk management assessment;
- cybersecurity assessments;
- product approvals;
- agent licensing; and
- life insurance and annuity sales practices.

The NAIC's RBC requirements are intended to be used by insurance regulators as an early warning tool to identify deteriorating or weakly capitalized insurance companies for the purpose of initiating regulatory action. The RBC formula defines a minimum capital standard which supplements low, fixed minimum capital and surplus requirements previously implemented on a state-by-state basis. Such requirements are not designed as a ranking mechanism for adequately capitalized companies.

The NAIC's RBC requirements provide for four levels of regulatory attention depending on the ratio of a company's total adjusted capital to its RBC. Adjusted capital is defined as the total of statutory capital and surplus, asset valuation reserve and certain other adjustments. Calculations using the NAIC formula at December 31, 2019, indicated that American Equity Life's ratio of total adjusted capital to the highest level at which regulatory action might be initiated was 372%.

Our life subsidiaries also may be required, under the solvency or guaranty laws of most states in which they do business, to pay assessments up to certain prescribed limits to fund policyholder losses or liabilities of insolvent insurance companies. These assessments may be deferred or forgiven under most guaranty laws if they would threaten an insurer's financial strength and, in certain instances, may be offset against future premium taxes.

Federal Income Tax

The annuity and life insurance products that we market generally provide the policyholder with a federal income tax advantage, as compared to certain other savings investments such as certificates of deposit and taxable bonds, in that federal income taxation on any increases in the contract values (i.e., the "inside build-up") of these products is deferred until it is received by the policyholder. With other savings investments, the increase in value is generally taxed each year as it is realized. Additionally, life insurance death benefits are generally exempt from income tax.

From time to time, various tax law changes have been proposed that could have an adverse effect on our business, including the elimination of all or a portion of the income tax advantage described above for annuities and life insurance. If legislation were enacted to eliminate the tax deferral for annuities, such a change would have an adverse effect on our ability to sell non-qualified annuities. Non-qualified annuities are annuities that are not sold to an individual retirement account or other qualified retirement plan.

Employees

As of December 31, 2019, we had 608 full-time employees. We have experienced no work stoppages or strikes and consider our relations with our employees to be excellent. None of our employees are represented by a union.

Item 1A. Risk Factors

We are exposed to significant financial and capital risk, including changing interest rates and credit spreads which could adversely affect our business, financial condition, results of operations and cash flows.

Future changes in interest rates and credit spreads may result in fluctuations in the income derived from our investments. These and other factors could have an adverse effect on our financial condition, results of operations or cash flows.

Interest rate and credit spread risk. Our interest rate risk is related to market price and changes in cash flow. Substantial and sustained increases and decreases in market interest rates can adversely affect the profitability of our products, our ability to earn predictable returns, the fair value of our investments and the reported value of stockholders' equity. A rise in interest rates, in the absence of other countervailing changes, will decrease the unrealized gain position of our investment portfolio. With respect to our available for sale fixed maturity securities, declines in value (net of income taxes and certain adjustments for assumed changes in amortization of deferred policy acquisition costs and deferred sales inducements) reduce our reported stockholders' equity and book value per share.

If interest rates rise dramatically within a short period of time, our business may be exposed to disintermediation risk. Disintermediation risk is the risk that our policyholders may surrender all or part of their contracts in a rising interest rate environment, which may require us to sell assets in an unrealized loss position. Alternatively, we may increase crediting rates to retain business and reduce the level of assets that may need to be sold at a loss. However, such action would reduce our investment spread and net income.

Sustained declines in long-term interest rates may result in increased redemptions of our fixed maturity securities that are subject to call redemption prior to maturity by the issuer or prepayments of commercial mortgage loans and expose us to reinvestment risk. If we are unable to reinvest the proceeds from such redemptions into investments with credit quality and yield characteristics of the redeemed or prepaid investments, our net income and overall financial performance may be adversely affected. We have a certain ability to mitigate this risk by lowering crediting rates on our products subject to certain restrictions as discussed below.

Our exposure to credit spreads is related to market price and changes in cash flows related to changes in credit spreads. If credit spreads widen significantly it could result in greater investment income on new investments but would also indicate growing concern about the ability of credit issuers to service their debt which could result in additional other than temporary impairments. If credit spreads tighten significantly it could result in reduced net investment income from new purchases of fixed maturity securities or funding of commercial mortgage loans.

Credit risk. We are subject to the risk that the issuers of our fixed maturity securities and other debt securities and borrowers on our commercial mortgages will default on principal and interest payments, particularly if a major downturn in economic activity occurs. An increase in defaults on our fixed maturity securities and commercial mortgage loan portfolios could harm our financial strength and reduce our profitability.

Credit and cash flow assumption risk is the risk that issuers of securities, mortgagees on mortgage loans or other parties, including derivatives counterparties, default on their contractual obligations or experience adverse changes to their contractual cash flow streams. We attempt to minimize the adverse impact of this risk by monitoring portfolio diversification and exposure by asset class, creditor, industry, and by complying with investment limitations governed by state insurance laws and regulations as applicable. We also consider all relevant objective information available in estimating the cash flows related to residential and commercial mortgage backed securities.

We use derivative instruments to fund the index credits on our fixed index annuities. We purchase derivative instruments, consisting primarily of one-year call options, from a number of counterparties. Our policy is to acquire such options only from counterparties rated "A-"or better by a nationally recognized rating agency and the maximum credit exposure to any single counterparty is subject to concentration limits. In addition, we have entered into credit support agreements with our counterparties which allow us to require our counterparties to post collateral to secure their obligations to us under the derivative instruments. If our counterparties fail to honor their obligations under the derivative instruments, our revenues may not be sufficient to fund the index credits on our fixed index annuities. Any such failure could harm our financial strength and reduce our profitability.

Liquidity risk. We could have difficulty selling certain investments such as privately placed securities, below investment grade securities, certain structured securities and mortgage loans because they are less liquid than our publicly traded securities. If we require significant amounts of cash on short notice, we may have difficulty selling these securities and loans at attractive prices or in a timely manner, or both.

Fluctuations in interest rates and investment spread could adversely affect our business, financial condition, results of operations and cash flows.

A key component of our net income is investment spread. A narrowing of investment spreads may adversely affect operating results. Although we have the right to adjust interest crediting rates (caps, participation or asset fee rates for fixed index annuities) on most products, changes to crediting rates may not be sufficient to maintain targeted investment spreads in all economic and market environments. In general, our ability to lower crediting rates is subject to minimum crediting rates filed with and approved by state regulators. In addition, competition and other factors, including the potential for increases in surrenders and withdrawals, may limit our ability to adjust or maintain crediting rates at levels necessary to avoid the narrowing of spreads under certain market conditions. Our policy structure generally provides for resetting of policy crediting rates at least annually and imposes withdrawal penalties for withdrawals during the first 5 to 17 years a policy is in force.

We manage the index-based risk component of our fixed index annuities by purchasing call options on the applicable indices to fund the annual index credits on these annuities and by adjusting the caps, participation rates and asset fees on policy anniversary dates to reflect changes in the cost of such options which varies based on market conditions. The price of certain options generally increases with increases in the volatility of both the options and interest rates, which may either narrow the spread or cause us to lower caps or participation rates. Thus, the volatility of the cost of the options adds an additional degree of uncertainty to the profitability of fixed index products. We attempt to mitigate this risk by resetting caps, participation rates and asset fees annually on the policy anniversaries.

Persistent environment of low interest rates may adversely affect our business, financial condition, results of operations and cash flows.

Prolonged periods of low interest rates may have a negative impact on our ability to sell our fixed index annuities as consumers look for other financial instruments with potentially higher returns to fund retirement. In times of low interest rates, such as we have been experiencing since 2010 and which we may continue to experience in 2020, it is difficult to offer attractive rates and benefits to customers while maintaining profitability, which may limit sales growth of interest sensitive products.

Sustained declines in interest rates may subject us to lower returns on our invested assets, and we have had to and may have to continue to invest the cash we receive from premiums and interest or return of principal on our investments in instruments with yields less than those we currently own. This may reduce our future net investment income and compress the spread on our annuity products. Further, borrowers may prepay fixed maturity securities and commercial mortgage loans in order to borrow at lower market rates. Any related prepayment fees are recorded in net investment income and may create income statement volatility.

An environment of rising interest rates may adversely affect our business, financial condition, results of operations and cash flows.

Periods of rising interest rates may cause increased policy surrenders and withdrawals as policyholders seek financial instruments with higher returns, commonly referred to as disintermediation. This may lead to net cash outflows and the resulting liquidity demands may require us to sell investment assets when the prices of those assets are adversely affected by the increase in interest rates, which may result in realized investment losses. Further, a portion of our investment portfolio consists of privately placed securities, below investment grade securities, structured securities and commercial mortgage loans, which are relatively illiquid, thus increasing our liquidity risk in the event of disintermediation. We may also be required to accelerate the amortization of deferred policy acquisition costs and deferred sales inducements related to surrendered contracts, which would adversely affect our results of operations.

During such times, we may offer higher crediting rates on new sales of annuity products and increase crediting rates on existing annuity products to maintain or enhance product competitiveness. We may not be able to purchase enough higher yielding assets necessary to fund higher crediting rates and maintain our desired spread, which could result in lower profitability on our business. Alternatively, if we seek to maintain profitability of our products in rising interest rate environments it may be difficult to position our products to offer attractive rates and benefits to customers which may limit sales growth of interest sensitive products.

Our valuation of fixed maturity securities may include methodologies, estimates and assumptions which are subject to differing interpretations and could result in changes to investment valuations that may adversely affect our financial condition and results of operations.

Fixed maturity securities are reported at fair value in our consolidated balance sheets. During periods of market disruption including periods of significantly rising or high interest rates, rapidly widening credit spreads or illiquidity, it may be difficult to value certain of our securities if trading becomes less frequent and/or market data becomes less observable. Prices provided by independent pricing services or independent broker quotes that are used in the determination of fair value can vary significantly for a particular security. There may be certain asset classes that were in active markets with significant observable data that become illiquid due to changes in the financial environment. As such, valuations may include inputs and assumptions that are less observable or require greater judgment as well as valuation methods that require greater judgment. Further, rapidly changing and unprecedented credit conditions could negatively impact the valuation of securities as reported in our consolidated financial statements and the period-to-period changes in value could vary significantly. Decreases in value may have an adverse effect on our results of operations or financial condition.

Defaults on commercial mortgage loans and volatility in performance may adversely affect our business, financial condition, results of operations and cash flows.

Commercial mortgage loans have the potential to face heightened delinquency and default risk depending on economic conditions which could have a negative impact on the performance of the underlying collateral, resulting in declining values and an adverse impact on the obligors of such instruments. An increase in the default rate of our commercial mortgage loan investments could have an adverse effect on our business, financial condition, results of operations and cash flows.

In addition, the carrying value of commercial mortgage loans is negatively impacted by such factors. The carrying value of commercial mortgage loans is stated as outstanding principal less any loan loss allowances recognized. Considerations in determining allowances include, but are not limited to, the following: (i) declining debt service coverage ratios and increasing loan to value ratios; (ii) bankruptcy filings of major tenants or affiliates of the borrower on the property; (iii) catastrophic events at the property; and (iv) other subjective events or factors, including whether the terms of the debt will be restructured. There can be no assurance that management's assessment of loan loss allowances on commercial mortgage loans will not change in future periods, which could lead to investment losses.

Our securities lending program subjects us to potential liquidity and other risks.

We have a securities lending program whereby we loan certain securities to approved borrowers. Securities are lent to borrowers, through a lending agent, on an overnight or, with our prior approval, a term basis. Borrowers post cash collateral in an amount equal to or greater than 102% of the security’s market value which is invested by the lending agent in money market funds or repurchase agreements meeting investment guidelines approved by us. We retain control of all loaned securities and receive all principal and interest payments that would normally be paid to us if we did not lend the securities.

Our securities lending program exposes us to liquidity, counterparty and spread risks. Counterparty risk is mitigated by over-collateralization requirements, daily mark to market, and indemnification by the lending agent for shortfalls in collateral in the event of borrower default. The lending agent monitors spread risk to ensure that the interest rate paid by us to borrowers does not exceed the rate of return on cash collateral investments. We regularly monitor the overall securities lending program, including the lending agent, borrowers, and the appropriateness of cash collateral investments.

Equity market volatility could adversely impact our business, financial condition and results of operations.

Equity market volatility could adversely affect our profitability in various ways, particularly as a result of the lifetime income benefit riders attached to a majority of our policies. The liability for lifetime income benefit riders incorporates assumptions about the overall performance of equity markets over the estimated lives of the policies. Periods of equity market performance that are lower than our expectations could result in an increase in the portion of the liability for lifetime income benefit riders associated with such policies that is not funded by growth in the policy account value which could result in a reduction in our net income. In addition, periods of equity market performance that are lower than our expectations could result in accelerating the amortization of expenses we deferred in connection with the acquisition of the policies.

Conditions in the U.S. and global capital markets and economies could deteriorate in the near future and adversely affect our business, financial condition, results of operations and cash flows.

Our business is affected by conditions in the U.S. and global capital markets and economies. Future economic downturn or market disruption could negatively impact our ability to invest funds. Specifically, if market conditions deteriorate in 2020 or beyond:

- our investment portfolio could incur additional other than temporary impairments;
- our commercial mortgage loans could experience a greater amount of loss;
- due to potential downgrades in our investment portfolio, we could be required to raise additional capital to sustain our current business in force and new sales of our annuity products, which may be difficult in a distressed market. If capital would be available, it may be at terms that are not favorable to us;
- we may be required to limit growth in sales of our annuity products; and/or
- our liquidity could be negatively affected and we could be forced to limit our operations and our business could suffer, as we need liquidity to pay our policyholder benefits, operating expenses, dividends on our capital stock, and to service our debt obligations.

The principal sources of our liquidity are annuity deposits, investment income and proceeds from the sale, maturity and call of investments. Sources of additional capital in normal markets include the issuance of short and long-term instruments, including equity, debt or other types of securities.

We face competition from companies that have greater financial resources, broader arrays of products and higher ratings, which may limit our ability to retain existing customers, attract new customers and maintain our profitability and financial strength.

We operate in a highly competitive industry. Many of our competitors are substantially larger and enjoy substantially greater financial resources, higher ratings by rating agencies, broader and more diversified product lines and more widespread agency relationships. Our annuity products compete with fixed index, fixed rate and variable annuities sold by other insurance companies and also with mutual fund products, traditional bank products and other retirement funding alternatives offered by asset managers, banks and broker/dealers. Our insurance products compete with those of other insurance companies, financial intermediaries and other institutions based on a number of factors, including caps, participation rates and crediting rates, policy terms and conditions, service provided to distributors and policyholders, ratings by rating agencies, reputation and distributor compensation.

Our ability to compete depends in part on returns and other benefits we make available to our policyholders through our annuity contracts. We will not be able to accumulate and retain assets under management for our products if our investment results underperform the market or the competition, since such underperformance likely would result in lower rates to policyholders which could lead to withdrawals and reduced sales.

Our ability to compete also depends on financial strength ratings we receive from rating agencies. A ratings downgrade, or the potential for a ratings downgrade, could have a number of adverse effects on our business. For example, distributors and sales agents for annuity products use the ratings as one factor in determining which insurer's annuities to market. A ratings downgrade could cause those distributors and agents to seek alternative carriers.

We compete for distribution sources for our products. We believe that our success in competing for distributors depends on our financial strength, the services we provide to and the relationships we develop with these distributors, as well as offering competitive commission structures. Our distributors are generally free to sell products from whichever providers they wish, which makes it important for us to continually offer distributors products and services they find attractive. If our products or services fall short of distributors' needs, we may not be able to establish and maintain satisfactory relationships with distributors of our products. Our ability to compete in the past has also depended in part on our ability to develop innovative new products. In order for us to compete in the future, we will need to continue to bring innovative products to market in a timely fashion. Otherwise, our revenues and profitability could suffer.

Our reinsurance program involves risks because we remain liable with respect to the liabilities ceded to reinsurers if the reinsurers fail to meet the obligations assumed by them.

Our life insurance subsidiaries cede certain policies to other insurance companies through reinsurance agreements. American Equity Life has three coinsurance agreements with Athene covering $4.6 billion of policy benefit reserves at December 31, 2019 and two coinsurance agreements with EquiTrust covering $0.5 billion of policy benefit reserves at December 31, 2019. Since Athene is an unauthorized reinsurer, the annuity deposits ceded to Athene are secured by assets held in trusts and American Equity Life is the sole beneficiary of the trusts. The assets in the trusts are required to remain at a value that is sufficient to support the current balance of policy benefit liabilities of the ceded business on a statutory basis. If the value of the assets in the trusts would ever be less than the amount of the ceded policy benefit liabilities on a statutory basis, Athene is required to either establish a letter of credit or deposit securities in the trusts for the amount of any shortfall. The annuity deposits ceded to Equitrust are not secured and in the event of an insolvency of Equitrust acting as a reinsurer, our claims would be subordinated to those of Equitrust's policyholders. We remain liable with respect to the policy liabilities ceded to EquiTrust and Athene should either fail to meet the obligations assumed by them.

In addition, we have entered into other types of reinsurance contracts including financing arrangements. Should any of these reinsurers fail to meet the obligations assumed under such contracts, we remain liable with respect to the statutory liabilities ceded. If American Equity Life was forced to recapture any significant blocks of business ceded as a result of a reinsurer being unable or unwilling to perform under the applicable agreement, it may face a shortfall in capital to support the recaptured business resulting in a potential decline in its RBC ratio, exposure to a ratings downgrade or other negative effects.

No assurances can be made that reinsurance will remain continuously available to us to the same extent and on the same terms as are currently available. If we were unable to maintain our current level of reinsurance or purchase new reinsurance protection in amounts that we consider sufficient and at prices that we consider acceptable, we would have to accept an increase in our net liability exposure or a decrease in our statutory surplus, reduce the amount of business we write or develop other alternatives to reinsurance. If we are unable to maintain our current level of reinsurance, the decrease in statutory surplus of American Equity Life could be material to its capital position which may result in a potential decline in its RBC ratio, exposure to a ratings downgrade or other negative effects.

We may experience volatility in net income due to the application of fair value accounting to our derivatives.

All of our derivative instruments and derivatives embedded in other contracts are recognized in the balance sheet at their fair values and changes in fair value are recognized immediately in earnings. This impacts certain revenues and expenses we report for our fixed index annuity business as follows:

- We must present the call options purchased to fund the index credits on our fixed index annuity products at fair value. The fair value of the call options is based upon the amount of cash that would be required to settle the call options obtained from the counterparties adjusted for the nonperformance risk of the counterparty. We record the change in fair value of these options as a component of our revenues. The change in fair value of derivatives includes the gains or losses recognized at expiration of the option term and changes in fair value for open positions.
- The contractual obligations for future index credits are treated as a "series of embedded derivatives" over the expected life of the applicable contracts. Increases or decreases in the fair value of embedded derivatives generally correspond to increases or decreases in equity market performance and changes in the interest rates used to discount the excess of the projected policy contract values over the projected minimum guaranteed contract values. We record the change in fair value of these embedded derivatives as a component of our benefits and expenses in our consolidated statements of operations.

The application of fair value accounting for derivatives and embedded derivatives in future periods to our fixed index annuity business may cause substantial volatility in our reported net income.

Our financial condition and results of operations depend on the accuracy of management assumptions and estimates.

Assumptions and estimates are made regarding expenses and interest rates, tax liability, contingent liabilities, investment performance and other factors related to our business and anticipated results. We rely on these assumptions and estimates when determining period end accruals, future earnings and various components of our consolidated balance sheet. All assumptions and estimates utilized incorporate many factors, none of which can be predicted with certainty. Our actual experience, as well as changes in estimates, are used to prepare our consolidated statement of operations. To the extent our actual experience and changes in estimates differ from original estimates, our results of operations and financial condition could be adversely affected.

The calculations we use to estimate various components of our consolidated balance sheet and consolidated statement of operations are necessarily complex and involve analyzing and interpreting large quantities of data. The assumptions and estimates required for these calculations involve judgment and by their nature are imprecise and subject to changes and revisions over time. Accordingly, our results may be adversely affected from time to time by actual results differing from assumptions, by changes in estimates and by changes resulting from implementing more sophisticated valuation systems and procedures that facilitate the calculation of more precise estimates.

We may face unanticipated losses if there are significant deviations from our assumptions regarding the probabilities that our annuity contracts will remain in force from one period to the next and our assumptions regarding policyholders' utilization of lifetime income benefit riders.

The expected profitability of our annuity products is based in part upon expected patterns of expenses and benefits using a number of assumptions, including those related to the probability that a policy will remain in force, or persistency, and mortality. Since no insurer can precisely determine persistency or mortality, actual results could differ significantly from assumptions, and deviations from estimates and assumptions could have an adverse effect on our business, financial condition or results of operations. For example, actual persistency that is lower than our assumptions could have an adverse impact on future profitability, especially in the early years of a policy primarily because we would be required to accelerate the amortization of expenses we deferred in connection with the acquisition of the policy.

In addition, we set initial crediting rates for our annuity products based upon expected benefit payments using assumptions for, among other factors, mortality rates of our policyholders. The long-term profitability of these products depends upon how our actual experience compares with our pricing assumptions. For example, if mortality rates are lower than our pricing assumptions, we could be required to make more payments under certain annuity contracts than what we had projected.

In determining the liability from period to period of our lifetime income benefit riders, we must make significant assumptions such as expected index credits, the age when a policyholder may begin to utilize the rider and the number of policyholders that may not utilize the rider at all. Changes in these assumptions can be significant. Accordingly, our results of operations could be adversely affected from time to time by actual index credits being different than expected, actual policyholder behavior varying from what we have assumed in determining the liability associated with these riders and by changes in estimates based on this policyholder behavior.

If our estimated gross profits decrease significantly from initial expectations we may be required to expense our deferred policy acquisition costs and deferred sales inducements in an accelerated manner, which would reduce our profitability.

Deferred policy acquisition costs are costs that vary with and primarily relate to the successful acquisition of new business. Deferred sales inducements are contract enhancements such as first-year premium and interest bonuses that are credited to policyholder account balances. These costs are capitalized when incurred and are amortized over the expected life of the contracts. Current amortization of these costs is generally in proportion to estimated gross profits from interest margins and, to a lesser extent, from surrender charges and rider fees. Unfavorable experience with regard to expected expenses, investment returns, mortality or withdrawals may cause acceleration of the amortization of these costs resulting in an increase of expenses and lower profitability.

If we do not manage our growth effectively, our business, financial condition and results of operations could be adversely affected; our historical growth rates may not be indicative of our future growth.

We have experienced rapid growth since our formation in December 1995. We intend to continue to grow and further growth will impose significant added responsibilities on our management, including the need to identify, recruit, maintain and integrate additional employees, including management. There can be no assurance that we will be successful in expanding our business or that our systems, procedures and controls will be adequate to support our operations as they expand. In addition, due to our rapid growth and resulting increased size, it may be necessary to expand the scope of our investing activities to asset classes in which we historically have not invested or have not had significant exposure. If we are unable to adequately manage our investments in these classes, our financial condition or operating results in the future could be less favorable than in the past. Further, we have utilized reinsurance in the past to support our growth. The future availability and cost of reinsurance is uncertain. Our failure to manage growth effectively, or our inability to recruit, maintain and integrate additional qualified employees could have an adverse effect on our business, financial condition or results of operations. In addition, our historical growth rates are not likely to accurately reflect our future growth rates or our growth potential. There is no assurance that our future revenues will increase or that we will continue to be profitable.

Our operations support complex transactions and are highly dependent on the proper functioning of information technology and communication systems. Any failure or security breach of our information technology or communications systems could adversely affect our reputation, business, financial condition, results of operations and cash flows.

Our business is highly dependent on our ability to access our information technology (IT) systems to perform necessary business functions such as providing customer support, maintaining existing policies, paying claims, managing our investment portfolios, and producing financial statements.

While systems and processes are designed to support complex transactions and avoid negative outcomes such as systems failures, fraud, processing errors and regulatory breaches, any of these outcomes could have an adverse effect on our business, financial condition, results of operations and cash flows. We must also commit significant resources to maintain and enhance our existing systems to keep pace with industry standards and evolving customer preferences. If we fail to keep up-to-date information systems, we may not be able to rely on information for product design, product pricing and risk management decisions.

Despite the existence of extensive backup and recovery systems and contingency plans, we cannot guarantee investors that system interruptions or similar IT failures will not occur, or if they do occur, that they can be remediated promptly. All IT systems are vulnerable to disruptions resulting from natural or man-made disasters, acts of terrorism or civil disobedience, pandemics or other events beyond an organization’s control. The occurrence of any of these events could have an adverse effect on our business, results of operations and financial condition. We retain confidential information within our IT infrastructure, and we rely on both a complex information security controls framework that leverages multiple leading industry control standards, as well as extensive commercial control technologies to maintain the security of those systems. Any attacker that is able to circumvent our comprehensive information security controls infrastructure could access, view, misappropriate, alter, or delete any information contained within the accessed systems, including personally identifiable policyholder information and proprietary business information.

The NAIC has adopted the Insurance Data Security Model Law which established the standards for data security, investigation, and notification of a breach of data security for insurance companies. An increasing number of state insurance regulatory agencies have adopted a version of the NAIC’s model regulation and now require that effected persons be notified if a security breach results in the disclosure of their personally identifiable information. Any compromise of the cybersecurity of our computer systems that results in the unauthorized disclosure of personally identifiable customer information could damage our reputation in the marketplace, deter people from purchasing our products, subject us to civil and criminal liability and require us to incur significant technical, legal and other expenses. While there have been attempts to penetrate our IT cybersecurity defenses, there is no evidence that any of the attacks have been successful or that a data breach has occurred.

If we are unable to attract and retain national marketing organizations, independent agents, broker/dealers, banks and registered investment advisors, sales of our products may be reduced.

We must attract and retain marketing organizations and distributors, including agents to sell our products. Insurance companies compete vigorously for productive agents. We compete with other life insurance companies for marketers and agents primarily on the basis of our financial position, support services, compensation and product features. Such marketers and agents may promote products offered by other life insurance companies that may offer a larger variety of products than we do. Our competitiveness for such marketers and agents also depends upon the long-term relationships we develop with them. We are developing a network of broker/dealers, banks and registered investment advisors to distribute our products. If we are unable to attract and retain sufficient marketers, agents, broker/dealers, banks and registered investment advisors to sell our products, our ability to compete and our sales would suffer.

We may require additional capital to support our business and sustain future growth which may not be available when needed or may be available only on unfavorable terms.

Our long-term capital adequacy will depend on many factors including the accumulated statutory earnings of our life insurance subsidiaries and the relationship between the statutory capital and surplus of our life insurance subsidiaries and various elements of required capital. For the purpose of supporting long-term capital requirements, we may need to increase or maintain the statutory capital and surplus of our life insurance subsidiaries through additional financings, which could include debt, equity, and/or other surplus relief transactions. Adverse market conditions have affected and continue to affect the availability and cost of capital. Such financings, if available at all, may be available only on terms that are not favorable to us. If we cannot maintain adequate capital, we may be required to limit growth in sales of new annuity products, and such action could adversely affect our business, financial condition or results of operations.

Changes in state and federal laws and regulation may adversely affect our business, financial condition, results of operations and cash flows.

We are subject to regulation under applicable insurance statutes, including insurance holding company statutes, in the various states in which our life insurance subsidiaries transact business. Our life insurance subsidiaries are domiciled in Iowa and New York. We are currently licensed to sell our products in 50 states and the District of Columbia. Insurance regulation is intended to provide safeguards for policyholders rather than to protect shareholders of insurance companies or their holding companies. As increased scrutiny has been placed upon the insurance regulatory framework, a number of state legislatures have considered or enacted legislative proposals that alter, and in many cases increase, state authority to regulate insurance companies and holding company systems.

Regulators oversee matters relating to trade practices, policy forms, claims practices, guaranty funds, types and amounts of investments, reserve adequacy, insurer solvency, minimum amounts of capital and surplus, transactions with related parties, changes in control and payment of dividends.

The NAIC and state insurance regulators continually reexamine existing laws and regulations. The NAIC may develop and recommend adoption of new or modify existing Model Laws and Regulations. State insurance regulators may impose those recommended changes, or others, in the future. The NAIC has adopted best interest enhancements to the existing Suitability in Annuity Transactions Model Law. State legislation and/or regulation adopting the best interest standard is expected in 2020. Some states may adopt a heightened fiduciary standard of conduct.

Our life insurance subsidiaries are subject to state insurance regulations based on the NAIC's risk-based capital requirements which are intended to be used by insurance regulators as an early warning tool to identify deteriorating or weakly capitalized insurance companies for the purpose of initiating regulatory action. Our life insurance subsidiaries also may be required, under solvency or guaranty laws of most states in which they do business, to pay assessments up to certain prescribed limits to fund policyholder losses or liabilities for insolvent insurance companies.

Although the federal government does not directly regulate the insurance business, federal legislation and administrative policies in several areas, including financial services regulation, securities regulation, federal taxation and employment matters, can significantly affect the insurance business. Legislation has been enacted which could result in the federal government assuming some role in the regulation of the insurance industry.

In July 2010, the Dodd-Frank Act became law. The Dodd-Frank Act made extensive changes to the laws regulating the financial services industry and requires various federal agencies to adopt a broad range of new rules and regulations, including those surrounding the use of derivatives. The Dodd-Frank Act and any such regulations may subject us to additional restrictions on our derivative positions which may have an adverse effect on our ability to manage risks associated with our business, including our fixed index annuity business, or on the cost of the derivatives purchased for our fixed index annuity business.

We are subject to numerous federal and state regulations regarding the privacy and security of personal information. These laws vary by jurisdiction. Recent regulations with a significant impact on our operations include the New York Department of Financial Services Part 500 cybersecurity requirements for financial services companies and the California Consumer Privacy Act. The New York Department of Financial Services Part 500 cybersecurity requirements became effective January 1, 2017 and focus on minimum standards for cybersecurity programs. The California Consumer Privacy Act became effective January 1, 2020 and contains protections for individuals, including but not limited to notification requirements for data breaches, the right to access personal data and the right to be forgotten. It applies to companies doing business in California. Similar standards are set forth in the NAIC’s Insurance Data Security Model Law. It is anticipated that additional federal and state regulations will be enacted in the future. Changes in cybersecurity and privacy regulations or the enactment of new regulations may increase our compliance costs and failure to comply with these regulations may lead to reputational damage, fines or civil damages, and increased regulatory scrutiny.

Changes in federal income taxation laws, including any reduction in individual income tax rates, may adversely affect our business, financial condition, results of operations and cash flows.

The annuity and life insurance products that we market generally provide the policyholder with certain federal income tax advantages. For example, federal income taxation on any increases in non-qualified annuity contract values (i.e., the "inside build-up") is deferred until it is received by the policyholder. With other savings instruments, such as certificates of deposit and taxable bonds, the increase in value is generally taxed each year as it is realized. Decreases in individual income tax rates would decrease the advantage of deferring the inside build-up.

From time to time, various tax law changes have been proposed that could have an adverse effect on our business, including the elimination of all or a portion of the income tax advantages described above for annuities and life insurance. If legislation were enacted to eliminate all or a portion of the tax deferral for annuities, such a change would have an adverse effect on our ability to sell non-qualified annuities. Non-qualified annuities are annuities that are not sold to a qualified retirement plan.

We face risks relating to litigation and regulatory examination, including the costs of such litigation or examination, management distraction and the potential for damage awards, fines, penalties or other required remediation, which may adversely affect our business, financial condition, results of operations and cash flows.

We are occasionally involved in litigation, both as a defendant and as a plaintiff. Companies in the life insurance and annuity business have faced litigation, including class action lawsuits, alleging improper product design, improper sales practices and similar claims. In addition, state regulatory bodies, such as state insurance departments, the SEC and the Department of Labor ("DOL") regularly make inquiries and conduct examinations or investigations concerning our compliance with, among other things, insurance laws, securities laws and the Employee Retirement Income Security Act of 1974, as amended.

A downgrade in our credit or financial strength ratings may increase our cost of capital, reduce new sales, adversely affect relationships with distributors and increase policy surrenders and withdrawals.

Currently, our senior unsecured indebtedness carries a "BBB-" rating with a stable outlook from S&P and Fitch and a "bbb-" rating with a stable outlook from A.M. Best. Our ability to maintain such ratings is dependent upon the results of operations of our subsidiaries and our financial strength. If we fail to preserve the strength of our balance sheet and/or maintain or strengthen our current capital position, it could result in a downgrade of the ratings applicable to our senior unsecured indebtedness. A downgrade would likely reduce the fair value of our common and preferred stock and may increase our cost of capital.

Financial strength ratings are important factors used by distributors and sales agents in determining which insurer's annuities to market. In recent years, the market for annuities has been dominated by those insurers with the highest ratings. A ratings downgrade, or the potential for a ratings downgrade, could have a number of adverse effects on our business. For example, a ratings downgrade could cause distributors and sales agents to seek alternative carriers. In addition, a ratings downgrade could increase the number of policy or contract surrenders we experience, as well as our ability to obtain reinsurance or obtain reasonable pricing on reinsurance.

Financial strength ratings are measures of an insurance company's ability to meet policyholder obligations and generally involve quantitative and qualitative evaluations by rating agencies of a company's financial condition and operating performance. Ratings are based upon factors of concern to agents, policyholders and intermediaries and are not directed toward the protection of investors and are not recommendations to buy, sell or hold securities.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We lease commercial office space in two buildings in West Des Moines, Iowa. The lease for our home office building expires on November 30, 2026. We have two separate leases for additional space in a building in West Des Moines, one which expires on March 15, 2023 and the other which expires on August 1, 2025. We believe these facilities are suitable and adequate for our current business operations.

Item 3. Legal Proceedings

See Note 13 to our audited consolidated financial statements.

Item 4. Mine Safety Disclosures

None

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock is traded on the New York Stock Exchange ("NYSE") under the symbol AEL. The following table sets forth the high and low sales prices of our common stock for each quarterly period within the two most recent fiscal years as quoted on the NYSE.

	High	Low
2019		
First Quarter	$33.57	$26.34
Second Quarter	$30.91	$25.84
Third Quarter	$27.80	$20.16
Fourth Quarter	$30.96	$21.75
2018		
First Quarter	$35.79	$28.90
Second Quarter	$37.16	$27.06
Third Quarter	$38.57	$34.51
Fourth Quarter	$36.39	$25.27

As of February 14, 2020, there were approximately 27,800 holders of our common stock. In 2019 and 2018, we paid an annual cash dividend of $0.30 and $0.28, respectively, per share on our common stock. We intend to continue to pay an annual cash dividend on such shares so long as we have sufficient capital and/or future earnings to do so. However, we anticipate retaining most of our future earnings, if any, for use in our operations and the expansion of our business. Any further determination as to dividend policy will be made by our board of directors and will depend on a number of factors, including our future earnings, capital requirements, financial condition and future prospects and such other factors as our board of directors may deem relevant.

Since we are a holding company, our ability to pay cash dividends depends in large measure on our subsidiaries' ability to make distributions of cash or property to us. Iowa insurance laws restrict the amount of distributions American Equity Life and Eagle Life can pay to us without the approval of the Iowa Insurance Commissioner. See Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 12 to our audited consolidated financial statements, which are incorporated by reference in this Item 5.

Issuer Purchases of Equity Securities

The following table presents the amount of our share purchase activity for the periods indicated:

Period	Total Number of Shares Purchased (a)	Average Price Paid Per Share
January 1, 2019 - January 31, 2019	—	$ —
February 1, 2019 - February 28, 2019	—	$ —
March 1, 2019 - March 31, 2019	—	$ —
April 1, 2019 - April 30, 2019	—	$ —
May 1, 2019 - May 31, 2019	—	$ —
June 1, 2019 - June 30, 2019	14,538	$ 28.09
July 1, 2019 - July 31, 2019	822	$ 26.49
August 1, 2019 - August 31, 2019	755	$ 23.97
September 1, 2019 - September 30, 2019	—	$ —
October 1, 2019 - October 31, 2019	—	$ —
November 1, 2019 - November 30, 2019	—	$ —
December 1, 2019 - December 31, 2019	—	$ —
Total	16,115	

(a) Includes the number of shares of common stock utilized to execute certain stock incentive awards.

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Item 6. Selected Consolidated Financial Data

The summary consolidated financial and other data should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations and our audited consolidated financial statements and related notes appearing elsewhere in this report. The results for past periods are not necessarily indicative of results that may be expected for future periods.

	Year ended December 31,				
	2019	2018	2017	2016	2015
	(Dollars in thousands, except per share data)				
Consolidated Statements of Operations Data:					
Revenues					
Premiums and other considerations	$ 23,534	$ 26,480	$ 34,228	$ 43,767	$ 36,048
Annuity product charges	240,035	224,488	200,494	173,579	136,168
Net investment income	2,307,635	2,147,812	1,991,997	1,849,872	1,692,192
Change in fair value of derivatives	906,906	(777,848)	1,677,871	164,219	(336,146)
Net realized gains (losses) on investments, excluding other than temporary impairment ("OTTI") losses	6,962	(37,178)	10,509	11,524	10,211
Net OTTI losses recognized in operations	(18,726)	(36,656)	(4,630)	(22,679)	(19,536)
Total revenues	3,464,345	1,547,098	3,891,652	2,220,282	1,518,937
Benefits and expenses					
Insurance policy benefits and change in future policy benefits	35,418	39,530	43,219	52,483	45,458
Interest sensitive and index product benefits	1,287,576	1,610,835	2,023,668	725,472	968,053
Change in fair value of embedded derivatives	1,454,042	(1,389,491)	919,735	543,465	(464,698)
Amortization of deferred sales inducements and policy acquisition costs	176,302	550,192	432,576	625,178	495,504
Interest expense on notes and loan payable and subordinated debentures	41,289	40,989	44,492	41,206	41,088
Other operating costs and expenses	154,153	129,301	111,691	102,231	96,218
Total benefits and expenses	3,148,780	981,356	3,575,381	2,090,035	1,181,623
Income before income taxes	315,565	565,742	316,271	130,247	337,314
Income tax expense	69,475	107,726	141,626	47,004	117,484
Net income	$ 246,090	$ 458,016	$ 174,645	$ 83,243	$ 219,830
Per Share Data:					
Earnings per common share	$ 2.70	$ 5.07	$ 1.96	$ 0.98	$ 2.78
Earnings per common share - assuming dilution	2.68	5.01	1.93	0.97	2.72
Dividends declared per common share	0.30	0.28	0.26	0.24	0.22
Non-GAAP Financial Measures (a):					
Reconciliation from net income to non-GAAP operating income:					
Net income	$ 246,090	$ 458,016	$ 174,645	$ 83,243	$ 219,830
Net realized investment gains/losses, including OTTI	7,361	45,450	(5,093)	7,188	5,737
Change in fair value of derivatives and embedded derivatives - fixed index annuities	373,221	(72,181)	121,846	56,634	(44,055)
Change in fair value of derivatives - interest rate caps and swap	1,247	(1,892)	(1,224)	(1,265)	1,296
Litigation reserve	—	—	—	(1,957)	—
Income taxes	(79,736)	(3,653)	(5,124)	(21,499)	13,012
Non-GAAP operating income	$ 548,183	$ 425,740	$ 285,050	$ 122,344	$ 195,820
Non-GAAP operating income per common share	$ 6.01	$ 4.71	$ 3.20	$ 1.44	$ 2.48
Non-GAAP operating income per common share - assuming dilution	5.97	4.66	3.16	1.43	2.42

	As of and for the Year Ended December 31,				
	2019	2018	2017	2016	2015
	(Dollars in thousands, except per share data)				
Consolidated Balance Sheet Data:					
Total investments	$ 56,877,573	$ 49,427,498	$ 50,300,705	$ 44,757,568	$ 39,570,332
Total assets	69,696,552	61,625,564	62,030,736	56,053,472	49,029,392
Policy benefit reserves	61,893,945	57,606,009	56,142,673	51,637,026	45,495,431
Notes and loan payable	495,116	494,591	494,093	493,755	393,227
Subordinated debentures	157,265	242,982	242,565	241,853	241,452
Accumulated other comprehensive income (loss) ("AOCI")	1,497,921	(52,432)	724,599	339,966	201,663
Total stockholders' equity	4,570,119	2,399,101	2,850,157	2,291,595	1,944,535
Other Data:					
Life subsidiaries' statutory capital and surplus and asset valuation reserve	3,824,457	3,542,339	3,260,328	2,933,193	2,593,472
Life subsidiaries' statutory net gain from operations before income taxes and realized capital gains (losses)	210,002	372,830	565,295	144,159	227,865
Life subsidiaries' statutory net income	162,267	222,734	386,274	80,699	132,723
Equity available to preferred stockholders (b)	400,000	—	—	—	—
Total common stockholders' equity (c)	4,170,119	2,399,101	2,850,157	2,291,595	1,944,535
Total common stockholder's equity excluding AOCI (c)	2,672,198	2,451,533	2,125,558	1,951,629	1,742,872
Book value per common share (c)	45.77	26.55	31.91	26.04	23.83
Book value per common share excluding AOCI (c)	29.33	27.13	23.79	22.17	21.36

(a) In addition to net income, we have consistently utilized non-GAAP operating income and non-GAAP operating income per common share—assuming dilution, non-GAAP financial measures commonly used in the life insurance industry, as economic measures to evaluate our financial performance. Non-GAAP operating income equals net income adjusted to eliminate the impact of items that fluctuate from year to year in a manner unrelated to core operations, and we believe measures excluding their impact are useful in analyzing operating trends. The most significant adjustments to arrive at non-GAAP operating income eliminate the impact of fair value accounting for our fixed index annuity business. These adjustments are not economic in nature but rather impact the timing of reported results. In addition, 2017 includes a $35.9 million adjustment to arrive at non-GAAP operating income resulting from the Tax Cuts and Jobs Act of 2017, which was enacted on December 22, 2017 and required a revaluation of our net deferred tax assets from 35% to 21%. We believe the combined presentation and evaluation of non-GAAP operating income together with net income provides information that may enhance an investor's understanding of our underlying results and profitability. The amounts included in the reconciliation of net income to non-GAAP operating income are presented net of related adjustments to amortization of deferred sales inducements and deferred policy acquisition costs.

(b) Equity available to preferred stockholders is equal to the redemption value of outstanding preferred stock plus share dividends declared but not yet issued.

(c) Total common stockholders’ equity and book value per common share excluding AOCI, non-GAAP financial measures, are based on common stockholders’ equity excluding the effect of AOCI. Since AOCI fluctuates from quarter to quarter due to unrealized changes in the fair value of available for sale securities, we believe these non-GAAP financial measures provide useful supplemental information. Total common stockholders' equity and total common stockholder's equity excluding AOCI, non-GAAP financial measures, exclude equity available to preferred stockholders. Book value per common share including and excluding AOCI are calculated as total common stockholders’ equity and total common stockholders’ equity excluding AOCI divided by the total number of shares of common stock outstanding.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Management's discussion and analysis reviews our consolidated financial position at December 31, 2019 and 2018, and our consolidated results of operations for the three years in the period ended December 31, 2019, and where appropriate, factors that may affect future financial performance. This analysis should be read in conjunction with our audited consolidated financial statements, notes thereto and selected consolidated financial data appearing elsewhere in this report.

Cautionary Statement Regarding Forward-Looking Information

All statements, trend analyses and other information contained in this report and elsewhere (such as in filings by us with the SEC, press releases, presentations by us or our management or oral statements) relative to markets for our products and trends in our operations or financial results, as well as other statements including words such as "anticipate", "believe", "plan", "estimate", "expect", "intend" and other similar expressions, constitute forward-looking statements. We caution that these statements may and often do vary from actual results and the differences between these statements and actual results can be material. Accordingly, we cannot assure you that actual results will not differ materially from those expressed or implied by the forward-looking statements. Factors that could contribute to these differences include, among other things:

- general economic conditions and other factors, including prevailing interest rate levels and stock and credit market performance which may affect (among other things) our ability to sell our products, our ability to access capital resources and the costs associated therewith, the fair value of our investments, which could result in impairments and other than temporary impairments, and certain liabilities, and the lapse rate and profitability of policies;
- customer response to new products and marketing initiatives;
- changes in Federal income tax laws and regulations which may affect the relative income tax advantages of our products;
- increasing competition in the sale of fixed annuities;
- regulatory changes or actions, including those relating to regulation of financial services affecting (among other things) bank sales and underwriting of insurance products and regulation of the sale, underwriting and pricing of products; and
- the risk factors or uncertainties listed from time to time in our filings with the SEC.

For a detailed discussion of these and other factors that might affect our performance, see Item 1A of this report.

Executive Summary

Excellent customer service teamed with our ability to offer innovative insurance products that provide principal protection and lifetime income continued to result in significant sales of our annuity products. In 2019, our sales were $5.0 billion which has resulted in cash and investments in excess of $59 billion at December 31, 2019. Our sales for the last five years have ranged from $4.2 billion to $7.1 billion. We have applied a conservative investment strategy to the annuity deposits we manage which has provided reliable returns on our invested assets. Our profitability has also been driven by maintaining an efficient operation.

The economic and personal investing environments continued to be conducive for high sales levels as retirees and others look to put their money in instruments that will protect their principal and provide them with consistent cash flow sources in their retirement years. Our sales increased in 2019 as compared to 2018 due to the launch of new products during 2018 and improvements in our competitive position in the accumulation and guaranteed income markets. These factors were partially mitigated by competitive pressures within each of our distribution channels. We continue to face a challenging environment for sales of fixed index annuities due to a highly competitive market.

We continue to be in the midst of an unprecedented period of low interest rates and low yields for investments with the credit quality we prefer which presents a strong headwind to achieving our target rate for investment spread. In response, we have been reducing policyholder crediting rates for new annuities and existing annuities since the fourth quarter of 2011. Active management of policyholder crediting rates resulted in a lower aggregate cost of money during 2019 and contributed to an increase in aggregate investment spread during 2019. We continue to have flexibility to reduce our crediting rates if necessary and could decrease our cost of money by approximately 59 basis points if we reduce current rates to guaranteed minimums. In addition, starting in 2017 we began to invest in asset classes that were not traditionally in our portfolio, focusing on investments with less liquidity that provide higher yields and have a track record of positive credit performance. During 2018, we opportunistically replaced lower yielding securities with higher yielding securities and sold $2.1 billion in book value of lower yielding securities for a yield pick-up of approximately 170 basis points on these investments. While we anticipated pursuing additional portfolio realignment opportunities in 2019, market conditions were not conducive to such realignment during 2019. Investment yields on fixed income securities purchased and commercial mortgage loans funded in 2019 decreased compared to 2018 due to a general decline in interest rates and credit spreads tightening.

On November 21, 2019 we issued $400 million of 5.95% fixed-rate reset non-cumulative preferred stock and received net proceeds of $388.9 million. We used a portion of the proceeds to redeem $165 million of our floating rate subordinated debentures in the fourth quarter of 2019 and the first quarter of 2020 and have $225 million of net proceeds available for general corporate purposes.

Our Business and Profitability

We specialize in the sale of individual annuities (primarily fixed index deferred annuities). Under U.S. GAAP, premium collections for deferred annuities are reported as deposit liabilities instead of as revenues. Similarly, cash payments to policyholders are reported as decreases in the liabilities for policyholder account balances and not as expenses. Sources of revenues for products accounted for as deposit liabilities are net investment income, surrender charges assessed against policy withdrawals and fees deducted from policyholder account balances for lifetime income benefit riders, net realized gains (losses) on investments and changes in fair value of derivatives. Components of expenses for products accounted for as deposit liabilities are interest sensitive and index product benefits (primarily interest credited to account balances and changes in the liability for lifetime income benefit riders), changes in fair value of embedded derivatives, amortization of deferred sales inducements and deferred policy acquisition costs, other operating costs and expenses and income taxes.

Our business model contemplates continued growth in invested assets and non-GAAP operating income while maintaining a high quality investment portfolio that will not experience significant losses from impairments of invested assets. We are committed to maintaining a high quality investment portfolio with limited exposure to below investment grade securities and other riskier assets. Growth in invested assets is predicated on a continuation of our high sales achievements of the last five years while at the same time maintaining a high level of retention of the funds received.

Our profitability depends in large part upon:

- the amount of assets under our management,
- investment spreads we earn on our policyholder account balances,
- our ability to manage our investment portfolio to maximize returns and minimize risks such as interest rate changes and defaults or impairment of investments,
- our ability to appropriately price for lifetime income benefit riders offered on certain of our fixed rate and fixed index annuity policies,
- our ability to manage interest rates credited to policyholders and costs of the options purchased to fund the annual index credits on our fixed index annuities,
- our ability to manage the costs of acquiring new business (principally commissions paid to agents and distribution partners and bonuses credited to policyholders),
- our ability to manage our operating expenses, and
- income taxes.

Earnings from products accounted for as deposit liabilities are primarily generated from the excess of net investment income earned over the interest credited or the cost of providing index credits to the policyholder, or the "investment spread." Our investment spread is summarized as follows:

	Year Ended December 31,		
	2019	2018	2017
Average yield on invested assets	4.52%	4.47%	4.46%
Aggregate cost of money	1.84%	1.87%	1.74%
Aggregate investment spread	2.68%	2.60%	2.72%
Impact of:			
Investment yield - additional prepayment income	0.06%	0.08%	0.08%
Cost of money benefit from over hedging	0.03%	0.05%	0.06%

The cost of money for fixed index annuities and average crediting rates for fixed rate annuities are computed based upon policyholder account balances and do not include the impact of amortization of deferred sales inducements. See Critical Accounting Policies—Deferred Policy Acquisition Costs and Deferred Sales Inducements. With respect to our fixed index annuities, the cost of money includes the average crediting rate on amounts allocated to the fixed rate strategy and expenses we incur to fund the annual index credits. Proceeds received upon expiration of call options purchased to fund annual index credits are recorded as part of the change in fair value of derivatives, and are largely offset by an expense for interest credited to annuity policyholder account balances. See Critical Accounting Policies - Policy Liabilities for Fixed Index Annuities and Financial Condition - Derivative Instruments.

Aggregate investment spread increased during 2019 compared to 2018 due to an increase in the average yield on invested assets and a decrease in the cost of money. The increase in the average yield on investments was primarily attributable to our opportunistic replacement of lower yielding securities with higher yielding securities throughout 2018 as previously discussed. In addition, the increase in average yield earned for 2019 as compared to 2018 was due to increases in investment income on our floating rate investment securities due to an increase in the average benchmark rates associated with these investments during 2019 as compared to 2018. The decrease in the cost of money was due to decreases in option costs for certain index strategies during 2019 which in part was due to our active management of new business and renewal rates.

Results of Operations for the Three Years Ended December 31, 2019

Annuity deposits by product type collected during 2019, 2018 and 2017, were as follows:

Product Type	Year Ended December 31, 2019	2018	2017
	(Dollars in thousands)		
American Equity Life:			
Fixed index annuities	$ 4,058,638	$ 3,560,881	$ 3,390,144
Annual reset fixed rate annuities	11,245	45,636	74,829
Multi-year fixed rate annuities	1,613	3,581	23,424
Single premium immediate annuities	12,002	23,813	24,946
	4,083,498	3,633,911	3,513,343
Eagle Life:			
Fixed index annuities	646,903	660,401	576,695
Annual reset fixed rate annuities	199	1,555	—
Multi-year fixed rate annuities	232,613	109,096	87,172
	879,715	771,052	663,867
Consolidated:			
Fixed index annuities	4,705,541	4,221,282	3,966,839
Annual reset fixed rate annuities	11,444	47,191	74,829
Multi-year fixed rate annuities	234,226	112,677	110,596
Single premium immediate annuities	12,002	23,813	24,946
Total before coinsurance ceded	4,963,213	4,404,963	4,177,210
Coinsurance ceded	290,040	413,222	387,280
Net after coinsurance ceded	$ 4,673,173	$ 3,991,741	$ 3,789,930

Over these years competition has increased significantly within the fixed index annuity market. While we continue to be in the top three companies for sales of fixed index annuities within the independent agent channel, new entrants into the market have expanded the overall market through other distribution channels and our overall market share has declined from second in 2016 to fifth for the nine-months ended September 30, 2019 according to Wink's Sales and Market Report published by Wink, Inc. We attribute our leading position to our attractive product offerings, our consistent presence in the fixed index annuity market, our continued strong relationships with and excellent service provided to our distribution partners, the increased attractiveness of safe money products in volatile markets and lower interest rates on competing products such as bank certificates of deposit.

Annuity deposits before coinsurance ceded increased 13% during 2019 compared to 2018 and increased 5% during 2018 compared to 2017. Annuity deposits after coinsurance ceded increased 17% during 2019 compared to 2018 and increased 5% in 2018 as compared to 2017. The increase in sales in 2019 was due to the launch of new products during 2018 and improvements in our competitive position in the accumulation and guaranteed income markets. These factors were partially mitigated by competitive pressures within each of our distribution channels. We continue to face a challenging environment for sales of fixed index annuities due to a highly competitive market.

2018 sales were positively impacted by the launch of new products during 2018 to improve our competitive position in the guaranteed lifetime income benefit market, the continued competitiveness of our accumulation products and higher yields which supported increases in payout factors on our guaranteed income products. In addition, we benefited from an increase in industry sales of fixed index annuities during 2018 in part due to the DOL fiduciary rule being vacated. These factors were partially mitigated by continued competitive pressures within each of our distribution channels.

We coinsure 80% of the annuity deposits received from MYGA fixed annuity products and 20% of certain fixed index annuities sold by Eagle Life through broker/dealers and banks. The decrease in coinsurance ceded premiums in 2019 was attributable to a decrease in the coinsurance percentage for fixed index annuities sold by Eagle Life from 50% for 2018 to 20% for 2019 partially offset by an increase in deposits received from MYGA fixed annuity products during 2019. The increase in coinsurance ceded premiums in 2018 was attributable to an increase in deposits received from fixed index annuities sold by Eagle Life during 2018.

Net income decreased 46% to $246.1 million in 2019 and increased 162% to $458.0 million in 2018 from $174.6 million in 2017.

Net income, in general, has been positively impacted by the growth in the volume of business in force and the investment spread earned on this business. The average amount of annuity account balances outstanding (net of annuity liabilities ceded under coinsurance agreements) increased 5% to $52.3 billion for the year ended December 31, 2019 compared to $49.9 billion in 2018 and 6% for the year ended December 31, 2018 compared to $46.8 billion in 2017. Our investment spread measured in dollars was $1.3 billion, $1.2 billion, and $1.2 billion for the years ended December 31, 2019, 2018 and 2017, respectively. As previously mentioned, our investment spread has been positively impacted by our opportunistic replacement of lower yielding securities with higher yielding securities during 2018, however yields in general continue to be negatively impacted by the extended low interest rate environment (see **Net investment income**). Our investment spread has also been positively impacted by our active management of new business and renewal rates.

Net income for the year ended December 31, 2019 was negatively impacted by net realized investment losses of $11.7 million, of which $18.7 million was recognized as OTTI partially offset by $7.0 million of net realized gains. Net income for the year ended December 31, 2018 was negatively impacted by realized investment losses of $73.8 million, of which $37.1 million was recognized as net realized losses and $36.7 million was recognized as OTTI. See **Net OTTI losses recognized in operations and Net realized gains (losses) on investments, excluding OTTI losses** and Note 3 to our audited consolidated financial statements for discussion of OTTI losses recognized in operations and net realized gains (losses) on investments.

Net income for the years ended December 31, 2019 and 2018 was positively impacted by a decrease in the statutory federal income tax rate effective January 1, 2018 resulting from the Tax Cuts and Jobs Act of 2017 ("Tax Reform") (see **Income tax expense**). In addition, net income for the year ended December 31, 2018 benefited from a discrete tax item for a worthless stock deduction related to a wholly-owned subsidiary which reduced income tax expense by approximately $7.4 million.

Net income for the year ended December 31, 2017 was negatively impacted by $35.9 million related to the revaluation of our net deferred tax assets using the newly enacted federal tax rate as a result of Tax Reform. Net income for the year ended December 31, 2017 was also negatively impacted by an $18.4 million pretax loss on the extinguishment of our $400 million notes due 2021 (the “2021 Notes”), which reduced net income by $10.8 million. See Note 9 to our audited consolidated financial statements.

Net income is also impacted by the change in fair value of derivatives and embedded derivatives which fluctuates from year to year based upon changes in fair values of call options purchased to fund the annual index credits for fixed index annuities and changes in interest rates used to discount the embedded derivative liability. Net income for the year ended December 31, 2019 was negatively impacted by decreases in the discount rates used to estimate the fair value of our embedded derivative liabilities, the impact of which was partially offset by decreases in amortization of deferred policy acquisition costs and deferred sales inducements related to the change in fair value of derivatives and embedded derivatives. Net income for the year ended December 31, 2018 was positively impacted by increases in the discount rates used to estimate our embedded derivative liabilities while net income for the year ended December 31, 2017 was negatively impacted by decreases in the discount rates used to estimate our embedded derivative liabilities the impacts of which were partially offset by changes in amortization of deferred policy acquisition costs and deferred sales inducements related to the change in fair value of derivatives and embedded derivatives. See **Change in fair value of derivatives, Change in fair value of embedded derivatives, Amortization of deferred sales inducements** and **Amortization of deferred policy acquisition costs.**

We periodically revise the key assumptions used in the calculation of amortization of deferred policy acquisition costs and deferred sales inducements retrospectively through an unlocking process when estimates of current or future gross profits (including the impact of realized investment gains and losses) to be realized from a group of products are revised. In addition, we periodically revise the assumptions used in determining the liability for lifetime income benefit riders and the embedded derivative component of our fixed index annuity policy benefit reserves as experience develops that is different from our assumptions.

Net income for 2019, 2018 and 2017 includes effects from revisions to assumptions as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Decrease in amortization of deferred sales inducements	$ (104,707)	$ (21,465)	$ (34,274)
Decrease in amortization of deferred policy acquisition costs	(192,982)	(30,572)	(48,198)
Increase (decrease) in interest sensitive and index product benefits	315,383	(53,607)	21,608
Increase in change in fair value of embedded derivatives	28,208	8,458	21,007
Effect on net income	(35,987)	76,194	25,667

We review these assumptions quarterly and as a result of these reviews, we made updates to assumptions during each year. In addition, we implemented an enhanced actuarial valuation system during 2019, and as a result, our 2019 assumption updates include model refinements resulting from the implementation.

The most significant assumption changes from the 2019 review were to lapse and utilization assumptions. We have credible lapse and utilization data based upon a comprehensive experience study spanning over 10 years on our products with lifetime income benefit riders and have experienced lapse rates that are lower than previously estimated.

Lower lapse assumptions result in an expectation that more policies will remain in force than previously anticipated which results in a greater amount of benefit payments in excess of account value and the need for a greater liability for lifetime income benefit riders. The decrease in lapse rate assumptions also results in policies being in force for a longer period of time and an increase in expected gross profits as compared to previous estimates. The higher level of expected future gross profits results in an increase in the balances of deferred policy acquisition costs and deferred sales inducements.

Our experience study also indicated that the ultimate utilization of certain lifetime income benefit riders is expected to be less than our prior assumptions and the timing of utilization of lifetime income benefit riders is later than in our prior assumptions. We have reduced our ultimate utilization assumptions for fee riders from 75% to 60% and for no-fee riders from 37.5% to 30%, for policies issued in 2014 and prior years. The net effect of the utilization assumption revisions resulted in a decrease in the liability for lifetime income benefit riders and partially offset the increase in the reserve for lifetime income benefit riders from the change in lapse assumptions.

In addition, we revised our assumptions regarding future crediting rates on policies. We are assuming a 3.80% U.S. Treasury rate with a 20 year mean reversion period. Our assumption for aggregate spread is 2.60% which translates to an ultimate discount rate of 2.90%. While the aggregate spread of 2.60% did not change from prior estimates, our estimates of the profitability of individual cohorts has changed with the use of an aggregate portfolio yield across all cohorts. This assumption revision resulted in a change in the allocation of profitability by cohort, which caused a reduction in the deferred policy acquisition costs and deferred sales inducements assets and partially offset the increase in the deferred policy acquisition costs and deferred sales inducements assets from the change in lapse assumptions.

The most significant revisions to the calculation of the fair value of the embedded derivative component of our fixed index annuity policy benefit reserves in 2019 were to decrease lapse rate assumptions as noted above. The impact of the lapse rate assumption changes was partially offset by a decrease in the option budget from 3.10% to 2.90% as a result of a revised estimate of the cost of options over the 20 year mean reversion period.

The most significant revisions from the 2018 review were account balance true-ups which were favorable to us due to stronger index credits than we assumed due to strong equity market performance and adjustments to generally decrease lapse rate assumptions to reflect better persistency experienced than assumed. The favorable impact of the account balance true-ups and lapse rate assumption changes on the deferred policy acquisition costs and deferred sales inducements balances was partially offset by revisions to lower our future investment spread assumptions primarily due to an increase in the cost of money we had been experiencing.

The most significant revisions made during 2017 as a result of our quarterly reviews were account balance true-ups which were favorable to us due to stronger index credits than we assumed due to strong equity market performance and adjustments to generally decrease lapse rate assumptions to reflect better persistency experienced than assumed. The favorable impact of the account balance true-ups and lapse rate assumption changes on the deferred policy acquisition costs and deferred sales inducements balances was partially offset by reductions in estimated future gross profits attributable to revisions to assumptions used in determining the liability for lifetime income benefit riders as well as an increase in estimated expenses associated with a reinsurance agreement with an unaffiliated reinsurer.

The 2018 and 2017 revisions to the liability for lifetime income benefit riders were consistent with the revisions used in the calculation of amortization of deferred policy acquisition costs and deferred sales inducements described above. The 2018 revisions were primarily attributable to account balance true-ups and future investment spread assumptions. The impact of the account balance true-ups and future investment spread changes was partially offset by the lapse rate assumptions changes described above. The 2017 revisions were primarily due to the lapse rate assumption changes described above and changes to our account value growth projections.

The most significant revisions to the calculation of the fair value of embedded derivative component of our fixed index annuity policy benefit reserves in 2018 were to decrease lapse rate assumptions consistent with the 2018 changes for deferred policy acquisition costs, deferred sales inducements and the liability for lifetime income benefit riders.

Non-GAAP operating income, a non-GAAP financial measure (see reconciliation to net income in Item 6. Selected Consolidated Financial Data) increased 29% to $548.2 million in 2019 and 49% to $425.7 million in 2018 from $285.1 million in 2017.

In addition to net income, we have consistently utilized non-GAAP operating income, a non-GAAP financial measure commonly used in the life insurance industry, as an economic measure to evaluate our financial performance. Non-GAAP operating income equals net income adjusted to eliminate the impact of items that fluctuate from year to year in a manner unrelated to core operations, and we believe measures excluding their impact are useful in analyzing operating trends. The most significant adjustments to arrive at non-GAAP operating income eliminate the impact of fair value accounting for our fixed index annuity business and are not economic in nature but rather impact the timing of reported results. In addition, 2017 includes a $35.9 million adjustment to arrive at non-GAAP operating income resulting from Tax Reform, which was enacted on December 22, 2017 and required a revaluation of our net deferred tax assets from 35% to 21%. We believe the combined presentation and evaluation of non-GAAP operating income together with net income provides information that may enhance an investor's understanding of our underlying results and profitability.

Non-GAAP operating income is not a substitute for net income determined in accordance with GAAP. The adjustments made to derive non-GAAP operating income are important to understand our overall results from operations and, if evaluated without proper context, non-GAAP operating income possesses material limitations. As an example, we could produce a low level of net income or a net loss in a given period, despite strong operating performance, if in that period we experience significant net realized losses from our investment portfolio. We could also produce a high level of net income in a given period, despite poor operating performance, if in that period we generate significant net realized gains from our investment portfolio. As an example of another limitation of non-GAAP operating income, it does not include the decrease in cash flows expected to be collected as a result of credit loss OTTI. Therefore, our management reviews net realized investment gains (losses) and analyses of our net investment income, including impacts related to OTTI write-downs, in connection with their review of our investment portfolio. In addition, our management examines net income as part of their review of our overall financial results.

Non-GAAP operating income for 2019, 2018 and 2017 includes effects from revisions to assumptions as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Decrease in amortization of deferred sales inducements	$ (184,882)	$ (20,466)	$ (31,317)
Decrease in amortization of deferred policy acquisition costs	(288,332)	(28,702)	(43,716)
Increase (decrease) in interest sensitive and index product benefits	315,383	(53,607)	21,608
Effect on non-GAAP operating income	123,739	80,576	34,405

The impact to net income and non-GAAP operating income from assumption revisions varies due to the impact of fair value accounting for our fixed index annuity business as non-GAAP operating income eliminates the impact of fair value accounting for our fixed index annuity business. While the assumption revisions made during 2019, 2018 and 2017 were consistently applied, the impact to net income and non-GAAP operating income varies due to different amortization rates being applied to gross profit adjustments included in the valuation.

Annuity product charges (surrender charges assessed against policy withdrawals and fees deducted from policyholder account balances for lifetime income benefit riders) increased 7% to $240.0 million in 2019 and 12% to $224.5 million in 2018 from $200.5 million in 2017. The components of annuity product charges are set forth in the table that follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Surrender charges	$ 71,565	$ 65,644	$ 54,624
Lifetime income benefit riders (LIBR) fees	168,470	158,844	145,870
	$ 240,035	$ 224,488	$ 200,494
Withdrawals from annuity policies subject to surrender charges	$ 662,795	$ 572,802	$ 456,084
Average surrender charge collected on withdrawals subject to surrender charges	10.8%	11.5%	12.0%
Fund values on policies subject to LIBR fees	$ 22,490,676	$ 21,773,577	$ 20,440,431
Weighted average per policy LIBR fee	0.75%	0.73%	0.71%

The increases in annuity product charges were attributable to increases in fees assessed for lifetime income benefit riders due to a larger volume of business in force subject to the fee and increases in the average fees being charged due to higher fees on new products as compared to prior periods and to increases in surrender charges due to increases in withdrawals from annuity policies subject to surrender charges due to a larger volume of business in force and policyholder behavior, which were partially offset by lower average surrender charges collected on those withdrawals. See **Interest sensitive and index product benefits** below for corresponding expense recognized on lifetime income benefit riders.

Net investment income increased 7% to $2.3 billion in 2019 and 8% to $2.1 billion in 2018 from $2.0 billion in 2017. The increases were principally attributable to the growth in our annuity business and corresponding increases in our invested assets. Average invested assets excluding derivative instruments (on an amortized cost basis) increased 6% to $51.1 billion in 2019 and 7% to $48.1 billion in 2018 compared to $44.8 billion in 2017.

The average yield earned on average invested assets was 4.52%, 4.47% and 4.46% for 2019, 2018 and 2017, respectively. The increase in yield earned on average invested assets in 2019 was primarily attributable to our opportunistic replacement of lower yielding securities with higher yielding securities throughout 2018 as previously discussed. In addition, the increase in average yield earned for 2019 as compared to 2018 is due to increases in investment income on our floating rate investment securities due to an increase in the average benchmark rates associated with these investments during 2019 as compared to 2018. The average yield on fixed income securities purchased and commercial mortgage loans funded was 3.88%, 4.79% and 4.16% for the years ended December 31, 2019, 2018 and 2017, respectively.

Change in fair value of derivatives consists of call options purchased to fund annual index credits on fixed index annuities, and an interest rate swap and interest rate caps that hedge our floating rate subordinated debentures. The components of change in fair value of derivatives are as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Call options:			
Gain (loss) on option expiration	$ (190,376)	$ 656,953	$ 1,062,328
Change in unrealized gains/losses	1,098,932	(1,435,852)	615,955
Interest rate swap	(1,059)	869	255
Interest rate caps	(591)	182	(667)
	$ 906,906	$ (777,848)	$ 1,677,871

The differences between the change in fair value of derivatives between years for call options are primarily due to the performance of the indices upon which our call options are based which impacts the fair values and changes in the fair values of those call options between years. A substantial portion of our call options are based upon the S&P 500 Index with the remainder based upon other equity and bond market indices. The range of index appreciation (after applicable caps, participation rates and asset fees) for options expiring during these years is as follows:

	Year Ended December 31,		
	2019	2018	2017
S&P 500 Index			
Point-to-point strategy	0.0% - 22.3%	0.0% - 13.9%	1.0% - 13.3%
Monthly average strategy	0.0% - 14.7%	0.0% - 8.1%	0.1% - 10.6%
Monthly point-to-point strategy	0.0% - 14.0%	0.0% - 17.5%	0.0% - 17.0%
Fixed income (bond index) strategies	0.0% - 10.0%	0.0% - 5.1%	0.0% - 5.9%

The change in fair value of derivatives is also influenced by the aggregate costs of options purchased. During 2019 the aggregate cost of options purchased decreased compared to 2018 due to a decrease in the average cost of options for 2019, partially offset by an increase in the amount of fixed index annuities in force during 2019 compared to 2018. During 2018, the aggregate cost of options purchased increased compared to 2017 due to an increased amount of fixed index annuities in force as well as an increase in the cost of options for certain index strategies which began during the second half of 2017. The aggregate cost of options is also influenced by the amount of policyholder funds allocated to the various indices and market volatility which affects option pricing. See Critical Accounting Policies - Policy Liabilities for Fixed Index Annuities.

Net realized gains (losses) on investments, excluding OTTI losses include gains and losses on the sale of securities and other investments and impairment losses on mortgage loans on real estate which fluctuate from year to year due to changes in the interest rate and economic environment and the timing of the sale of investments, as well as gains (losses) recognized on real estate owned due to any sales and impairments on long-lived assets. See Note 3 to our audited consolidated financial statements for a detailed presentation of the types of investments that generated the gains (losses) and Financial Condition - Investments and Note 4 to our audited consolidated financial statements for discussion of allowance for credit losses recognized on mortgage loans on real estate.

Securities were sold at losses in 2019, 2018 and 2017 due to our long-term fundamental concern with the issuers' ability to meet their future financial obligations. In addition, during 2018, losses on available for sale fixed maturity securities were realized due to strategies to reposition the fixed maturity security portfolio that resulted in improved net investment income, risk or duration profiles as they pertain to our asset liability management. During 2018 we sold $2.1 billion in book value of lower yielding securities for a yield pick-up of approximately 170 basis points on these investments. As book yields on these securities sold were less than market yields, we recognized losses of approximately $38 million on these sales.

Net OTTI losses recognized in operations decreased to $18.7 million in 2019 and increased to $36.7 million in 2018 from $4.6 million in 2017. The impairments recognized in 2019 were primarily on corporate securities with exposure to the offshore drilling industry. The decrease in impairments recognized in 2019 compared to 2018 is partially related to our strategy to reposition the fixed maturity security portfolio during 2018. We sold $384 million in book value of securities in early October of 2018 and recognized OTTI of $12 million based on our intent to sell such securities as of September 30, 2018. In addition, during 2018 we recognized impairments on certain securities with exposure to various sectors, including the energy and utilities sectors, due to specific credit concerns and/or our intent to sell such securities. The impairments recognized in 2017 were primarily on a corporate security with exposure to the industrial sector in Latin America and additional impairments on previously impaired residential mortgage backed securities. See Financial Condition - Other Than Temporary Impairments and Note 3 to our audited consolidated financial statements for additional discussion of other than temporary impairments recognized.

Interest sensitive and index product benefits decreased 20% to $1.3 billion in 2019 and decreased 20% to $1.6 billion in 2018 from $2.0 billion in 2017. The components of interest sensitive and index product benefits are summarized as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Index credits on index policies	$ 587,818	$ 1,285,555	$ 1,594,722
Interest credited (including changes in minimum guaranteed interest for fixed index annuities)	204,474	221,554	257,896
Lifetime income benefit riders	495,284	103,726	171,050
	$ 1,287,576	$ 1,610,835	$ 2,023,668

The changes in index credits were attributable to changes in the level of appreciation of the underlying indices (see discussion above under **Change in fair value of derivatives**) and the amount of funds allocated by policyholders to the respective index options. Total proceeds received upon expiration of the call options purchased to fund the annual index credits were $0.6 billion, $1.3 billion and $1.6 billion for the years ended December 31, 2019, 2018 and 2017, respectively. The decreases in interest credited in 2019 and 2018 were primarily due to decreases in the amount of annuity liabilities outstanding receiving a fixed rate of interest and decreases in the average rate credited to the annuity liabilities outstanding receiving a fixed rate of interest. The increase in benefits recognized for lifetime income benefit riders in 2019 was primarily due to the impact of revisions of assumptions used in determining the liability for lifetime income benefit riders which caused an increase of $315.4 million in the liability in 2019 compared to a decrease of $53.6 million in the liability in 2018. Interest sensitive and index product benefits also increased in 2019 due to an increase in the number of policies with lifetime income benefit riders in 2019 compared to 2018, which correlates to the increase in fees discussed in **Annuity product charges**. The decrease in benefits recognized for lifetime income benefit riders in 2018 was due to the impact of revisions of assumptions used in determining the liability for lifetime income benefit riders which resulted in a $53.6 million decrease in the liability in 2018 compared to a $21.6 million increase in the liability in 2017 which was partially offset by an increase in the number of policies with lifetime income benefit riders which correlates to the increase in fees discussed in **Annuity product charges**. **See Net income** above for discussion of the changes in the assumptions used in determining reserves for lifetime income benefit riders for the years ended December 31, 2019, 2018 and 2017.

Amortization of deferred sales inducements, in general, has been increasing each year due to growth in our annuity business and the deferral of sales inducements incurred with respect to sales of premium bonus annuity products. Bonus products represented 76%, 81% and 87% of our net annuity account values at December 31, 2019, 2018 and 2017, respectively. The increases in amortization from these factors have been affected by amortization associated with fair value accounting for derivatives and embedded derivatives utilized in our fixed index annuity business and amortization associated with net realized gains (losses) on investments and net OTTI losses recognized in operations. Fair value accounting for derivatives and embedded derivatives utilized in our fixed index annuity business creates differences in the recognition of revenues and expenses from derivative instruments including the embedded derivative liabilities in our fixed index annuity contracts. The change in fair value of the embedded derivatives will not correspond to the change in fair value of the derivatives (purchased call options), because the purchased call options are one-year options while the options valued in the fair value of embedded derivatives cover the expected lives of the contracts which typically exceed ten years. Amortization of deferred sales inducements is summarized as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Amortization of deferred sales inducements before gross profit adjustments	$ 78,398	$ 249,627	$ 240,562
Gross profit adjustments:			
Fair value accounting for derivatives and embedded derivatives	12,189	(15,283)	(64,219)
Net realized gains (losses) on investments, net OTTI losses recognized in operations	(2,002)	(12,143)	269
Amortization of deferred sales inducements after gross profit adjustments	$ 88,585	$ 222,201	$ 176,612

See **Net income** and **Non-GAAP operating income, a non-GAAP financial measure** above and Critical Accounting Policies - Deferred Policy Acquisition Costs and Deferred Sales Inducements for discussion of the impact of unlocking on amortization of deferred sales inducements for the years ended December 31, 2019, 2018 and 2017.

Change in fair value of embedded derivatives includes changes in the fair value of our fixed index annuity embedded derivatives (see Note 5 to our audited consolidated financial statements). The components of change in fair value of embedded derivatives are as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Fixed index annuities - embedded derivatives	$ 562,302	$ (2,167,628)	$ 174,154
Other changes in difference between policy benefit reserves computed using derivative accounting vs. long-duration contracts accounting	891,740	778,137	745,581
	$ 1,454,042	$ (1,389,491)	$ 919,735

The change in fair value of the fixed index annuity embedded derivatives resulted from (i) changes in the expected index credits on the next policy anniversary dates, which are related to the change in fair value of the call options acquired to fund those index credits discussed above in **Change in fair value of derivatives**; (ii) changes in the discount rates used in estimating our embedded derivative liabilities; and (iii) the growth in the host component of the policy liability. The amounts presented as "Other changes in difference between policy benefit reserves computed using derivative accounting vs. long-duration contracts accounting" represents the total change in the difference between policy benefit reserves for fixed index annuities computed under the derivative accounting standard and the long-duration contracts accounting standard at each balance sheet date, less the change in fair value of our fixed index annuities embedded derivative. See Critical Accounting Policies - Policy Liabilities for Fixed Index Annuities.

The primary reasons for the increase in the change in fair value of the fixed index annuity embedded derivatives for 2019 were increases in the expected index credits on the next policy anniversary dates resulting from increases in the fair value of the call options acquired to fund these index credits during 2019 as compared to decreases in the expected index credits on the next policy anniversary date resulting from decreases in the fair value of the call options acquired to fund these index credits during 2018 and decreases in the discount rates for 2019 as compared to increases in the discount rates for 2018. The primary reasons for the decrease in the change in fair value of the fixed index annuity embedded derivatives for 2018 were decreases in the expected index credits on the next policy anniversary dates resulting from a decrease in the fair value of the call options acquired to fund these index credits during 2018 compared to increases in the expected index credits resulting from an increase in the fair value of the call options during 2017 and increases in the discount rates for 2018 compared to decreases in the discount rates for 2017. The discount rates used in estimating our embedded derivative liabilities fluctuate from year to year based on changes in the general level of interest rates and credit spreads.

Interest expense on notes and loan payable by debt instrument is as follows:

	Year Ended December 31,		
	2019	**2018**	**2017**
		(Dollars in thousands)	
2027 Notes	$ 25,525	$ 25,498	$ 13,801
2021 Notes	—	—	15,024
Term loan due 2019	—	—	1,543
	$ 25,525	$ 25,498	$ 30,368

The decrease in interest expense in 2018 was due to the repayment of our outstanding $100 million term loan and the redemption of our $400 million 6.625% notes due 2021 with the proceeds from the issuance of $500 million aggregate principal amount of senior unsecured notes due 2027 which bear interest at 5.0% per year and will mature on June 15, 2027 (the "2027 Notes"). This lowered our senior notes costs to 5% from 6.625%. See Note 9 to our audited consolidated financial statements.

Amortization of deferred policy acquisition costs, in general, has been increasing each year due to the growth in our annuity business and the deferral of policy acquisition costs incurred with respect to sales of annuity products. The increases in amortization from these factors have been affected by amortization associated with fair value accounting for derivatives and embedded derivatives utilized in our fixed index annuity business and amortization associated with net realized gains (losses) on investments and net OTTI losses recognized in operations. As discussed above, fair value accounting for derivatives and embedded derivatives utilized in our fixed index annuity business creates differences in the recognition of revenues and expenses from derivative instruments including the embedded derivative liabilities in our fixed index annuity contracts. Amortization of deferred policy acquisition costs is summarized as follows:

	Year Ended December 31,		
	2019	**2018**	**2017**
		(Dollars in thousands)	
Amortization of deferred policy acquisition costs before gross profit adjustments	$ 97,736	$ 358,736	$ 340,191
Gross profit adjustments:			
Fair value accounting for derivatives and embedded derivatives	(7,618)	(14,504)	(84,744)
Net realized gains (losses) on investments, net OTTI losses recognized in operations	(2,401)	(16,241)	517
Amortization of deferred policy acquisition costs after gross profit adjustments	$ 87,717	$ 327,991	$ 255,964

See **Net income** and **non-GAAP operating income, a non-GAAP financial measure,** above and Critical Accounting Policies - Deferred Policy Acquisition Costs and Deferred Sales Inducements for discussion of the impact of unlocking on amortization of deferred policy acquisition costs for the years ended December 31, 2019, 2018 and 2017.

Other operating costs and expenses increased 19% to $154.2 million in 2019 and increased 16% to $129.3 million in 2018 from $111.7 million in 2017 and are summarized as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Salary and benefits	$ 82,883	$ 71,914	$ 58,043
Risk charges	38,342	31,297	29,104
Other	32,928	26,090	24,544
Total other operating costs and expenses	$ 154,153	$ 129,301	$ 111,691

Salary and benefits expense increased in 2019 as a result of an increase in salary and benefits of $6.6 million and an increase of $3.3 million related to expense recognized under our equity and cash incentive compensation programs ("incentive compensation programs"). Salary and benefits expense increased in 2018 as a result of an increase in salary and benefits of $5.4 and an increase of $6.8 million related to expense recognized under our incentive compensation programs. The increases in salary and benefits were due to an increased number of employees related to our continued growth. The increases in expense for our incentive compensation programs were primarily due to increases in the actual and expected payouts due to a larger number of employees participating in the programs, higher potential payouts for certain employees participating in the programs and an increase in the percentage of restricted stock units that were earned or expected to be earned.

The increase in risk charges during 2019 was due to an increase in the amount of excess regulatory reserves ceded to an unaffiliated reinsurer pursuant to a reinsurance agreement primarily as a result of the replacement of the previous agreement with a new agreement effective April 1, 2019. The impact from increasing the amount of excess regulatory reserves ceded was partially offset by a lower risk charge percentage in the new agreement. The increase in risk charges during 2018 was due to an increase in the amount of excess regulatory reserves ceded to the unaffiliated reinsurer. The regulatory reserves ceded at December 31, 2019, 2018 and 2017 were $1,162.0 million, $780.0 million and $737.3 million, respectively.

Other expenses increased in 2019 and 2018 primarily as a result of increases in professional and consulting fees, increases in depreciation and maintenance expenses primarily related to software and hardware assets and increases in licensing fees which are based on the level of policyholder funds under management allocated to index strategies. These 2018 increases were offset by decreases in commission expense related to the exit of the group life business effective January 1, 2018.

Income tax expense decreased in 2019 primarily due a decrease in income before income taxes and decreased in 2018 due to Tax Reform reducing the statutory federal income tax rate from 35% to 21% effective January 1, 2018 partially offset by an increase in income before income taxes. The effective income tax rates were 22.0%, 19.0% and 44.8% for 2019, 2018 and 2017, respectively.

Income tax expense and the resulting effective tax rate are based upon two components of income before income taxes ("pretax income") that are taxed at different tax rates. Life insurance income is generally taxed at an effective rate of approximately 21.6% reflecting the absence of state income taxes for substantially all of the states that the life insurance subsidiaries do business in. The income for the parent company and other non-life insurance subsidiaries (the "non-life insurance group") is generally taxed at an effective tax rate of 29.5% reflecting the combined federal / state income tax rates. Prior to Tax Reform, life insurance income was generally taxed at an effective rate of approximately 35.6% while income for the non-life insurance group was generally taxed at an effective tax rate of 41.5% reflecting the combined federal / state income tax rates. The effective income tax rates resulting from the combination of the income tax provisions for the life / non-life sources of income vary from year to year based primarily on the relative size of pretax income from the two sources.

The effective income tax rates for 2019, 2018 and 2017 were impacted by a discrete tax item related to share-based compensation that reduced income tax expense for 2019, 2018 and 2017 by approximately $1.3 million, $2.7 million and $2.8 million, respectively. Income tax expense for the year ended December 31, 2019 reflects an increase in income tax expense of approximately $2.5 million related to the reversal of the impact of capital losses expected to be carried back to periods in which a 35% statutory rate was in effect while income tax expense for the year ended December 31, 2018 reflects a decrease in income tax expense of $2.5 million as a result of changes in capital losses expected to be carried back to periods in which a 35% statutory tax rate was in effect. In addition, the effective tax rate for 2018 benefited from a discrete tax item for a worthless stock deduction related to a wholly-owned subsidiary which reduced income tax expense by approximately $7.4 million. The effective income tax rates excluding the impact of the discrete items and the impact of the expected loss carrybacks were 21.64% and 21.26%, respectively, for the years ended December 31, 2019 and 2018.

Income tax expense for the year ended December 31, 2017 was increased by $35.9 million related to the revaluation of our net deferred tax assets using the newly enacted federal tax rate as a result of Tax Reform. The effective tax rate for 2017 adjusted to exclude the impact of Tax Reform was 32.3%.

Financial Condition

Investments

Our investment strategy is to maintain a predominantly investment grade fixed income portfolio, provide adequate liquidity to meet our cash obligations to policyholders and others and maximize current income and total investment return through active investment management. Consistent with this strategy, our investments principally consist of fixed maturity securities and mortgage loans on real estate.

Insurance statutes regulate the type of investments that our life subsidiaries are permitted to make and limit the amount of funds that may be used for any one type of investment. In light of these statutes and regulations and our business and investment strategy, we generally seek to invest in United States government and government-sponsored agency securities, corporate securities, residential and commercial mortgage backed securities, other asset backed securities and United States municipalities, states and territories securities rated investment grade by established nationally recognized statistical rating organizations ("NRSRO's") or in securities of comparable investment quality, if not rated and commercial mortgage loans on real estate.

The composition of our investment portfolio is summarized as follows:

	December 31,			
	2019		2018	
	Carrying Amount	Percent	Carrying Amount	Percent
	(Dollars in thousands)			
Fixed maturity securities:				
United States Government full faith and credit	$ 161,765	0.3%	$ 11,652	—%
United States Government sponsored agencies	625,020	1.1%	1,138,529	2.3%
United States municipalities, states and territories	4,527,671	7.9%	4,126,267	8.3%
Foreign government obligations	205,096	0.3%	230,274	0.5%
Corporate securities	32,536,839	57.2%	28,371,514	57.4%
Residential mortgage backed securities	1,575,664	2.8%	1,202,159	2.4%
Commercial mortgage backed securities	5,786,279	10.2%	5,379,003	10.9%
Other asset backed securities	6,162,156	10.8%	5,464,329	11.1%
Total fixed maturity securities	51,580,490	90.6%	45,923,727	92.9%
Mortgage loans on real estate	3,448,793	6.1%	2,943,091	6.0%
Derivative instruments	1,355,989	2.4%	205,149	0.4%
Other investments	492,301	0.9%	355,531	0.7%
	$ 56,877,573	100.0%	$ 49,427,498	100.0%

Fixed Maturity Securities

Our fixed maturity security portfolio is managed to minimize risks such as interest rate changes and defaults or impairments while earning a sufficient and stable return on our investments. The largest portion of our fixed maturity securities are in investment grade (NAIC designation 1 or 2) publicly traded or privately placed corporate securities.

A summary of our fixed maturity securities by NRSRO ratings is as follows:

	December 31,			
	2019		2018	
Rating Agency Rating	Carrying Amount	Percent of Fixed Maturity Securities	Carrying Amount	Percent of Fixed Maturity Securities
	(Dollars in thousands)			
Aaa/Aa/A	$ 30,662,644	59.4%	$ 27,052,481	58.9%
Baa	19,833,309	38.4%	17,265,590	37.6%
Total investment grade	50,495,953	97.8%	44,318,071	96.5%
Ba	821,902	1.6%	1,191,772	2.6%
B	81,407	0.2%	139,313	0.3%
Caa	95,676	0.2%	122,717	0.3%
Ca and lower	85,552	0.2%	151,854	0.3%
Total below investment grade	1,084,537	2.2%	1,605,656	3.5%
	$ 51,580,490	100.0%	$ 45,923,727	100.0%

The NAIC's Securities Valuation Office ("SVO") is responsible for the day-to-day credit quality assessment and the valuation of fixed maturity securities owned by state regulated insurance companies. The purpose of such assessment and valuation is for determining regulatory capital requirements and regulatory reporting. Insurance companies report ownership to the SVO when such securities are eligible for regulatory filings. The SVO conducts credit analysis on these securities for the purpose of assigning an NAIC designation and/or unit price. Typically, if a security has been rated by a NRSRO, the SVO utilizes that rating and assigns a NAIC designation based upon the following system:

NAIC Designation	NRSRO Equivalent Rating
1	Aaa/Aa/A
2	Baa
3	Ba
4	B
5	Caa
6	Ca and lower

For most of the bonds held in our portfolio the NAIC designation matches the NRSRO equivalent rating. However, for certain loan-backed and structured securities, as defined by the NAIC, the NAIC rating is not always equivalent to the NRSRO rating presented in the previous table. The NAIC has adopted revised rating methodologies for certain loan-backed and structured securities comprised of non-agency residential mortgage backed securities ("RMBS") and commercial mortgage backed securities ("CMBS"). The NAIC's objective with the revised rating methodologies for these structured securities is to increase the accuracy in assessing expected losses and use the improved assessment to determine a more appropriate capital requirement for such structured securities. The revised methodologies reduce regulatory reliance on rating agencies and allow for greater regulatory input into the assumptions used to estimate expected losses from structured securities.

The use of this process by the SVO may result in certain non-agency RMBS and CMBS being assigned an NAIC designation that is higher than the equivalent NRSRO rating. The NAIC designations for non-agency RMBS and CMBS are based on security level expected losses as modeled by an independent third party (engaged by the NAIC) and the statutory carrying value of the security, including any purchase discounts or impairment charges previously recognized. Evaluation of non-agency RMBS and CMBS held by insurers using the NAIC rating methodologies is performed on an annual basis.

As stated previously, our fixed maturity security portfolio is managed to minimize risks such as defaults or impairments while earning a sufficient and stable return on our investments. Our strategy has been to invest primarily in investment grade fixed maturity securities. Investment grade is NAIC 1 and 2 securities and Baa3/BBB- and better securities on the NRSRO scale. This strategy meets the objective of minimizing risk while also managing asset capital charges on a regulatory capital basis.

A summary of our fixed maturity securities by NAIC designation is as follows:

	December 31, 2019				December 31, 2018			
NAIC Designation	Amortized Cost	Fair Value	Carrying Amount	Percentage of Total Carrying Amount	Amortized Cost	Fair Value	Carrying Amount	Percentage of Total Carrying Amount
	(Dollars in thousands)				(Dollars in thousands)			
1	$ 27,781,525	$ 30,122,657	$ 30,122,657	58.4%	$ 26,588,352	$ 26,921,843	$ 26,921,843	58.6%
2	19,278,355	20,316,911	20,316,911	39.4%	17,901,161	17,528,072	17,528,072	38.2%
3	1,001,087	977,191	977,191	1.9%	1,396,650	1,269,242	1,269,242	2.8%
4	114,497	112,534	112,534	0.2%	173,987	137,991	137,991	0.3%
5	57,952	45,205	45,205	0.1%	23,836	19,453	19,453	—%
6	5,530	5,992	5,992	—%	47,204	47,126	47,126	0.1%
	$ 48,238,946	$ 51,580,490	$ 51,580,490	100.0%	$ 46,131,190	$ 45,923,727	$ 45,923,727	100.0%

The amortized cost and fair value of fixed maturity securities at December 31, 2019, by contractual maturity are presented in Note 3 to our audited consolidated financial statements in this Form 10-K, which is incorporated by reference in this Item 7.

Unrealized Losses

The amortized cost and fair value of fixed maturity securities that were in an unrealized loss position were as follows:

	Number of Securities	Amortized Cost	Unrealized Losses	Fair Value
	(Dollars in thousands)			
December 31, 2019				
Fixed maturity securities, available for sale:				
United States Government full faith and credit	5	$ 144,678	$ (96)	$ 144,582
United States Government sponsored agencies	6	374,961	(4,785)	370,176
United States municipalities, states and territories	42	296,812	(8,250)	288,562
Foreign government obligations	—	—	—	—
Corporate securities:				
Finance, insurance and real estate	38	399,043	(9,529)	389,514
Manufacturing, construction and mining	20	216,229	(9,990)	206,239
Utilities and related sectors	32	397,116	(11,212)	385,904
Wholesale/retail trade	12	194,815	(11,162)	183,653
Services, media and other	65	631,587	(40,366)	591,221
Residential mortgage backed securities	34	227,427	(3,691)	223,736
Commercial mortgage backed securities	127	810,505	(13,783)	796,722
Other asset backed securities	652	4,306,620	(179,191)	4,127,429
	1,033	$ 7,999,793	$ (292,055)	$ 7,707,738
December 31, 2018				
Fixed maturity securities, available for sale:				
United States Government full faith and credit	4	$ 8,650	$ (322)	$ 8,328
United States Government sponsored agencies	23	1,066,544	(83,034)	983,510
United States municipalities, states and territories	136	518,758	(15,658)	503,100
Foreign government obligations	6	114,529	(4,159)	110,370
Corporate securities:				
Finance, insurance and real estate	286	3,551,237	(164,727)	3,386,510
Manufacturing, construction and mining	231	2,515,204	(119,607)	2,395,597
Utilities and related sectors	273	3,032,710	(127,957)	2,904,753
Wholesale/retail trade	103	1,308,962	(77,554)	1,231,408
Services, media and other	529	6,040,083	(348,884)	5,691,199
Residential mortgage backed securities	33	172,427	(4,125)	168,302
Commercial mortgage backed securities	487	4,367,221	(134,826)	4,232,395
Other asset backed securities	604	4,615,477	(270,234)	4,345,243
	2,715	$ 27,311,802	$ (1,351,087)	$ 25,960,715

The decrease in unrealized losses from December 31, 2018 to 2019 was primarily due to a decrease in interest rates and tightening credit spreads during the year ended December 31, 2019. The 10-year U.S. Treasury yield rates at December 31, 2019 and 2018 were 1.92% and 2.69%, respectively. The 30-year U.S. Treasury yields at December 31, 2019 and 2018 were 2.39% and 3.02%, respectively.

The following table sets forth the composition by credit quality (NAIC designation) of fixed maturity securities with gross unrealized losses:

NAIC Designation	Carrying Value of Securities with Gross Unrealized Losses	Percent of Total	Gross Unrealized Losses	Percent of Total
	(Dollars in thousands)			
December 31, 2019				
1	$ 3,580,578	46.4%	$ (79,638)	27.3%
2	3,412,695	44.3%	(151,826)	52.0%
3	613,240	8.0%	(38,216)	13.1%
4	74,027	1.0%	(8,575)	2.9%
5	26,998	0.3%	(13,437)	4.6%
6	200	—%	(363)	0.1%
	$ 7,707,738	100.0%	$ (292,055)	100.0%
December 31, 2018				
1	$ 13,302,253	51.2%	$ (552,455)	40.9%
2	11,301,715	43.5%	(622,053)	46.0%
3	1,170,941	4.5%	(129,441)	9.6%
4	127,222	0.5%	(40,927)	3.0%
5	19,453	0.1%	(4,383)	0.3%
6	39,131	0.2%	(1,828)	0.2%
	$ 25,960,715	100.0%	$ (1,351,087)	100.0%

Our investments' gross unrealized losses and fair value, aggregated by investment category and length of time that individual securities (consisting of 1,033 and 2,715 securities, respectively) have been in a continuous unrealized loss position at December 31, 2019 and 2018, along with a description of the factors causing the unrealized losses is presented in Note 3 to our audited consolidated financial statements in this Form 10-K, which is incorporated by reference in this Item 7.

The amortized cost and fair value of fixed maturity securities in an unrealized loss position and the number of months in a continuous unrealized loss position (fixed maturity securities that carry an NRSRO rating of BBB/Baa or higher are considered investment grade) were as follows:

	Number of Securities	Amortized Cost	Fair Value	Gross Unrealized Losses
		(Dollars in thousands)		
December 31, 2019				
Fixed maturity securities, available for sale:				
Investment grade:				
Less than six months	352	$ 2,960,557	$ 2,911,909	$ (48,648)
Six months or more and less than twelve months	46	290,674	282,347	(8,327)
Twelve months or greater	513	4,003,478	3,829,474	(174,004)
Total investment grade	911	7,254,709	7,023,730	(230,979)
Below investment grade:				
Less than six months	11	32,607	31,695	(912)
Six months or more and less than twelve months	8	35,080	33,268	(1,812)
Twelve months or greater	103	677,397	619,045	(58,352)
Total below investment grade	122	745,084	684,008	(61,076)
	1,033	$ 7,999,793	$ 7,707,738	$ (292,055)
December 31, 2018				
Fixed maturity securities, available for sale:				
Investment grade:				
Less than six months	770	$ 6,986,778	$ 6,777,338	$ (209,440)
Six months or more and less than twelve months	1,184	12,208,435	11,692,145	(516,290)
Twelve months or greater	606	6,639,807	6,186,550	(453,257)
Total investment grade	2,560	25,835,020	24,656,033	(1,178,987)
Below investment grade:				
Less than six months	59	578,858	533,979	(44,879)
Six months or more and less than twelve months	44	371,075	338,056	(33,019)
Twelve months or greater	52	526,849	432,647	(94,202)
Total below investment grade	155	1,476,782	1,304,682	(172,100)
	2,715	$ 27,311,802	$ 25,960,715	$ (1,351,087)

The amortized cost and fair value of fixed maturity securities (excluding United States Government and United States Government sponsored agency securities) segregated by investment grade (NRSRO rating of BBB/Baa or higher) and below investment grade that had unrealized losses greater than 20% and the number of months in a continuous unrealized loss position were as follows:

	Number of Securities	Amortized Cost	Fair Value	Gross Unrealized Losses
			(Dollars in thousands)	
December 31, 2019				
Investment grade:				
Less than six months	—	$ —	$ —	$ —
Six months or more and less than twelve months	—	—	—	—
Twelve months or greater	—	—	—	—
Total investment grade	—	—	—	—
Below investment grade:				
Less than six months	—	—	—	—
Six months or more and less than twelve months	1	2,640	1,755	(885)
Twelve months or greater	4	53,800	35,541	(18,259)
Total below investment grade	5	56,440	37,296	(19,144)
	5	$ 56,440	$ 37,296	$ (19,144)
December 31, 2018				
Investment grade:				
Less than six months	5	$ 103,637	$ 78,378	$ (25,259)
Six months or more and less than twelve months	1	20,189	15,225	(4,964)
Twelve months or greater	—	—	—	—
Total investment grade	6	123,826	93,603	(30,223)
Below investment grade:				
Less than six months	13	146,474	108,465	(38,009)
Six months or more and less than twelve months	—	—	—	—
Twelve months or greater	3	45,594	26,665	(18,929)
Total below investment grade	16	192,068	135,130	(56,938)
	22	$ 315,894	$ 228,733	$ (87,161)

The amortized cost and fair value of fixed maturity securities, by contractual maturity, that were in an unrealized loss position are shown below. Actual maturities will differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties. All of our mortgage and other asset backed securities provide for periodic payments throughout their lives, and are shown below as a separate line.

	Available for sale	
	Amortized Cost	Fair Value
	(Dollars in thousands)	
December 31, 2019		
Due in one year or less	$ 5,073	$ 5,071
Due after one year through five years	278,165	273,869
Due after five years through ten years	555,200	544,687
Due after ten years through twenty years	1,041,474	1,008,487
Due after twenty years	775,329	727,737
	2,655,241	2,559,851
Residential mortgage backed securities	227,427	223,736
Commercial mortgage backed securities	810,505	796,722
Other asset backed securities	4,306,620	4,127,429
	$ 7,999,793	$ 7,707,738
December 31, 2018		
Due in one year or less	$ 31,590	$ 30,780
Due after one year through five years	2,596,616	2,534,891
Due after five years through ten years	7,196,565	6,907,961
Due after ten years through twenty years	3,247,923	3,056,474
Due after twenty years	5,083,983	4,684,669
	18,156,677	17,214,775
Residential mortgage backed securities	172,427	168,302
Commercial mortgage backed securities	4,367,221	4,232,395
Other asset backed securities	4,615,477	4,345,243
	$ 27,311,802	$ 25,960,715

International Exposure

We hold fixed maturity securities with international exposure. As of December 31, 2019, 24% of the carrying value of our fixed maturity securities was comprised of corporate debt securities of issuers based outside of the United States and debt securities of foreign governments. All of our fixed maturity securities with international exposure are denominated in U.S. dollars. Our investment professionals analyze each holding for credit risk by economic and other factors of each country and industry. The following table presents our international exposure in our fixed maturity portfolio by country or region:

	December 31, 2019		
	Amortized Cost	Carrying Amount/ Fair Value	Percent of Total Carrying Amount
	(Dollars in thousands)		
GIIPS (1)	$ 251,310	$ 279,592	0.5%
Asia/Pacific	436,537	475,082	0.9%
Non-GIIPS Europe	3,143,830	3,390,000	6.6%
Latin America	277,489	302,147	0.6%
Non-U.S. North America	1,378,013	1,503,885	2.9%
Australia & New Zealand	1,075,604	1,126,723	2.2%
Other	5,587,191	5,477,698	10.6%
	$ 12,149,974	$ 12,555,127	24.3%

(1) Greece, Ireland, Italy, Portugal and Spain ("GIIPS"). All of our exposure in GIIPS are corporate securities with issuers domiciled in these countries. None of our foreign government obligations were held in any of these countries.

All of the securities presented in the table above are investment grade (NAIC designation of either 1 or 2), except for the following:

	December 31, 2019	
	Amortized Cost	Carrying Amount/ Fair Value
	(Dollars in thousands)	
GIIPS	$ 14,537	$ 16,060
Asia/Pacific	11,000	10,471
Non-GIIPS Europe	77,826	78,275
Latin America	58,066	61,891
Non-U.S. North America	25,453	25,756
Other	439,933	411,234
	$ 626,815	$ 603,687

Watch List

At each balance sheet date, we identify invested assets which have characteristics (i.e. significant unrealized losses compared to amortized cost and industry trends) creating uncertainty as to our future assessment of an other than temporary impairment. As part of this assessment, we review not only a change in current price relative to its amortized cost but the issuer's current credit rating and the probability of full recovery of principal based upon the issuer's financial strength. Specifically for corporate issues we evaluate the financial stability and quality of asset coverage for the securities relative to the term to maturity for the issues we own. A security which has a 20% or greater change in market price relative to its amortized cost and/or a possibility of a loss of principal will be included on a list which is referred to as our watch list. We exclude from this list securities with unrealized losses which are related to market movements in interest rates and which have no factors indicating that such unrealized losses may be other than temporary as we do not intend to sell these securities and it is more likely than not we will not have to sell these securities before a recovery is realized. In addition, we exclude our residential and commercial mortgage backed securities as we monitor all of our residential and commercial mortgage backed securities on a quarterly basis for changes in default rates, loss severities and expected cash flows for the purpose of assessing potential other than temporary impairments and related credit losses to be recognized in operations. At December 31, 2019, the amortized cost and fair value of securities on the watch list (all fixed maturity securities) are as follows:

General Description	Number of Securities	Amortized Cost	Unrealized Gains (Losses)	Fair Value	Months in Continuous Unrealized Loss Position	Months Unrealized Losses Greater Than 20%
			(Dollars in thousands)			
Below investment grade						
Corporate securities:						
Consumer discretionary	5	$ 52,654	$ (3,575)	$ 49,079	0 - 59	0 - 22
Energy	4	38,386	(5,742)	32,644	0 - 64	0 - 15
Industrials	1	563	(363)	200	7	3
Materials	1	3,990	560	4,550	—	—
	—	—	—	—	—	—
Other asset backed securities:						
Financials	1	977	261	1,238	—	—
Industrials	1	8,364	(2,420)	5,944	50	13
	13	$ 104,934	$ (11,279)	$ 93,655		

We have determined that the unrealized losses of the securities on the watch list are temporary as we do not intend to sell these securities and it is more likely than not we will not have to sell these securities before recovery of their amortized cost. Our analysis of these securities and their credit performance at December 31, 2019 is as follows:

Corporate securities:

Consumer discretionary: The decline in the value of certain of these securities is primarily due to weak operating performance and sales trends. The decrease in sales for certain of these securities related to a domestic based toy manufacturer is attributable to the liquidation of a major toy retailer during the fourth quarter of 2017. While the issuer has seen a decrease in operating performance, it has implemented a plan to reduce costs and stabilize its revenue and is executing on that plan. We have determined that these securities were not other than temporarily impaired due to our evaluation of the operating performance and the creditworthiness of the issuer and the fact that all required payments have been made. The decline in operating performance and sales trends of another of these securities related to a domestic company operating retail chain stores is a result of market deterioration being experienced in many companies within the retail market. We recognized an other than temporary impairment on this issuer during the fourth quarter of 2018 due to our evaluation of the operating performance and the credit worthiness of the issuer. In addition, we included a Brazilian food company whose operating trends came under pressure during 2018 due to export challenges, domestic poultry price weakness and a domestic trucking strike. As one of the world's largest food companies, we believe the company remains a viable entity even though operating metrics have declined. Most recently the company has experienced improvement in financial metrics due to a stronger macro environment for food producers. We have determined that these securities were not other than temporarily impaired due to our evaluation of their operating performance, asset base and creditworthiness of the borrower.

Energy, Industrials and Materials: The decline in the value of these securities relates to continued operational pressure due to past declines in certain commodity prices specific to their businesses. The decline in these commodity prices creates financial challenges as the companies had to realign operations to accommodate the new environment. These issuers are stressed greater than the average company due to their price sensitivity and the specific position they hold in the supply chain. We recognized other than temporary impairments on three securities during the fourth quarter of 2019 with exposure to the offshore drilling industry due to increasing concerns around cash flow shortages creating possible liquidity challenges as debt maturity approaches. We recognized an other than temporary impairment on one of these issuers during the fourth quarter of 2018 due to our evaluation of the operating performance and the credit worthiness of the issuer. While the remaining issuers have seen their financial and profitability profile weakened, we have determined that the remaining securities were not other than temporarily impaired due to our evaluation of the operating performance and the credit worthiness of the issuer.

Other asset backed securities:

Financials: The decline in value of this security relates directly to the decline in oil prices and the financial stability of its operator. The issuer has direct exposure to the oil market as its primary business is deep water drilling. As oil prices have remained low, the operator of the deep water vessel has experienced financial pressure on its balance sheet and similar vessel sales have been at softer valuations. We recognized an other than temporary impairment on this security during 2018 and 2017.

Industrials: The decline in the value of this security is driven by poor financial performance of the trust and a decline in the value of the assets backing this security. Following the loss of several major license agreements with major retailers, revenues and cash flows have suffered. While the performance is down, we have determined the value of the underlying assets currently provide adequate debt service coverage and no other than temporary impairment is necessary.

Other Than Temporary Impairments

We have a policy and process to identify securities in our investment portfolio for which we should recognize impairments. See Critical Accounting Policies—Evaluation of Other Than Temporary Impairments.

In 2019, we recognized OTTI losses of $17.3 million on corporate securities with exposure to the offshore drilling industry as discussed above. In addition, during 2019 we recognized additional credit losses on residential mortgage backed securities on which we have previously recognized OTTI, recognized OTTI of $0.5 million related to two commercial mortgage backed securities due to our intent to sell the securities and an OTTI of $0.6 million on an other asset backed security on which we have previously recognized OTTI.

In 2018, we recognized $12 million OTTI loss in operations due to our intent to sell certain securities as part of our opportunistic replacement of lower yielding securities with higher yielding securities which is further discussed in Management's Discussion and Analysis - Executive Summary. We recognized a $5.5 million OTTI loss in operations on a corporate security in the utilities sector due to concerns over pending litigation. We recognized a $3.6 million OTTI loss in operations on an other asset backed security as potential sales activity related to the asset backing our security led us to conclude the asset is worth less than our previous estimate. We recognized a $2.7 million OTTI loss in operations on a corporate security related to an issuer operating retail chain stores due to deteriorating operating performance and sales trends. We recognized a $3.6 million OTTI loss in operations on an issuer in the commodities sector due to deteriorating operating performance resulting in part of from operational pressure related to past declines in certain commodity prices specific to its businesses.

In 2017, we recognized a $2.5 million OTTI loss in operations due to our concern regarding a corporate security issued by a Latin America engineering and construction company as developments in 2017 led us to the conclusion that we will not be able to recover our amortized cost basis. We recognized an OTTI of $0.3 million on a residential mortgage backed security that had not been previously impaired and we recognized additional credit losses on previously impaired residential mortgage backed securities during 2017 as several factors led us to believe the full recovery of amortized cost is not expected on the residential mortgage backed securities. Also in 2017, we recognized an additional impairment of $0.3 million on an asset backed security as sales of similar assets during 2017 led us to conclude that the asset backing our security was worth less than our previous estimates.

Several factors led us to believe that full recovery of amortized cost is not expected on the securities for which we recognized credit losses. A discussion of these factors, our policy and process to identify securities that could potentially have impairment that is other than temporary and a summary of OTTI is presented in Note 3 to our audited consolidated financial statements in this Form 10-K, which is incorporated by reference in this Item 7.

Mortgage Loans on Real Estate

Our commercial mortgage loan portfolio consists of mortgage loans collateralized by the related properties and diversified as to property type, location and loan size. Our mortgage lending policies establish limits on the amount that can be loaned to one borrower and other criteria to attempt to reduce the risk of default. Our commercial mortgage loans on real estate are reported at cost, net of loan loss allowances and deferred prepayment fees. At December 31, 2019 and 2018, the largest principal amount outstanding for any single mortgage loan was $28.5 million and $23.8 million, respectively, and the average loan size was $4.4 million and $3.8 million, respectively. In addition, the average loan to value ratio for the overall portfolio was 54.3% and 53.6% at December 31, 2019 and 2018, respectively, based upon the underwriting and appraisal at the time the loan was made. This loan to value is indicative of our conservative underwriting policies and practices for making commercial mortgage loans and may not be indicative of collateral values at the current reporting date. Our current practice is to only obtain market value appraisals of the underlying collateral at the inception of the loan unless we identify indicators of impairment in our ongoing analysis of the portfolio, in which case, we either calculate a value of the collateral using a capitalization method or obtain a third party appraisal of the underlying collateral. The commercial mortgage loan portfolio is summarized by geographic region and property type in Note 4 of our audited consolidated financial statements of this Form 10-K, which is incorporated by reference in this Item 7.

In the normal course of business, we commit to fund commercial mortgage loans up to 90 days in advance. At December 31, 2019, we had commitments to fund commercial mortgage loans totaling $244.3 million, with interest rates ranging from 3.35% to 5.68%. During 2019 and 2018, due to historically low interest rates, the commercial mortgage loan industry has been very competitive. This competition has resulted in a number of borrowers refinancing with other lenders. For the year ended December 31, 2019, we received $187.6 million in cash for loans being paid in full compared to $178.2 million for the year ended December 31, 2018. Some of the loans being paid off have either reached their maturity or are nearing maturity; however, some borrowers are paying the prepayment fee and refinancing at a lower rate.

See Note 4 to our audited consolidated financial statements, incorporated by reference, for a presentation of our specific and general loan loss allowances, impaired loans, foreclosure activity and troubled debt restructure analysis.

We have a process by which we evaluate the credit quality of each of our commercial mortgage loans. This process utilizes each loan's debt service coverage ratio as a primary metric. A summary of our portfolio by debt service coverage ratio (based on most recent information collected) follows:

	December 31, 2019		**December 31, 2018**	
	Principal Outstanding	**Percent of Total Principal Outstanding**	**Principal Outstanding**	**Percent of Total Principal Outstanding**
	(Dollars in thousands)		**(Dollars in thousands)**	
Debt Service Coverage Ratio:				
Greater than or equal to 1.5	$ 2,518,872	72.8%	$ 2,121,785	71.9%
Greater than or equal to 1.2 and less than 1.5	789,420	22.8%	645,470	21.8%
Greater than or equal to 1.0 and less than 1.2	114,862	3.3%	127,083	4.3%
Less than 1.0	35,760	1.1%	58,126	2.0%
	$ 3,458,914	100.0%	$ 2,952,464	100.0%

All of our mortgage loans (based on principal outstanding) that have a debt service coverage ratio of less than 1.0 are performing under the original contractual loan terms at December 31, 2019.

Mortgage loans summarized in the following table represent all loans that we are either not currently collecting or those we feel it is probable we will not collect all amounts due according to the contractual terms of the loan agreements (all loans that we have worked with the borrower to alleviate short-term cash flow issues, loans delinquent for 60 days or more at the reporting date, loans we have determined to be collateral dependent and loans that we have recorded specific impairments on that we feel may continue to have performance issues).

	December 31,	
	2019	2018
	(Dollars in thousands)	
Impaired mortgage loans with an allowance	$ 1,229	$ 1,253
Impaired mortgage loans with no related allowance	—	—
Allowance for probable loan losses	(229)	(229)
Net carrying value of impaired mortgage loans	$ 1,000	$ 1,024

At December 31, 2019, we had no commercial mortgage loans that were delinquent (60 days or more past due at the reporting date) in their principal and interest payments.

Derivative Instruments

Our derivative instruments primarily consist of call options purchased to provide the income needed to fund the annual index credits on our fixed index annuity products. The fair value of the call options is based upon the amount of cash that would be required to settle the call options obtained from the counterparties adjusted for the nonperformance risk of the counterparty. The nonperformance risk for each counterparty is based upon its credit default swap rate. We have no performance obligations related to the call options.

None of our derivatives qualify for hedge accounting, thus, any change in the fair value of the derivatives is recognized immediately in the consolidated statements of operations. A presentation of our derivative instruments along with a discussion of the business strategy involved with our derivatives is included in Note 5 to our audited consolidated financial statements in this Form 10-K, which is incorporated by reference in this Item 7.

Liabilities

Our liability for policy benefit reserves increased to $61.9 billion at December 31, 2019 compared to $57.6 billion at December 31, 2018, primarily due to net cash flows from annuity deposits and funds returned to policyholders and interest and index credits credited to policyholders during 2019. The increase in policy benefit reserves was also due to an increase in the fair value of our fixed index annuity embedded derivatives during 2019. Substantially all of our annuity products have a surrender charge feature designed to reduce the risk of early withdrawal or surrender of the policies and to compensate us for our costs if policies are withdrawn early. Our lifetime income benefit rider also reduces the risk of early withdrawal or surrender of the policies as it provides an additional liquidity option to policyholders as the policyholder can elect to receive guaranteed payments for life from their contract without requiring them to annuitize their contract value and the rider is not transferable to other contracts. Notwithstanding these policy features, the withdrawal rates of policyholder funds may be affected by changes in interest rates and other factors.

See Note 9 to our audited consolidated financial statements in this Form 10-K, which is incorporated by reference in this Item 7 for discussion of our notes and loan payable and borrowings under repurchase agreements.

See Note 10 to our audited consolidated financial statements for additional information concerning our subordinated debentures payable to, and the preferred securities issued by, our subsidiary trusts.

Liquidity and Capital Resources

Liquidity for Insurance Operations

Our insurance subsidiaries' primary sources of cash flow are annuity deposits, investment income, and proceeds from the sale, maturity and calls of investments. The primary uses of funds are investment purchases, payments to policyholders in connection with surrenders and withdrawals, policy acquisition costs and other operating expenses.

Liquidity requirements are met primarily by funds provided from operations. Our life subsidiaries generally receive adequate cash flow from annuity deposits and investment income to meet their obligations. Annuity liabilities are generally long-term in nature. However, a primary liquidity concern is the risk of an extraordinary level of early policyholder withdrawals. We include provisions within our annuity policies, such as surrender charges and bonus vesting, which help limit and discourage early withdrawals. Our lifetime income benefit rider also limits the risk of early withdrawals as it provides an additional liquidity option to policyholders as the policyholder can elect to receive guaranteed payments for life from their contract without requiring them to annuitize their contract value and the rider is not transferable to other contracts. At December 31, 2019, approximately 94% of our annuity liabilities were subject to penalty upon surrender, with a weighted average remaining surrender charge period of 6.7 years and a weighted average surrender charge percentage of 10.8%.

Our insurance subsidiaries continue to have adequate cash flows from annuity deposits and investment income to meet their policyholder and other obligations. Net cash flows from annuity deposits and funds returned to policyholders as surrenders, withdrawals and death claims were $1.5 billion for the year ended December 31, 2019 compared to $1.2 billion for the year ended December 31, 2018 with the increase attributable to a $693.2 million increase in net annuity deposits after coinsurance, which was partially offset by a $433.4 million (after coinsurance) increase in funds returned to policyholders. We continue to invest the net proceeds from policyholder transactions and investment activities in high quality fixed maturity securities and fixed rate commercial mortgage loans.

Liquidity of Parent Company

We, as the parent company, are a legal entity separate and distinct from our subsidiaries, and have no business operations. We need liquidity primarily to service our debt (senior notes and subordinated debentures issued to subsidiary trusts), pay operating expenses and pay dividends to common and preferred stockholders. Our assets consist primarily of the capital stock and surplus notes of our subsidiaries. Accordingly, our future cash flows depend upon the availability of dividends, surplus note interest payments and other statutorily permissible payments from our subsidiaries, such as payments under our investment advisory agreements and tax allocation agreement with our subsidiaries. These sources provide adequate cash flow for us to meet our current and reasonably foreseeable future obligations and we expect they will be adequate to fund our parent company cash flow requirements in 2020.

The ability of our life insurance subsidiaries to pay dividends or distributions, including surplus note payments, will be limited by applicable laws and regulations of the states in which our life insurance subsidiaries are domiciled, which subject our life insurance subsidiaries to significant regulatory restrictions. These laws and regulations require, among other things, our insurance subsidiaries to maintain minimum solvency requirements and limit the amount of dividends these subsidiaries can pay.

Currently, American Equity Life may pay dividends or make other distributions without the prior approval of the Iowa Insurance Commissioner, unless such payments, together with all other such payments within the preceding twelve months, exceed the greater of (1) American Equity Life's net gain from operations for the preceding calendar year, or (2) 10% of American Equity Life's statutory capital and surplus at the preceding December 31. For 2020, up to $349.0 million can be distributed as dividends by American Equity Life without prior approval of the Iowa Insurance Commissioner. In addition, dividends and surplus note payments may be made only out of statutory earned surplus, and all surplus note payments are subject to prior approval by regulatory authorities in the life subsidiary's state of domicile. American Equity Life had $2.1 billion of statutory earned surplus at December 31, 2019.

The maximum distribution permitted by law or contract is not necessarily indicative of an insurer's actual ability to pay such distributions, which may be constrained by business and regulatory considerations, such as the impact of such distributions on surplus, which could affect the insurer's ratings or competitive position, the amount of premiums that can be written and the ability to pay future dividends or make other distributions. Further, state insurance laws and regulations require that the statutory surplus of our life subsidiaries following any dividend or distribution must be reasonable in relation to their outstanding liabilities and adequate for their financial needs. Along with solvency regulations, the primary driver in determining the amount of capital used for dividends is the level of capital needed to maintain desired financial strength ratings from rating agencies. Both regulators and rating agencies could become more conservative in their methodology and criteria, including increasing capital requirements for our insurance subsidiaries which, in turn, could negatively affect the cash available to us from insurance subsidiaries. As of December 31, 2019, we estimate American Equity Life has sufficient statutory capital and surplus, combined with capital available to the holding company, to maintain this rating objective. However, this capital may not be sufficient if significant future losses are incurred or a rating agency modifies its rating criteria and access to additional capital could be limited.

The transfer of funds by American Equity Life is also restricted by a covenant in our line of credit agreement which requires American Equity Life to maintain a minimum risk-based capital ratio of 275% and a minimum level of statutory surplus equal to the sum of 1) 80% of statutory surplus at June 30, 2016, 2) 50% of the statutory net income for each fiscal quarter ending after June 30, 2016, and 3) 50% of all capital contributed to American Equity Life after June 30, 2016. American Equity Life's risk-based capital ratio was 372% at December 31, 2019. Under this agreement, we are also required to maintain a maximum ratio of adjusted debt to total adjusted capital of 0.35.

On November 21, 2019 we issued $400 million of 5.95% fixed-rate reset non-cumulative preferred stock and received net proceeds of $388.9 million. We used a portion of the proceeds to redeem $165 million of our floating rate subordinated debentures in the fourth quarter of 2019 and the first quarter of 2020 and will have $225 million of net proceeds available for general corporate purposes.

Cash and cash equivalents of the parent holding company at December 31, 2019, were $332.5 million which includes the net proceeds from the November preferred offering discussed above. In addition, as discussed in Note 9 to our audited consolidated financial statements, we have a $150 million revolving line of credit agreement, with no borrowings outstanding at December 31, 2019. This revolving line of credit terminates on September 30, 2021, and borrowings are available for general corporate purposes of the parent company and its subsidiaries. We also have the ability to issue equity, debt or other types of securities through one or more methods of distribution. The terms of any offering would be established at the time of the offering, subject to market conditions.

Statutory accounting practices prescribed or permitted for our life subsidiaries differ in many respects from those governing the preparation of financial statements under GAAP. Accordingly, statutory operating results and statutory capital and surplus may differ substantially from amounts reported in the GAAP basis financial statements for comparable items. Information as to statutory capital and surplus and statutory net income for our life subsidiaries as of December 31, 2019 and 2018 and for the years ended December 31, 2019, 2018 and 2017 is included in Note 12 to our audited consolidated financial statements.

In the normal course of business, we enter into financing transactions, lease agreements, or other commitments. These commitments may obligate us to certain cash flows during future periods. The following table summarizes such obligations as of December 31, 2019.

	Payments Due by Period				
	Total	Less Than 1 year	1–3 Years	4–5 Years	After 5 Years
	(Dollars in thousands)				
Annuity and single premium universal life products (1)	$ 55,215,581	$ 3,688,477	$ 7,819,678	$ 8,165,187	$ 35,542,239
Notes and loan payable, including interest payments (2)	688,271	25,462	50,309	50,000	562,500
Subordinated debentures, including interest payments (3)	376,803	9,291	18,581	18,581	330,350
Operating leases	13,672	2,427	4,439	3,698	3,108
Mortgage loan funding and other investments	369,993	369,993	—	—	—
Total	$ 56,664,320	$ 4,095,650	$ 7,893,007	$ 8,237,466	$ 36,438,197

(1) Amounts shown in this table are projected payments through the year 2039 which we are contractually obligated to pay to our annuity policyholders. The payments are derived from actuarial models which assume a level interest rate scenario and incorporate assumptions regarding mortality and persistency, when applicable. These assumptions are based on our historical experience.

(2) Period that principal amounts are due is determined by the earliest of the call/put date or the maturity date of each note payable.

(3) Amount shown is net of equity investments in the capital trusts due to the contractual right of offset upon repayment of the notes.

Inflation

Inflation does not have a significant effect on our consolidated balance sheet. We have minimal investments in property, equipment or inventories. To the extent that interest rates may change to reflect inflation or inflation expectations, there would be an effect on our balance sheet and operations. It is not possible to calculate the effect such changes in interest rates, if any, have had on our operating results.

Critical Accounting Policies

The increasing complexity of the business environment and applicable authoritative accounting guidance require us to closely monitor our accounting policies. We have identified six critical accounting policies that are complex and require significant judgment. The following summary of our critical accounting policies is intended to enhance your ability to assess our financial condition and results of operations and the potential volatility due to changes in estimates.

Valuation of Investments

Our fixed maturity securities classified as available for sale are reported at fair value. Unrealized gains and losses, if any, on these securities are included directly in stockholders' equity as a component of accumulated other comprehensive income (loss), net of income taxes and certain adjustments for assumed changes in amortization of deferred policy acquisition costs and deferred sales inducements. Unrealized gains and losses represent the difference between the amortized cost or cost basis and the fair value of these investments. We use significant judgment within the process used to determine fair value of these investments.

GAAP defines fair value as the price that would be received to sell an asset or paid to transfer a liability (exit price) in an orderly transaction between market participants at the measurement date. We categorize our investments into three levels of fair value hierarchy based on the priority of inputs used in determining fair value. The hierarchy defines the highest priority inputs (Level 1) as quoted prices in active markets for identical assets or liabilities. The lowest priority inputs (Level 3) are our own assumptions about what a market participant would use in determining fair value such as estimated future cash flows. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, a financial instrument's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement. Our assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the financial instrument.

We categorize investments recorded at fair value in the consolidated balance sheets as follows:

Level 1 — Quoted prices are available in active markets for identical financial instruments as of the reporting date. We do not adjust the quoted price for these financial instruments, even in situations where we hold a large position and a sale could reasonably impact the quoted price.

Level 2 — Quoted prices in active markets for similar financial instruments, quoted prices for identical or similar financial instruments in markets that are not active; and models and other valuation methodologies using inputs other than quoted prices that are observable.

Level 3 — Models and other valuation methodologies using significant inputs that are unobservable for financial instruments and include situations where there is little, if any, market activity for the financial instrument. The inputs into the determination of fair value require significant management judgment or estimation. Financial instruments that are included in Level 3 are securities for which no market activity or data exists and for which we used discounted expected future cash flows with our own assumptions about what a market participant would use in determining fair value.

The following table presents the fair value of fixed maturity securities, available for sale, by pricing source and hierarchy level as of December 31, 2019 and 2018, respectively:

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	(Dollars in thousands)			
December 31, 2019				
Priced via third party pricing services	$ 155,949	$ 50,570,910	$ —	$ 50,726,859
Priced via independent broker quotations	—	228,401	—	228,401
Priced via other methods	—	625,230	—	625,230
	$ 155,949	$ 51,424,541	$ —	$ 51,580,490
% of Total	0.3%	99.7%	—%	100.0%
December 31, 2018				
Priced via third party pricing services	$ 5,907	$ 45,268,935	$ —	$ 45,274,842
Priced via independent broker quotations	—	20,367	—	20,367
Priced via other methods	—	635,955	—	635,955
	$ 5,907	$ 45,925,257	$ —	$ 45,931,164
% of Total	—%	100.0%	—%	100.0%

Management's assessment of all available data when determining fair value of our investments is necessary to appropriately apply fair value accounting.

We utilize independent pricing services in estimating the fair values of investment securities. The independent pricing services incorporate a variety of observable market data in their valuation techniques, including:

- reported trading prices,
- benchmark yields,
- broker-dealer quotes,
- benchmark securities,
- bids and offers,
- credit ratings,
- relative credit information, and
- other reference data.

The independent pricing services also take into account perceived market movements and sector news, as well as a security's terms and conditions, including any features specific to that issue that may influence risk and marketability. Depending on the security, the priority of the use of observable market inputs may change as some observable market inputs may not be relevant or additional inputs may be necessary.

The independent pricing services provide quoted market prices when available. Quoted prices are not always available due to market inactivity. When quoted market prices are not available, the third parties use yield data and other factors relating to instruments or securities with similar characteristics to determine fair value for securities that are not actively traded. We generally obtain one value from our primary external pricing service. In situations where a price is not available from this service, we may obtain quotes or prices from additional parties as needed. In addition, for our callable United States Government sponsored agencies we obtain multiple broker quotes and take the average of the broker prices received. Market indices of similar rated asset class spreads are considered for valuations and broker indications of similar securities are compared. Inputs used by the broker include market information, such as yield data and other factors relating to instruments or securities with similar characteristics. Valuations and quotes obtained from third party commercial pricing services are non-binding and do not represent quotes on which one may execute the disposition of the assets.

We validate external valuations at least quarterly through a combination of procedures that include the evaluation of methodologies used by the pricing services, comparison of the prices to a secondary pricing source, analytical reviews and performance analysis of the prices against trends, and maintenance of a securities watch list. Additionally, as needed we utilize discounted cash flow models or perform independent valuations on a case-by-case basis using inputs and assumptions similar to those used by the pricing services. Although we do identify differences from time to time as a result of these validation procedures, we did not make any significant adjustments as of December 31, 2019 and 2018.

Evaluation of Other Than Temporary Impairments and Allowance for Loan Loss

The evaluation of investments for other than temporary impairments involves significant judgment and estimates by management. We review and analyze all investments on an ongoing basis for changes in market interest rates and credit deterioration. This review process includes analyzing our ability to recover the amortized cost or cost basis of each investment that has a fair value that is materially lower than its amortized cost and requires a high degree of management judgment and involves uncertainty. The evaluation of securities for other than temporary impairments is a quantitative and qualitative process, which is subject to risks and uncertainties.

We have a policy and process to identify securities that could potentially have an impairment that is other than temporary. This process involves monitoring market events and other items that could impact issuers. The evaluation includes but is not limited to such factors as:

- the length of time and the extent to which the fair value has been less than amortized cost or cost;
- whether the issuer is current on all payments and all contractual payments have been made as agreed;
- the remaining payment terms and the financial condition and near-term prospects of the issuer;
- the lack of ability to refinance due to liquidity problems in the credit market;
- the fair value of any underlying collateral;
- the existence of any credit protection available;
- our intent to sell and whether it is more likely than not we would be required to sell prior to recovery for debt securities;
- consideration of rating agency actions; and
- changes in estimated cash flows of mortgage and asset backed securities.

We determine whether other than temporary impairment losses should be recognized for debt securities by assessing all facts and circumstances surrounding each security. Where the decline in fair value of debt securities is attributable to changes in market interest rates or to factors such as market volatility, liquidity and spread widening, and we anticipate recovery of all contractual or expected cash flows, we do not consider these investments to be other than temporarily impaired because we do not intend to sell these investments and it is not more likely than not we will be required to sell these investments before a recovery of amortized cost, which may be maturity.

If we intend to sell a debt security or if it is more likely than not that we will be required to sell a debt security before recovery of its amortized cost basis, other than temporary impairment has occurred and the difference between amortized cost and fair value will be recognized as a loss in operations.

If we do not intend to sell and it is not more likely than not we will be required to sell the debt security but also do not expect to recover the entire amortized cost basis of the security, an impairment loss would be recognized in operations in the amount of the expected credit loss. We determine the amount of expected credit loss by calculating the present value of the cash flows expected to be collected discounted at each security's acquisition yield based on our consideration of whether the security was of high credit quality at the time of acquisition. The difference between the present value of expected future cash flows and the amortized cost basis of the security is the amount of credit loss recognized in operations. The remaining amount of the other than temporary impairment is recognized in other comprehensive income (loss).

The determination of the credit loss component of a mortgage backed security is based on a number of factors. The primary consideration in this evaluation process is the issuer's ability to meet current and future interest and principal payments as contractually stated at time of purchase. Our review of these securities includes an analysis of the cash flow modeling under various default scenarios considering independent third party benchmarks, the seniority of the specific tranche within the structure of the security, the composition of the collateral and the actual default, loss severity and prepayment experience exhibited. With the input of third party assumptions for default projections, loss severity and prepayment expectations, we evaluate the cash flow projections to determine whether the security is performing in accordance with its contractual obligation.

We utilize the models from a leading structured product software specialist serving institutional investors. These models incorporate each security's seniority and cash flow structure. In circumstances where the analysis implies a potential for principal loss at some point in the future, we use our "best estimate" cash flow projection discounted at the security's effective yield at acquisition to determine the amount of our potential credit loss associated with this security. The discounted expected future cash flows equates to our expected recovery value. Any shortfall of the expected recovery when compared to the amortized cost of the security will be recorded as the credit loss component of an other than temporary impairment.

The cash flow modeling is performed on a security-by-security basis and incorporates actual cash flows on the residential mortgage backed securities through the current period, as well as the projection of remaining cash flows using a number of assumptions including default rates, prepayment rates and loss severity rates. The default curves we use are tailored to the Prime or Alt-A residential mortgage backed securities that we own, which assume lower default rates and loss severity for Prime securities versus Alt-A securities. These default curves are scaled higher or lower depending on factors such as current underlying mortgage loan performance, rating agency loss projections, loan to value ratios, geographic diversity, as well as other appropriate considerations.

The determination of the credit loss component of a corporate bond (including redeemable preferred stocks) is based on the underlying financial performance of the issuer and their ability to meet their contractual obligations. Considerations in our evaluation include, but are not limited to, credit rating changes, financial statement and ratio analysis, changes in management, significant changes in credit spreads, breaches of financial covenants and a review of the economic outlook for the industry and markets in which they trade. In circumstances where an issuer appears unlikely to meet its future obligation, or the security's price decline is deemed other than temporary, an estimate of credit loss is determined. Credit loss is calculated using default probabilities as derived from the credit default swaps markets in conjunction with recovery rates derived from independent third party analysis or a best estimate of credit loss. This credit loss rate is then incorporated into a present value calculation based on an expected principal loss in the future discounted at the yield at the date of purchase and compared to amortized cost to determine the amount of credit loss associated with the security.

In addition, for debt securities which we do not intend to sell and it is not more likely than not we will be required to sell, but our intent changes due to changes or events that could not have been reasonably anticipated, an other than temporary impairment charge is recognized. Once an impairment charge has been recorded, we then continue to review the other than temporarily impaired securities for appropriate valuation on an ongoing basis. Unrealized losses may be recognized in future periods through a charge to earnings should we later conclude that the decline in fair value below amortized cost is other than temporary pursuant to our accounting policy described above. The use of different methodologies and assumptions to determine the fair value of investments and the timing and amount of impairments may have a material effect on the amounts presented in our consolidated financial statements.

We evaluate our mortgage loan portfolio for the establishment of a loan loss allowance by specific identification of impaired loans and the measurement of an estimated loss for each individual loan identified. A mortgage loan is impaired when it is probable that we will be unable to collect all amounts due according to the contractual terms of the loan agreement. If we determine that the value of any specific mortgage loan is impaired, the carrying amount of the mortgage loan will be reduced to its fair value, based upon the present value of expected future cash flows from the loan discounted at the loan's effective interest rate, or the fair value of the underlying collateral less estimated costs to sell.

In addition, we analyze the mortgage loan portfolio for the need of a general loan allowance for probable losses on all other loans on a quantitative and qualitative basis. The amount of the general loan allowance is based upon management's evaluation of the collectability of the loan portfolio, historical loss experience, delinquencies, credit concentrations, underwriting standards and national and local economic conditions.

We rate each of the mortgage loans in our portfolio based on factors such as historical operating performance, loan to value ratio and economic outlook, among others. We calculate a loss factor to apply to each rating based on historical losses we have recognized in our mortgage loan portfolio. We apply the loss factors to the total principal outstanding within each rating category to determine an appropriate estimate of the general loan loss allowance. We also assess the portfolio quantitatively and apply a loss rate to all loans without a specific allowance based on management's assessment of economic conditions, and we apply an additional amount of loss allowance to a group of loans that we have identified as having higher risk of loss.

Policy Liabilities for Fixed Index Annuities

We offer a variety of fixed index annuities with crediting strategies linked to the S&P 500 Index and other equity and bond market indices. We purchase call options on the applicable indices as an investment to provide the income needed to fund the annual index credits on the index products. See Financial Condition—Derivative Instruments. Certain derivative instruments embedded in the fixed index annuity contracts are recognized in the consolidated balance sheets at their fair values and changes in fair value are recognized immediately in our consolidated statements of operations in accordance with accounting standards for derivative instruments and hedging activities.

Accounting for derivatives prescribes that the contractual obligations for future annual index credits are treated as a "series of embedded derivatives" over the expected life of the applicable contracts. Policy liabilities for fixed index annuities are equal to the sum of the "host" (or guaranteed) component and the embedded derivative component for each fixed index annuity policy. The host value is established at inception of the contract and accreted over the policy's life at a constant rate of interest. We estimate the fair value of the embedded derivative component at each valuation date by (i) projecting policy contract values and minimum guaranteed contract values over the expected lives of the contracts and (ii) discounting the excess of the projected contract value amounts at the applicable risk-free interest rates adjusted for our nonperformance risk related to those liabilities. The projections of policy contract values are based on our best estimate assumptions for future policy growth and future policy decrements including lapse, partial withdrawal and mortality rates. Our best estimate assumptions for future policy growth include assumptions for the expected index credits on the next policy anniversary date which are derived from the fair values of the underlying call options purchased to fund such index credits and the expected costs of annual call options we will purchase in the future to fund index credits beyond the next policy anniversary. The projections of minimum guaranteed contract values include the same best estimate assumptions for policy decrements as were used to project policy contract values. The amounts reported in the consolidated statements of operations as "Interest sensitive and index product benefits" represent amounts credited to policy liabilities pursuant to accounting by insurance companies for certain long-duration contracts which include index credits through the most recent policy anniversary. The amounts reported in the consolidated statements of operations as "Change in fair value of embedded derivatives" equal the change in the difference between policy benefit reserves for fixed index annuities computed under the derivative accounting standard and the long-duration contracts accounting standard at each balance sheet date.

In general, the change in the fair value of the embedded derivatives will not correspond to the change in fair value of the purchased call options because the purchased call options are generally one year options while the options valued in the embedded derivatives represent the rights of the contract holder to receive index credits over the entire period the fixed index annuities are expected to be in force, which typically exceeds 10 years.

The most sensitive assumptions in determining policy liabilities for fixed index annuities are 1) the rates used to discount the excess projected contract values, 2) the expected cost of annual call options we will purchase in the future to fund index credits beyond the next policy anniversary date and 3) our best estimate for future policy decrements specific to lapse rates.

As indicated above, the discount rates used to discount excess projected contract value are based on applicable risk-free interest rates adjusted for our nonperformance risk related to those liabilities. If the discount rates used to discount the excess projected contract values at December 31, 2019 were to increase by 100 basis points, our reserves for fixed index annuities would decrease by $871.3 million. A decrease by 100 basis points in the discount rates used to discount the excess projected contract values would increase our reserves for fixed index annuities by $1.0 billion.

As of December 31, 2019, we utilized an estimate of 2.90% for the expected cost of annual call options, which is based on estimated long-term account value growth and a historical review of our actual options costs. If the expected cost of annual call options we purchase in the future to fund index credits beyond the next policy anniversary date were to increase by 25 basis points, our reserves for fixed index annuities would increase by $737.5 million. A decrease of 25 basis points in the expected cost of annual call options would decrease our reserves for fixed index annuities by $706.9 million.

Our lapse rate assumptions are based on actual experience and our outlook as to future expectations for lapse rates. If lapse rates were to increase 10%, our reserves for fixed index annuities would decrease by $60.5 million. A decrease in lapse rates of 10% would increase our reserves for fixed index annuities by $63.0 million.

Liability for Lifetime Income Benefit Riders

The liability for lifetime income benefit riders is based on the actual and present value of expected benefit payments to be paid in excess of projected policy values recognizing the excess over the expected lives of the underlying policies based on the actual and present value of expected assessments including investment spreads, product charges and fees. The inputs used in the calculation of the liability for lifetime income benefit riders include actual policy values, actual income account values, actual payout factors, actual roll-up rates and our best estimate assumptions for future policy growth, expected utilization of lifetime income benefit riders, which includes the ages at which policyholders are expected to elect to begin to receive lifetime income benefit payments and the percentage of policyholders who elect to receive lifetime income benefit payments, the type of income benefit payments selected upon election and future assumptions for lapse, partial withdrawal and mortality rates. The assumptions are reviewed quarterly and revisions to the assumptions are made based on historical results and our best estimates of future experience. The liability for lifetime income benefit riders is included in policy benefit reserves in the consolidated balance sheets and the change in the liability is included in interest sensitive and index product benefits in the consolidated statements of operations. See **Results of Operations for the Three Years Ended December 31, 2019** in this Item 7 for a discussion and presentation of the actual effects of assumption revisions.

The most sensitive assumptions in the calculation of the liability for lifetime income benefit riders are 1) the expected cost of annual call options we will purchase in the future, 2) the percentage of policyholders who elect to receive lifetime income benefit payments, 3) our best estimate for future policy decrements specific to lapse rates and 4) the net investment earned rate.

We utilize the expected cost of annual call options we will purchase in the future to project policy values and to discount future cash flows. In addition, it is a key component in the calculation of expected assessments in the projection period. As of December 31, 2019, we utilized an estimate of 2.90% for the long-term expected cost of annual call options, which is based on estimated long-term account value growth and a historical review of our actual call options. If the expected cost of annual call options and fixed crediting rates were to increase by 25 basis points, our liability for lifetime income benefit riders would decrease by $87.9 million. A decrease of 25 basis points in the expected cost of annual call options and fixed crediting rates would increase our liability for lifetime income benefit riders by $94.6 million.

Our assumptions related to the percentage of policyholders who elect to receive lifetime income benefit payments is based on actual experience and our outlook as to future expectations for utilization rates. If the percentage of policyholders who elect to receive lifetime income benefit payments was increased by 10% at December 31, 2019, our liability for lifetime income benefit riders would increase by $55.5 million. A decrease by 10% in the percentage of policyholders who elect to receive lifetime income benefit payments would decrease our liability for lifetime income benefit riders by $44.5 million.

Our lapse rate assumptions are based on actual experience and our outlook as to future expectations for lapse rates. If lapse rates were to increase 10%, our liability for lifetime income benefit riders would decrease by $31.9 million. A decrease in lapse rates of 10% would increase our liability for lifetime income benefit riders by $31.9 million.

The net investment earned rate is a key component in the calculation of expected assessments in the projection period. The net investment earned rate is based on current yields being earned in our invested assets portfolio, future spot rates, the expected mean reversion period and expected spread we will earn above the risk-free rate. If the net investment earned rate were to increase 10 basis points, our liability for lifetime income benefit riders would decrease by $18.7 million. A decrease in the net investment earned rate of 10 basis points would increase our liability for lifetime income benefit riders by $19.3 million.

Deferred Policy Acquisition Costs and Deferred Sales Inducements

Costs relating to the successful production of new business are not expensed when incurred but instead are capitalized as deferred policy acquisition costs or deferred sales inducements. Only costs which are expected to be recovered from future policy revenues and gross profits may be deferred.

Deferred policy acquisition costs and deferred sales inducements are subject to loss recognition testing on a quarterly basis or when an event occurs that may warrant loss recognition. Deferred policy acquisition costs consist principally of commissions and certain costs of policy issuance. Deferred sales inducements consist of premium and interest bonuses credited to policyholder account balances.

For annuity products, these costs are being amortized in proportion to actual and expected gross profits. Actual and expected gross profits include the the excess of net investment income earned over the interest credited or the cost of providing index credits to the policyholders, or the "investment spread"; and to a lesser extent, product charges and fees net of expected excess payments for lifetime income benefit riders and certain policy expenses. Actual and expected gross profits for fixed index annuities also include the impact of amounts recorded for the change in fair value of derivatives and the change in fair value of embedded derivatives. Current period amortization is adjusted retrospectively through an unlocking process when estimates of actual and expected gross profits (including the impact of net realized gains (losses) on investments and net OTTI losses recognized in operations) to be realized from a group of products are revised. Our estimates of future gross profits are based on actuarial assumptions related to the underlying policies terms, lives of the policies, yield on investments supporting the liabilities and level of expenses necessary to maintain the polices over their entire lives. Revisions are made based on historical results and our best estimates of future experience. See **Results of Operations for the Three Years Ended December 31, 2019** in this Item 7 for a discussion and presentation of the actual effects of unlocking.

The most sensitive assumptions used to calculate amortization of deferred policy acquisition costs and deferred sales inducements are 1) the net investment earned rate, 2) our best estimate for future policy decrements specific to lapse rates and 3) the expected cost of annual call options we will purchase in the future.

The net investment earned rate is a key component in the calculation of estimated gross profits. The net investment earned rate is based on current yields being earned in our invested assets portfolio, future spot rates, the expected mean reversion period and expected spread we will earn above the risk-free rate. If the net investment earned rate were to increase 10 basis points, our combined balance for deferred policy acquisition costs and deferred sales inducements at December 31, 2019 would increase by $83.9 million. A decrease in the net investment earned rate of 10 basis points would decrease our combined balance for deferred policy acquisition costs and deferred sales inducements at December 31, 2019 by $86.7 million.

Our lapse rate assumptions are based on actual experience and our outlook as to future expectations for lapse rates. If lapse rates were to increase 10%, our combined balance of deferred policy acquisition costs and deferred sales inducements would decrease by $86.3 million. A decrease in lapse rates of 10% would increase our combined balance of deferred policy acquisition costs and deferred sales inducements by $89.0 million.

We utilize the expected cost of annual call options we will purchase in the future to project policy values and to discount future cash flows. In addition, it is a key component in the calculation of expected gross profits in the projection period. As of December 31, 2019, we utilized an estimate of 2.90% for the expected long-term cost of annual call options, which is based on estimated long-term account value growth and a historical review of our actual call options. If the expected cost of annual call options and fixed crediting rates were to increase by 25 basis points, our combined balance of deferred policy acquisition costs and deferred sales inducements would increase by $44.6 million. A decrease of 25 basis points in the expected cost of annual call options and fixed crediting rates would decrease our combined balance of deferred policy acquisition costs and deferred sales inducements by $81.1 million.

Deferred Income Taxes

We account for income taxes using the liability method. This method provides for the tax effects of transactions reported in the audited consolidated financial statements for both taxes currently due and deferred. Deferred income taxes reflect the impact of temporary differences between the amount of assets and liabilities recognized for financial reporting purposes and such amounts recognized for tax purposes. A temporary difference is a transaction, or amount of a transaction, that is recognized currently for financial reporting purposes but will not be recognized for tax purposes until a future tax period, or is recognized currently for tax purposes but will not be recognized for financial reporting purposes until a future reporting period. Deferred income taxes are measured by applying enacted tax rates for the years in which the temporary differences are expected to be recovered or settled to the amount of each temporary difference.

The realization of deferred income tax assets is primarily based upon management's estimates of future taxable income. Valuation allowances are established when management estimates, based on available information, that it is more likely than not that deferred income tax assets will not be realized. Significant judgment is required in determining whether valuation allowances should be established, as well as the amount of such allowances. When making such determination, consideration is given to, among other things, the following:

- future taxable income of the necessary character exclusive of reversing temporary differences and carryforwards;
- future reversals of existing taxable temporary differences;
- taxable capital income in prior carryback years; and
- tax planning strategies.

Actual realization of deferred income tax assets and liabilities may materially differ from these estimates as a result of changes in tax laws as well as unanticipated future transactions impacting related income tax balances.

The realization of deferred income tax assets related to unrealized losses on our available for sale fixed maturity securities is also based upon our intent to hold these securities for a period of time sufficient to allow for a recovery in fair value and not realize the unrealized loss.

New Accounting Pronouncements

See Note 1 to our audited consolidated financial statements in this Form 10-K beginning on page F-11, which is incorporated by reference in this Item 7, for new accounting pronouncement disclosures.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We seek to invest our available funds in a manner that will maximize shareholder value and fund future obligations to policyholders and debtors, subject to appropriate risk considerations. We seek to meet this objective through investments that: (i) consist substantially of investment grade fixed maturity securities, (ii) have projected returns which satisfy our spread targets, and (iii) have characteristics which support the underlying liabilities. Many of our products incorporate surrender charges, market interest rate adjustments or other features, including lifetime income benefit riders, to encourage persistency.

We seek to maximize the total return on our fixed maturity securities through active investment management. Accordingly, we have determined that our available for sale portfolio of fixed maturity securities is available to be sold in response to: (i) changes in market interest rates, (ii) changes in relative values of individual securities and asset sectors, (iii) changes in prepayment risks, (iv) changes in credit quality outlook for certain securities, (v) liquidity needs, and (vi) other factors.

Interest rate risk is our primary market risk exposure. Substantial and sustained increases and decreases in market interest rates can affect the profitability of our products and the fair value of our investments. The profitability of most of our products depends on the spreads between interest yield on investments and rates credited on insurance liabilities. We have the ability to adjust crediting rates (caps, participation rates or asset fee rates for fixed index annuities) on substantially all of our annuity liabilities at least annually (subject to minimum guaranteed values). Substantially all of our annuity products have surrender and withdrawal penalty provisions designed to encourage persistency and to help ensure targeted spreads are earned. In addition, a significant amount of our fixed index annuity policies and many of our annual reset fixed rate deferred annuities were issued with a lifetime income benefit rider which we believe improves the persistency of such annuity products. However, competitive factors, including the impact of the level of surrenders and withdrawals, may limit our ability to adjust or maintain crediting rates at levels necessary to avoid narrowing of spreads under certain market conditions.

A major component of our interest rate risk management program is structuring the investment portfolio with cash flow characteristics consistent with the cash flow characteristics of our insurance liabilities. We use models to simulate cash flows expected from our existing business under various interest rate scenarios. These simulations enable us to measure the potential gain or loss in fair value of our interest rate-sensitive financial instruments, to evaluate the adequacy of expected cash flows from our assets to meet the expected cash requirements of our liabilities and to determine if it is necessary to lengthen or shorten the average life and duration of our investment portfolio. The "duration" of a security is the time weighted present value of the security's expected cash flows and is used to measure a security's sensitivity to changes in interest rates. When the durations of assets and liabilities are similar, exposure to interest rate risk is minimized because a change in value of assets should be largely offset by a change in the value of liabilities.

If interest rates were to increase 10% (24 basis points) from levels at December 31, 2019, we estimate that the fair value of our fixed maturity securities would decrease by approximately $877.4 million. The impact on stockholders' equity of such decrease (net of income taxes and certain adjustments for changes in amortization of deferred policy acquisition costs and deferred sales inducements) would be a decrease of $398.4 million in accumulated other comprehensive income (loss) and a decrease in stockholders' equity. The models used to estimate the impact of a 10% change in market interest rates incorporate numerous assumptions, require significant estimates and assume an immediate and parallel change in interest rates without any management of the investment portfolio in reaction to such change. Consequently, potential changes in value of our financial instruments indicated by the simulations will likely be different from the actual changes experienced under given interest rate scenarios, and the differences may be material. Because we actively manage our investments and liabilities, our net exposure to interest rates can vary over time. However, any such decreases in the fair value of our fixed maturity securities (unless related to credit concerns of the issuer requiring recognition of an other than temporary impairment) would generally be realized only if we were required to sell such securities at losses prior to their maturity to meet our liquidity needs, which we manage using the surrender and withdrawal provisions of our annuity contracts and through other means. See Financial Condition—Liquidity for Insurance Operations for a further discussion of the liquidity risk.

The amortized cost of fixed maturity securities that will be callable at the option of the issuer, excluding securities with a make-whole provision, was $8.8 billion as of December 31, 2019. During the years ended December 31, 2019 and 2018, we received $1.5 billion and $0.9 billion, respectively, in net redemption proceeds related to the exercise of such call options. We have reinvestment risk related to these redemptions to the extent we cannot reinvest the net proceeds in assets with credit quality and yield characteristics similar to the redeemed bonds. Such reinvestment risk typically occurs in a declining rate environment. Should rates decline to levels which tighten the spread between our average portfolio yield and average cost of interest credited on annuity liabilities, we have the ability to reduce crediting rates (caps, participation rates or asset fees for fixed index annuities) on most of our annuity liabilities to maintain the spread at our targeted level. At December 31, 2019, approximately 99% of our annuity liabilities were subject to annual adjustment of the applicable crediting rates at our discretion, limited by minimum guaranteed crediting rates specified in the policies. At December 31, 2019, approximately 18% of our annuity liabilities were at minimum guaranteed crediting rates.

We purchase call options on the applicable indices to fund the annual index credits on our fixed index annuities. These options are primarily one-year instruments purchased to match the funding requirements of the underlying policies. Fair value changes associated with those investments are substantially offset by an increase or decrease in the amounts added to policyholder account balances for fixed index products. The difference between proceeds received at expiration of these options and index credits, as shown in the following table, is primarily due to over-hedging as a result of policyholder behavior being different than our expectations.

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Proceeds received at expiration of options related to such credits	$ 605,005	$ 1,307,755	$ 1,623,346
Annual index credits to policyholders on their anniversaries	587,818	1,285,555	1,594,722

On the anniversary dates of the index policies, we purchase new one-year call options to fund the next annual index credits. The risk associated with these prospective purchases is the uncertainty of the cost, which will determine whether we are able to earn our spread on our fixed index business. We manage this risk through the terms of our fixed index annuities, which permit us to change caps, participation rates and asset fees, subject to contractual features. By modifying caps, participation rates or asset fees, we can limit option costs to budgeted amounts, except in cases where the contractual features would prevent further modifications. Based upon actuarial testing which we conduct as a part of the design of our index products and on an ongoing basis, we believe the risk that contractual features would prevent us from controlling option costs is not material.

Item 8. Consolidated Financial Statements and Supplementary Data

The audited consolidated financial statements are included as a part of this report on Form 10-K on pages F-1 through F-55.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures

In accordance with the Securities Exchange Act Rules 13a-15(e) and 15d-15(e), our management, under the supervision of our Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this report on Form 10-K. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the design and operation of our disclosure controls and procedures were effective as of December 31, 2019 in recording, processing, summarizing and reporting, on a timely basis, information required to be disclosed by us in the reports that we file or submit under the Exchange Act.

During the quarter ended September 30, 2019, we implemented an enhanced actuarial valuation system that is used in the calculations of deferred policy acquisition costs, deferred sales inducements and policy liabilities for fixed index and fixed rate annuities. During implementation, we followed a development process that required significant planning, design and testing to ensure an ongoing effective control environment. In connection with the implementation, we evaluated and, where appropriate, made changes to the affected internal controls to maintain and enhance, through increased automation and further integration of related actuarial processes, the effectiveness of internal control over financial reporting.

(b) Management's Report on Internal Control over Financial Reporting

The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in the Exchange Act Rules 13a-15(f) and 15d-15(f). 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 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 the effectiveness of the Company's internal control over financial reporting as of December 31, 2019 based upon criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on the assessment, management has determined that we maintained effective internal control over financial reporting as of December 31, 2019.

The Company's independent registered public accounting firm, KPMG LLP, who audited the consolidated financial statements included in this annual report on Form 10-K, has issued an attestation report on the effectiveness of management's internal control over financial reporting as of December 31, 2019. This report appears on page F-2 of this annual report on Form 10-K.

(c) Changes in Internal Control over Financial Reporting.

There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2019, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

There is no information required to be disclosed on Form 8-K for the quarter ended December 31, 2019 which has not been previously reported.

PART III

The information required by Part III is incorporated by reference from our definitive proxy statement for our annual meeting of shareholders to be held June 4, 2020 to be filed with the Commission pursuant to Regulation 14A within 120 days after December 31, 2019.

PART IV

Item 15. Exhibits and Financial Statement Schedules

Financial Statements and *Financial Statement Schedules.* See Index to Consolidated Financial Statements and Schedules on page F-1 for a list of financial statements and financial statement schedules included in this report.

All other schedules to the audited consolidated financial statements required by Article 7 of Regulation S-X are omitted because they are not applicable, not required, or because the information is included elsewhere in the audited consolidated financial statements or notes thereto.

Exhibits.

Exhibit No.	Description
3.1	Articles of Incorporation, including Articles of Amendment (Incorporated by reference to Exhibit 3.1 to Post-Effective Amendment No. 1 to the Registration Statement on Form 10, filed on July 22, 1999, File No. 000-25985)
3.2	Articles of Amendment to Articles of Incorporation (Incorporated by reference to Exhibit 3.1 to Form 10-Q for the period ended June 30, 2000 filed on August 14, 2000, File No. 000-25985)
3.3	Articles of Amendment to Articles of Incorporation (Incorporated by reference to Exhibit 3.2 to Pre-Effective Amendment No. 1 to the Registration Statement on Form S-1 filed on October 20, 2003, File No. 333-108794)
3.4	Articles of Amendment to Articles of Incorporation (Incorporated by reference to Exhibit 3.3 to the Registration Statement on Form S-3 filed on January 15, 2008, File No. 333-148681)
3.5	Articles of Amendment to Articles of Incorporation (Incorporated by reference to Exhibit 3.5 to Form 10-Q for the period ended June 30, 2011 filed on August 5, 2011, File No. 001-31911)
3.6	Third Amended and Restated Bylaws (Incorporated by reference to Exhibit 3.1 to Form 8-K filed on September 2, 2008, File No. 001-31911)
3.7	Articles of Amendment to Articles of Incorporation (Incorporated by reference to Exhibit 3.2 to Form 8-A12B filed on November 20, 2019, File No. 001-31911)
4.1	Indenture dated October 29, 1999 between American Equity Investment Life Holding Company and Wilmington Trust Company (as successor in interest to West Des Moines State Bank), as trustee (Incorporated by reference to Exhibit 10.19 to the Registration Statement on Form S-1, File No. 333-108794, including all pre-effective amendments thereto)
4.2	Trust Preferred Securities Guarantee Agreement dated October 29, 1999 between American Equity Investment Life Holding Company and Wilmington Trust Company (as successor in interest to West Des Moines State Bank), as trustee (Incorporated by reference to Exhibit 10.20 to the Registration Statement on Form S-1, File No. 333-108794, including all pre-effective amendments thereto)
4.3	Trust Common Securities Guarantee Agreement dated October 29, 1999 between American Equity Investment Life Holding Company and West Des Moines State Bank, as trustee (Incorporated by reference to Exhibit 10.21 to the Registration Statement on Form S-1, File No. 333-108794, including all pre-effective amendments thereto)
4.4	Instruments of Resignation, Appointment and Acceptance, effective September 12, 2006, among American Equity Investment Life Holding Company, Wilmington Trust Company, West Des Moines State Bank and Delaware Trust Company, National Association (formerly known as First Union Trust Company, National Association) (Incorporated by reference to Exhibit 4.10A to Form 10-K for the year ended December 31, 2008 filed on March 16, 2009)
4.5	Indenture dated December 16, 2003, between American Equity Investment Life Holding Company and Wilmington Trust Company, as trustee (Incorporated by reference to Exhibit 4.11 to Form 10-K for the year ended December 31, 2003 filed on March 4, 2004)
4.6	Guarantee Agreement dated December 16, 2003, between American Equity Investment Life Holding Company and Wilmington Trust Company, as trustee (Incorporated by reference to Exhibit 4.12 to Form 10-K for the year ended December 31, 2003 filed on March 4, 2004)
4.7	Indenture dated April 29, 2004, between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.13 to Form 10-Q for the period ended September 30, 2004 filed on November 9, 2004)
4.8	Guarantee Agreement dated April 29, 2004, between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.14 to Form 10-Q for the period ended September 30, 2004 filed on November 9, 2004)
4.9	Indenture dated September 14, 2004, between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.15 to Form 10-Q for the period ended September 30, 2004 filed on November 9, 2004)
4.10	Guarantee Agreement dated September 14, 2004, between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.16 to Form 10-Q for the period ended September 30, 2004 filed on November 9, 2004)
4.11	Indenture dated December 22, 2004, between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.17 to Form 10-K for the year ended December 31, 2004 filed on March 14, 2005)
4.12	Guarantee Agreement dated December 22, 2004, between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.18 to Form 10-K for the year ended December 31, 2004 filed on March 14, 2005)
4.13	Indenture dated June 15, 2005 between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.23 to Form 10-Q for the period ended June 30, 2005 filed on August 4, 2005)
4.14	Guarantee Agreement dated June 15, 2005 between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.24 to Form 10-Q for the period ended June 30, 2005 filed on August 4, 2005)

Exhibit No.	Description
4.15	Indenture dated August 4, 2005 between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.25 to Form 10-Q for the period ended September 30, 2005 filed on November 4, 2005)
4.16	Guarantee Agreement dated August 4, 2005 between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.26 to Form 10-Q for the period ended September 30, 2005 filed on November 4, 2005)
4.17	Indenture dated December 15, 2005 between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.27 to Form 10-K for the year ended December 31, 2005 filed on March 14, 2006)
4.18	Guarantee Agreement dated December 15, 2005 between American Equity Investment Life Holding Company and JP Morgan Chase Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.28 to Form 10-K for the year ended December 31, 2005 filed on March 14, 2006)
4.19	Amended and Restated Indenture dated July 7, 2006 between American Equity Investment Life Holding Company and Wells Fargo Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.31 to Form 10-Q for the period ended September 30, 2006 filed on November 3, 2006)
4.20	Amended and Restated Guarantee Agreement dated July 7, 2006 between American Equity Investment Life Holding Company and Wells Fargo Delaware Trust Company, as trustee (Incorporated by reference to Exhibit 4.32 to Form 10-Q for the period ended September 30, 2006 filed on November 3, 2006)
4.21	Senior Amended and Restated Indenture, dated as of April 22, 2004, between American Equity Investment Life Holding Company and U.S. Bank National Association, as trustee (Incorporated by reference to Exhibit 4.1 to Amendment No.1 to Form S-3 filed on April 22, 2004).
4.22	First Supplemental Indenture, dated July 17, 2013, among American Equity Investment Life Holding Company, U.S. Bank National Association, and Wells Fargo Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.2 to Form 8-K filed on July 17, 2013)
4.23	Second Supplemental Indenture, dated as of July 17, 2013, between American Equity Investment Life Holding Company and Wells Fargo Bank, National Association, as trustee (Incorporated by reference to Exhibit 4.3 to Form 8-K filed on July 17, 2013)
4.24	Third Supplemental Indenture, dated as of June 16, 2017, between American Equity Investment Life Holding Company and U.S. Bank National Association, as trustee (Incorporated by reference to Exhibit 4.2 to Form 8-K filed on June 16, 2017)
4.25	Deposit Agreement, dated November 21, 2019, among American Equity Investment Life Holding Company, Computershare Inc. and Computershare Trust Company, N.A., jointly, as depositary, Computershare Inc., as registrar and transfer agent, and the holders from time to time of the depositary receipts (Incorporated by reference to Exhibit 4.1 to Form 8-K filed on November 21, 2019)
4.26	Form of Depository Receipt (included in Exhibit 4.25)
10.1 *	Deferred Compensation Agreement between American Equity Investment Life Holding Company and David S. Mulcahy dated December 31, 1997 (Incorporated by reference to Exhibit 10.5 to the Registration Statement on Form 10 filed on May 6, 1999)
10.2 *	2000 Director Stock Option Plan (Incorporated by reference to Exhibit 10.8 to Form 10-Q for the period ended June 30, 2000 filed on August 14, 2000)
10.3 *	American Equity Investment Life Holding Company 2009 Employee Incentive Plan (Incorporated by reference to Exhibit 10.2 to Form 8-K filed on June 9, 2009)
10.4 *	Form of Change in Control Agreement between American Equity Investment Life Holding Company and John M. Matovina (Incorporated by reference to the Registration Statement on Form S-1, File No. 333-108794, including all pre-effective amendments thereto)
10.5 *	Form of Amendment to Change in Control Agreement between American Equity Investment Life Holding Company and John M. Matovina (Incorporated by reference to Exhibit 10.11-A to Form 10-K for the year ended December 31, 2012 filed on March 7, 2013)
10.6	American Equity Investment Life Holding Company Independent Insurance Agent Stock Option Plan (Incorporated by reference to Exhibit 10.26 to Form 10-Q for the period ended September 30, 2007 filed on November 2, 2007)
10.7 *	Amended and Restated Retirement Benefit Agreement by and between American Equity Investment Life Holding Company and David J. Noble (Incorporated by reference to Exhibit 10.3 to Form 10-Q for the period ended March 31, 2016 filed on May 10, 2016)
10.8	2010 Independent Insurance Agent Stock Option Plan (Incorporated by reference to Exhibit 99.1 to the Registration Statement on Form S-3 filed on December 15, 2010)
10.9 *	American Equity Investment Life Holding Company 2011 Director Stock Option Plan (Incorporated by reference to the Appendix A to the Company's proxy statement on Form DEF 14A filed on April 25, 2011)
10.10	2012 Independent Insurance Agent Stock Option Plan (Incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-3 filed on August 23, 2012)
10.11 *	Form of Change in Control Agreement between American Equity Investment Life Holding Company and each of Ted M. Johnson, Ronald J. Grensteiner, Jeffrey D. Lorenzen and Renee D. Montz (Incorporated by reference to Exhibit 10.1 to Form 8-K filed on December 14, 2012)
10.12 *	American Equity Investment Life Holding Company Short-Term Performance Incentive Plan adopted April 15, 2013, as amended and restated (Incorporated by reference to Exhibit 10.1 to Form 8-K filed on April 18, 2013)
10.13 *	Form of Change in Control Agreement between American Equity Investment Life Holding Company and Scott A. Samuelson (Incorporated by reference to Exhibit 10.3 to Form 10-Q for the period ended June 30, 2013 filed on August 8, 2013)
10.14 *	2013 Director Equity and Incentive Plan (Incorporated by reference to Exhibit 10.4 to Form 10-Q for the period ended June 30, 2013 filed on August 8, 2013)
10.15	Credit Agreement dated September 30, 2016 among American Equity Life Investment Holding Company, JP Morgan Chase Bank, National Association, SunTrust Bank, and Citibank, National Association and Royal Bank of Canada (Incorporated by reference to Exhibit 10.1 to Form 8-K filed on October 3, 2016)
10.16	Amended and Restated American Equity Investment Life Holding Company 2014 Independent Insurance Agent Restricted Stock and Restricted Stock Unit Plan (Incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-3 filed on December 17, 2014)
10.17	Amended and Restated American Equity Investment Life Holding Company 2014 Independent Insurance Agent Restricted Stock and Restricted Stock Unit Plan, as amended (Incorporated by reference to the Appendix B to the Company's proxy statement on Form DEF 14A filed on April 18, 2016)
10.18 *	American Equity Investment Life Holding Company 2016 Employee Incentive Plan (Incorporated by reference to the Appendix A to the Company's proxy statement on Form DEF 14A filed on April 18, 2016)

Exhibit No.	Description
10.19 *	First Amendment to American Equity Investment Life Holding Company 2016 Employee Incentive Plan (Incorporated by reference to Exhibit 99.2 to Form S-8 filed on September 8, 2016)
10.20 *	Form of Restricted Stock Award Agreement with Respect to Common Stock of American Equity Investment Life Holding Company (Incorporated by reference to Exhibit 10.1 to Form 8-K filed on June 8, 2016)
10.21 *	Form of Performance Restricted Stock Unit Award Agreement (Incorporated by reference to Exhibit 10.2 to Form 8-K filed on June 8, 2016)
10.22 *	Form of First Amendment to Employee Stock Option Agreement between American Equity Investment Life Holding Company and Debra J. Richardson (Incorporated by reference to Exhibit 10.2 to Form 10-Q for the period ended June 30, 2016 filed on August 9, 2016)
10.23 *	American Equity Marketing Officers Deferred Compensation Agreement, dated as of January 1, 1998, between American Equity Investment Life Insurance Company and Ronald J. Grensteiner (Incorporated by reference to Exhibit 10.27 to Form 10-K for the year ended December 31, 2017 filed on February 23, 2018)
10.24 *	Form of Restricted Stock Unit Award Agreement (Incorporated by reference to Exhibit 10.1 to Form 10-Q for the period ended March 31, 2018 filed on May 8, 2018)
10.25 *	Form of Director Stock Option Agreement (Incorporated by reference to Exhibit 10.2 to Form 10-Q for the period ended March 31, 2018 filed on May 8, 2018)
10.26 *	Form of Employee Stock Option Agreement (Incorporated by reference to Exhibit 10.4 to Form 10-Q for the period ended March 31, 2018 filed on May 8, 2018)
10.27 *	Form of Change in Control Agreement between American Equity Investment Life Holding Company and Jennifer L. Bryant (Incorporated by reference to Exhibit 10.5 to Form 10-Q for the period ended March 31, 2018 filed on May 8, 2018)
10.28 *	Form of Restricted Stock Unit Award Agreement (Incorporated by reference to Exhibit 10.1 to Form 10-Q for the period ended June 30, 2018 filed on August 8, 2018)
10.29 *	Form of Restricted Stock Unit Award Agreement (Incorporated by reference to Exhibit 10.1 to Form 10-Q for the period ended March 31, 2019 filed on May 8, 2019)
10.30 *	Form of Performance Restricted Stock Unit Award Agreement (Incorporated by reference to Exhibit 10.2 to Form 10-Q for the period ended March 31, 2019 filed on May 8, 2019)
10.31 *	Form of Restricted Stock Award Agreement (Incorporated by reference to Exhibit 10.3 to Form 10-Q for the period ended March 31, 2019 filed on May 8, 2019)
10.32 *	Second Amendment to American Equity Investment Life Holding Company 2016 Employee Incentive Plan (Incorporated by reference to Exhibit 10.4 to Form 10-Q for the period ended March 31, 2019 filed on May 8, 2019)
10.33 *	Form of Employee Stock Option Agreement
21.2	Subsidiaries of American Equity Investment Life Holding Company
23.1	Consent of Independent Registered Public Accounting Firm
31.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

* Denotes management contract or compensatory plan.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, this 25th day of February 2020.

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY

By: /s/ JOHN M. MATOVINA

John M. Matovina,
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this registration statement has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated:

Signature	Title (Capacity)	Date
/s/ JOHN M. MATOVINA John M. Matovina	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	February 25, 2020
/s/ TED M. JOHNSON Ted M. Johnson	Chief Financial Officer and Treasurer (Principal Financial Officer)	February 25, 2020
/s/ SCOTT A. SAMUELSON Scott A. Samuelson	Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 25, 2020
/s/ ANANT BHALLA Anant Bhalla	Director	February 25, 2020
/s/ JOYCE A. CHAPMAN Joyce A. Chapman	Director	February 25, 2020
/s/ BRENDA J. CUSHING Brenda J. Cushing	Director	February 25, 2020
/s/ JAMES M. GERLACH James M. Gerlach	Director	February 25, 2020
/s/ ROBERT L. HOWE Robert L. Howe	Director	February 25, 2020
/s/ WILLIAM R. KUNKEL William R. Kunkel	Director	February 25, 2020
/s/ ALAN D. MATULA Alan D. Matula	Director	February 25, 2020
/s/ DAVID S. MULCAHY David S. Mulcahy	Director	February 25, 2020
/s/ GERARD D. NEUGENT Gerard D. Neugent	Director	February 25, 2020
/s/ DEBRA J. RICHARDSON Debra J. Richardson	Director	February 25, 2020
/s/ A.J. STRICKLAND, III A.J. Strickland, III	Director	February 25, 2020

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY AND SUBSIDIARIES

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AND SCHEDULES

YEARS ENDED DECEMBER 31, 2019, 2018 and 2017

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
American Equity Investment Life Holding Company:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of American Equity Investment Life Holding Company and subsidiaries (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes and financial statement schedules I to V (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019 based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of the valuation of deferred policy acquisition costs and deferred sales inducements and the liability for lifetime income benefit riders

As discussed in Notes 1 and 6 to the consolidated financial statements, the Company's fixed index and fixed rate annuity contracts deferred policy acquisition costs (DAC) and deferred sales inducements (DSI) are amortized in proportion to actual and expected gross profits, which is primarily derived from investment spreads. The liability for LIBR is based on the actual and present value of expected benefit payments to be paid in excess of projected policy values recognizing the excess over the expected lives of the underlying policies based on the actual and present value of expected assessments, which are primarily derived from investment spreads, product charges and fees. The DAC, DSI, and liability for LIBR balances were $2.9 billion, $2.0 billion, and $1.3 billion, respectively, at December 31, 2019.

We identified the assessment of the valuation of DAC and DSI and the liability for LIBR as a critical audit matter. Due to significant measurement uncertainty associated with the valuation of DAC and DSI and the liability for LIBR, there was subjective auditor judgment, and knowledge and experience in the insurance industry required to evaluate certain best estimate assumptions (assumptions) used to calculate estimated future gross profits, assessments, and benefit payments expected to be paid in excess of projected policy values, including:

- future yields on invested assets;
- future cost of money, which includes the expected policy crediting rates on fixed rate annuities and for fixed index annuities 1) the expected hedging expenses incurred to fund the policies annual index credits and 2) the expected policy crediting rates on amounts allocated to the fixed rate strategy;
- future policyholder decrements, including lapse and mortality rates; and
- future policyholder behavior related to LIBR utilization.

The primary procedures we performed to address this critical audit matter included the following. We tested, with the involvement of actuarial professionals, when appropriate, certain internal controls over the Company's assumption setting process, including controls related to the determination of assumptions. In addition, we involved actuarial professionals with specialized skills and knowledge who assisted in:

- comparing estimated gross profits and assessments for the current year developed from the application of the Company's assumptions to actual gross profits and assessments during the current year;
- comparing the assumptions used by the Company to actual and historical invested asset yields, cost of money, and internal and industry policyholder experience;
- developing an independent estimate of gross profits, assessments, and excess benefits for selected policies based on the assumptions used by the Company and comparing them to the Company's estimates; and
- evaluating period over period trends in the valuation of DAC and DSI and the liability for LIBR in relation to the assumptions used by the Company.

Assessment of the measurement of fair value for embedded derivatives in fixed index annuity contracts

As discussed in Notes 1 and 2 to the consolidated financial statements, the Company has established policies and procedures for determining the fair value of embedded derivatives in fixed index annuity contracts with crediting strategies linked to market indices. As of December 31, 2019, the recorded balance of the embedded derivatives in fixed index annuity contracts, net of coinsurance ceded, was $9.6 billion, which was classified as Level 3 in the fair value hierarchy. The Company estimates the fair value of the embedded derivative component of fixed index annuity policy benefit reserves by projecting policy contract values and minimum guaranteed contract values over the expected lives of the contracts and discounting the excess of the projected contract value amounts at the applicable risk free interest rates adjusted for nonperformance risk related to those liabilities.

We identified the assessment of the measurement of fair value for embedded derivatives in fixed index annuity contracts as a critical audit matter. Due to significant measurement uncertainty associated with the fair value of embedded derivatives in fixed index annuity contracts, there was subjective auditor judgment, and knowledge and experience in the insurance industry required to evaluate certain best estimate assumptions (assumptions) used to estimate the fair value, including: 1) the expected cost of annual call options the Company will purchase in the future to fund index credits beyond the next policy anniversary, and 2) future policyholder decrements, including lapse rates.

The primary procedures we performed to address this critical audit matter included the following. We tested, with the involvement of actuarial professionals, when appropriate, certain internal controls over the Company's assumption setting process, including controls related to the determination of assumptions. In addition, we involved actuarial professionals with specialized skills and knowledge who assisted in:

- comparing the assumptions used by the Company to actual and historical cost of annual call options and internal and industry policyholder experience; and

- developing an independent estimate of the fair value of the embedded derivatives for selected policies based on the assumptions used by the Company and comparing the estimate to the Company's estimate.

/s/ KPMG LLP

We have served as the Company's auditor since 2005.

Des Moines, Iowa
February 25, 2020

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(Dollars in thousands, except share and per share data)

	December 31,	
	2019	**2018**
Assets		
Investments:		
Fixed maturity securities, available for sale, at fair value (amortized cost: 2019 - $48,238,946; 2018 - $46,131,190)	$ 51,580,490	$ 45,923,727
Mortgage loans on real estate	3,448,793	2,943,091
Derivative instruments	1,355,989	205,149
Other investments	492,301	355,531
Total investments	56,877,573	49,427,498
Cash and cash equivalents	2,293,392	344,396
Coinsurance deposits	5,115,013	4,954,068
Accrued investment income	472,826	468,729
Deferred policy acquisition costs	2,923,454	3,535,838
Deferred sales inducements	1,966,723	2,516,721
Deferred income taxes	—	291,169
Income taxes recoverable	—	26,537
Other assets	47,571	60,608
Total assets	$ 69,696,552	$ 61,625,564
Liabilities and Stockholders' Equity		
Liabilities:		
Policy benefit reserves	$ 61,893,945	$ 57,606,009
Other policy funds and contract claims	256,105	270,858
Notes payable	495,116	494,591
Subordinated debentures	157,265	242,982
Amounts due under repurchase agreements	—	109,298
Deferred income taxes	177,897	—
Income taxes payable	429	—
Other liabilities	2,145,676	502,725
Total liabilities	65,126,433	59,226,463
Stockholders' equity:		
Preferred stock; par value $1 per share; 2,000,000 shares authorized; issued and outstanding: 2019 - 16,000 shares ($400,000 aggregate liquidation preference); 2018 - no shares	16	—
Common stock; par value $1 per share; 200,000,000 shares authorized; issued and outstanding: 2019 - 91,107,555 shares (excluding 1,344,193 treasury shares); 2018 - 90,369,229 shares (excluding 1,535,960 treasury shares)	91,107	90,369
Additional paid-in capital	1,212,311	811,186
Accumulated other comprehensive income (loss)	1,497,921	(52,432)
Retained earnings	1,768,764	1,549,978
Total stockholders' equity	4,570,119	2,399,101
Total liabilities and stockholders' equity	$ 69,696,552	$ 61,625,564

See accompanying notes to consolidated financial statements.

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

(Dollars in thousands, except per share data)

	Year Ended December 31,		
	2019	2018	2017
Revenues:			
Premiums and other considerations	$ 23,534	$ 26,480	$ 34,228
Annuity product charges	240,035	224,488	200,494
Net investment income	2,307,635	2,147,812	1,991,997
Change in fair value of derivatives	906,906	(777,848)	1,677,871
Net realized gains (losses) on investments, excluding other than temporary impairment (OTTI) losses	6,962	(37,178)	10,509
OTTI losses on investments:			
Total OTTI losses	(18,511)	(35,005)	(2,758)
Portion of OTTI losses recognized from other comprehensive income	(215)	(1,651)	(1,872)
Net OTTI losses recognized in operations	(18,726)	(36,656)	(4,630)
Loss on extinguishment of debt	(2,001)	—	(18,817)
Total revenues	3,464,345	1,547,098	3,891,652
Benefits and expenses:			
Insurance policy benefits and change in future policy benefits	35,418	39,530	43,219
Interest sensitive and index product benefits	1,287,576	1,610,835	2,023,668
Amortization of deferred sales inducements	88,585	222,201	176,612
Change in fair value of embedded derivatives	1,454,042	(1,389,491)	919,735
Interest expense on notes and loan payable	25,525	25,498	30,368
Interest expense on subordinated debentures	15,764	15,491	14,124
Amortization of deferred policy acquisition costs	87,717	327,991	255,964
Other operating costs and expenses	154,153	129,301	111,691
Total benefits and expenses	3,148,780	981,356	3,575,381
Income before income taxes	315,565	565,742	316,271
Income tax expense	69,475	107,726	141,626
Net income	$ 246,090	$ 458,016	$ 174,645
Earnings per common share	$ 2.70	$ 5.07	$ 1.96
Earnings per common share - assuming dilution	$ 2.68	$ 5.01	$ 1.93
Weighted average common shares outstanding (in thousands):			
Earnings per common share	91,139	90,348	88,982
Earnings per common share - assuming dilution	91,782	91,423	90,311

See accompanying notes to consolidated financial statements.

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

(Dollars in thousands)

	Year Ended December 31,		
	2019	**2018**	**2017**
Net income	$ 246,090	$ 458,016	$ 174,645
Other comprehensive income (loss):			
Change in net unrealized investment gains/losses (1)	1,954,044	(1,129,213)	556,384
Noncredit component of OTTI losses (1)	103	775	915
Reclassification of unrealized investment gains/losses to net income (1)	8,323	(16,606)	4,496
Other comprehensive income (loss) before income tax	1,962,470	(1,145,044)	561,795
Income tax effect related to other comprehensive income (loss)	(412,117)	240,459	(177,162)
Other comprehensive income (loss)	1,550,353	(904,585)	384,633
Comprehensive income (loss)	$ 1,796,443	$ (446,569)	$ 559,278

(1) Net of related adjustments to amortization of deferred sales inducements and deferred policy acquisition costs.

See accompanying notes to consolidated financial statements.

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY

(Dollars in thousands, except per share data)

	Preferred Stock	Common Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity
Balance at December 31, 2016	$ —	$ 88,001	$ 770,344	$ 339,966	$ 1,093,284	$ 2,291,595
Net income for the year	—	—	—	—	174,645	174,645
Other comprehensive income	—	—	—	384,633	—	384,633
Share-based compensation	—	—	6,464	—	—	6,464
Issuance of 1,329,957 shares of common stock under compensation plans	—	1,330	14,638	—	—	15,968
Dividends on common stock ($0.26 per share)	—	—	—	—	(23,148)	(23,148)
Balance at December 31, 2017	—	89,331	791,446	724,599	1,244,781	2,850,157
Net income for the year	—	—	—	—	458,016	458,016
Other comprehensive loss	—	—	—	(904,585)	—	(904,585)
Implementation of accounting standard related to the reclassification of certain tax effects	—	—	—	127,554	(127,554)	—
Share-based compensation	—	—	11,097	—	—	11,097
Issuance of 1,038,142 shares of common stock under compensation plans	—	1,038	8,643	—	—	9,681
Dividends on common stock ($0.28 per share)	—	—	—	—	(25,265)	(25,265)
Balance at December 31, 2018	—	90,369	811,186	(52,432)	1,549,978	2,399,101
Net income for the year	—	—	—	—	246,090	246,090
Other comprehensive income	—	—	—	1,550,353	—	1,550,353
Issuance of preferred stock	16	—	388,877	—	—	388,893
Share-based compensation	—	—	11,295	—	—	11,295
Issuance of 738,326 shares of common stock under compensation plans	—	738	953	—	—	1,691
Dividends on common stock ($0.30 per share)	—	—	—	—	(27,304)	(27,304)
Balance at December 31, 2019	$ 16	$ 91,107	$ 1,212,311	$ 1,497,921	$ 1,768,764	$ 4,570,119

See accompanying notes to consolidated financial statements.

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(Dollars in thousands)

	Year Ended December 31,		
	2019	**2018**	**2017**
Operating activities			
Net income	$ 246,090	$ 458,016	$ 174,645
Adjustments to reconcile net income to net cash provided by operating activities:			
Interest sensitive and index product benefits	1,287,576	1,610,835	2,023,668
Amortization of deferred sales inducements	88,585	222,201	176,612
Annuity product charges	(240,035)	(224,488)	(200,494)
Change in fair value of embedded derivatives	1,454,042	(1,389,491)	919,735
Change in traditional life and accident and health insurance reserves	(3,546)	(163)	(33)
Policy acquisition costs deferred	(422,516)	(388,222)	(406,641)
Amortization of deferred policy acquisition costs	87,717	327,991	255,964
Provision for depreciation and other amortization	4,068	3,474	3,948
Amortization of discounts and premiums on investments	25,846	19,204	15,431
Loss on extinguishment of debt	2,001	—	18,817
Realized gains (losses) on investments and net OTTI losses recognized in operations	11,764	73,834	(5,879)
Change in fair value of derivatives	(906,201)	777,575	(1,678,956)
Distributions from equity method investments	2,753	1,270	1,454
Deferred income taxes	56,947	(12,563)	(46,730)
Share-based compensation	11,295	11,097	6,464
Change in accrued investment income	(4,097)	(39,721)	(31,235)
Change in income taxes recoverable/payable	26,966	(60,822)	45,759
Change in other assets	(5,607)	(844)	448
Change in other policy funds and contract claims	(21,971)	(19,029)	(23,101)
Change in collateral held for derivatives	1,190,656	(1,296,629)	772,181
Change in collateral held for securities lending	495,101	—	—
Change in other liabilities	(28,607)	(17,318)	(84,416)
Other	(7,425)	(13,022)	(13,794)
Net cash provided by operating activities	3,351,402	43,185	1,923,847
Investing activities			
Sales, maturities, or repayments of investments:			
Fixed maturity securities - available for sale	3,266,821	3,870,415	1,911,991
Mortgage loans on real estate	294,356	298,100	351,255
Derivative instruments	657,885	1,446,948	1,697,948
Other investments	472,549	358,372	9,117
Acquisitions of investments:			
Fixed maturity securities - available for sale	(5,509,314)	(6,852,481)	(5,026,640)
Mortgage loans on real estate	(799,037)	(575,367)	(535,249)
Derivative instruments	(823,077)	(864,717)	(691,428)
Other investments	(611,047)	(85,318)	(305,575)
Purchases of property, furniture and equipment	(4,022)	(4,283)	(4,809)
Net cash used in investing activities	(3,054,886)	(2,408,331)	(2,593,390)

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)

(Dollars in thousands)

	Year Ended December 31,		
	2019	2018	2017
Financing activities			
Receipts credited to annuity policyholder account balances	$ 4,951,211	$ 4,381,150	$ 4,152,264
Coinsurance deposits	91,238	(23,838)	(6,597)
Return of annuity policyholder account balances	(3,584,960)	(3,159,700)	(2,809,486)
Financing fees incurred and deferred	—	—	(5,817)
Proceeds from issuance of notes payable	—	—	499,650
Repayment of notes payable	—	—	(413,252)
Repayment of loan payable	—	—	(100,000)
Repayment of subordinated debentures	(88,160)	—	—
Net proceeds from (repayments of) amounts due under repurchase agreements	(109,298)	109,298	—
Proceeds from issuance of common stock, net	1,691	9,681	14,028
Proceeds from issuance of preferred stock, net	388,893	—	—
Change in checks in excess of cash balance	29,169	(15,829)	4,680
Dividends paid	(27,304)	(25,265)	(23,148)
Net cash provided by financing activities	1,652,480	1,275,497	1,312,322
Increase (decrease) in cash and cash equivalents	1,948,996	(1,089,649)	642,779
Cash and cash equivalents at beginning of year	344,396	1,434,045	791,266
Cash and cash equivalents at end of year	$ 2,293,392	$ 344,396	$ 1,434,045
Supplemental disclosures of cash flow information			
Cash paid during the year for:			
Interest expense	$ 42,879	$ 39,575	$ 55,445
Income taxes	28,413	181,202	142,627
Non-cash operating activity:			
Deferral of sales inducements	177,941	179,465	216,172

See accompanying notes to consolidated financial statements.

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Significant Accounting Policies

Nature of Operations

American Equity Investment Life Holding Company ("we", "us", "our" or "parent company"), through its wholly-owned subsidiaries, American Equity Investment Life Insurance Company ("American Equity Life"), American Equity Investment Life Insurance Company of New York ("American Equity Life of New York") and Eagle Life Insurance Company ("Eagle Life"), is licensed to sell insurance products in 50 states and the District of Columbia at December 31, 2019. We operate solely in the insurance business.

We market fixed index and fixed rate annuities. Annuity deposits (net of coinsurance) collected in 2019, 2018 and 2017, by product type were as follows:

Product Type	Year Ended December 31, 2019	2018	2017
	(Dollars in thousands)		
Fixed index annuities	$ 4,603,490	$ 3,898,366	$ 3,668,121
Annual reset fixed rate annuities	10,665	46,744	74,572
Multi-year fixed rate annuities	47,016	22,818	22,291
Single premium immediate annuities (SPIA)	12,002	23,813	24,946
	$ 4,673,173	$ 3,991,741	$ 3,789,930

Agents contracted with us through two national marketing organizations accounted for more than 10% of annuity deposits we collected during 2019 representing 24% and 14%, individually, of the annuity deposits collected. Agents contracted with us through two national marketing organization accounted for more than 10% of annuity deposits we collected during 2018 representing 20% and 14%, individually, of the annuity deposits collected. Agents contracted with us through two national marketing organization accounted for more than 10% of annuity deposits we collected during 2017 representing 14% and 10%, individually, of the annuity deposits collected.

Consolidation and Basis of Presentation

The consolidated financial statements include our accounts and our wholly-owned subsidiaries: American Equity Life, American Equity Life of New York, Eagle Life, AERL, L.C., American Equity Capital, Inc., American Equity Investment Properties, L.C., American Equity Advisors, Inc. and American Equity Investment Service Company. All significant intercompany accounts and transactions have been eliminated. As of December 31, 2018, American Equity Capital, Inc., American Equity Advisors, Inc. and American Equity Investment Service Company have been dissolved.

Estimates and Assumptions

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles ("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 consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates and assumptions are utilized in the calculation of deferred policy acquisition costs, deferred sales inducements, policy benefit reserves, including the liability for lifetime income benefit riders and the fair value of embedded derivatives in fixed index annuity contracts, valuation of derivatives, valuation of investments, other than temporary impairment of investments, allowances for loan losses on mortgage loans and valuation allowances on deferred tax assets. A description of each critical estimate is incorporated within the discussion of the related accounting policies which follow. It is reasonably possible that actual experience could differ from the estimates and assumptions utilized.

Investments

Fixed maturity securities (bonds maturing more than one year after issuance) that may be sold prior to maturity are classified as available for sale. Available for sale securities are reported at fair value and unrealized gains and losses, if any, on these securities are included directly in a separate component of stockholders' equity, net of income taxes and certain adjustments for assumed changes in amortization of deferred policy acquisition costs and deferred sales inducements. Fair values, as reported herein, of fixed maturity securities are based on quoted market prices in active markets when available, or for those fixed maturity securities not actively traded, yield data and other factors relating to instruments or securities with similar characteristics are used. See Note 2 for more information on the determination of fair value. Premiums and discounts are amortized/accrued using methods which result in a constant yield over the securities' expected lives. Amortization/accrual of premiums and discounts on residential and commercial mortgage backed securities incorporate prepayment assumptions to estimate the securities' expected lives. Interest income is recognized as earned.

The carrying amounts of our impaired investments in fixed maturity securities are adjusted for declines in value that are other than temporary. Other than temporary impairment losses are reported as a component of revenues in the consolidated statements of operations. See Note 3 for further discussion of other than temporary impairment losses.

Deterioration in credit quality of the companies or assets backing our fixed maturity securities, imbalances in liquidity recurring in the marketplace or declines in real estate values may further affect the fair value of these fixed maturity securities and increase the potential that certain unrealized losses will be recognized as other than temporary impairments in the future.

Mortgage loans on real estate are reported at cost, adjusted for amortization of premiums and accrual of discounts. Interest income is recorded when earned; however, interest ceases to accrue for loans on which interest is more than 90 days past due based upon contractual terms and/or when the collection of interest is not considered probable. We evaluate the mortgage loan portfolio for the establishment of a loan loss allowance by specific identification of impaired loans and the measurement of an estimated loss, if any, for each impaired loan identified and an analysis of the mortgage loan portfolio for the need of a general loan allowance for probable losses on all loans. If we determine that the value of any specific mortgage loan is impaired, the carrying amount of the mortgage loan will be reduced to its fair value, based upon the present value of expected future cash flows from the loan discounted at the loan's contractual interest rate, or the fair value of the underlying collateral, less costs to sell. The amount of the general loan allowance, if any, is based upon our evaluation of the probability of collection, historical loss experience, delinquencies, credit concentrations, underwriting standards and national and local economic conditions. The carrying value of impaired loans is reduced by the establishment of an allowance for loan losses, changes to which are recognized as realized gains or losses on investments. Interest income on impaired loans is recorded on a cash basis.

Other invested assets include company owned life insurance, equity securities, limited partnerships accounted for using the equity method, short-term debt securities with maturities of greater than three months but less than twelve months when purchased and policy loans. Company owned life insurance is recorded at the amount that can be realized under the insurance contract at the end of the reporting period, which is the cash surrender value adjusted for other charges or other amounts due that are probable at settlement. Dividends are recognized when declared. Policy loans are stated at current unpaid principal balances.

Realized gains and losses on sales of investments are determined on the basis of specific identification based on the trade date.

Derivative Instruments

Our derivative instruments include call options used to fund fixed index annuity credits and interest rate swap and caps used to manage interest rate risk associated with the floating rate component on certain of our subordinated debentures. All of our derivative instruments are recognized in the balance sheet at fair value and changes in fair value are recognized immediately in operations. See Note 5 for more information on derivative instruments.

Cash and Cash Equivalents

We consider all highly liquid debt instruments purchased with an original maturity of three months or less to be cash equivalents.

Book Overdrafts

Under our cash management system, checks issued but not yet presented to banks frequently result in overdraft balances for accounting purposes and are classified as Other liabilities on our consolidated balance sheets. We report the changes in the amount of the overdraft balance as a financing activity in our consolidated statement of cash flows as Change in checks in excess of cash balance.

Securities Lending

Beginning in 2019, the Company participates in a securities lending program whereby we loan certain securities to other institutions, through a lending agent, for short periods of time. The Company has the right to approve any institution with whom the lending agent transacts on its behalf. Borrowers post cash collateral in an amount equal to or greater than 102% of the market value of the loaned securities. The lending agent retains the collateral and invests it in short-term liquid assets on behalf of the Company. The market value of the loaned securities is monitored on a daily basis with additional collateral obtained or refunded as the market value of the loaned securities fluctuates. The lending agent indemnifies the Company against losses resulting from the failure of a counterparty to return securities pledged where collateral is insufficient to cover the loss. As of December 31, 2019, the fair value of loaned securities was $477.5 million and is included in Fixed maturity securities, available for sale, at fair value in the consolidated balance sheets. As of December 31, 2019, collateral retained by the lending agent and invested in liquid assets on our behalf was $495.1 million and is recorded in Cash and cash equivalents in the consolidated balance sheets. As of December 31, 2019, liabilities to return collateral of $495.1 million are included in Other liabilities in the consolidated balance sheets.

Deferred Policy Acquisition Costs and Deferred Sales Inducements

For annuity products, these costs are being amortized in proportion to actual and expected gross profits. Actual and expected gross profits include the the excess of net investment income earned over the interest credited or the cost of providing index credits to the policyholders, or the "investment spread"; and to a lesser extent, product charges and fees net of expected excess payments for lifetime income benefit riders and certain policy expenses. Actual and expected gross profits for fixed index annuities also include the impact of amounts recorded for the change in fair value of derivatives and the change in fair value of embedded derivatives. Current period amortization is adjusted retrospectively through an unlocking process when estimates of actual and expected gross profits (including the impact of net realized gains (losses) on investments and net OTTI losses recognized in operations) to be realized from a group of products are revised. Deferred policy acquisition costs and deferred sales inducements are also adjusted for the change in amortization that would have occurred if available for sale fixed maturity securities had been sold at their aggregate fair value at the end of the reporting period and the proceeds reinvested at current yields. The impact of this adjustment is included in accumulated other comprehensive income (loss) within consolidated stockholders' equity, net of applicable taxes. See Note 6 for more information on deferred policy acquisition costs and deferred sales inducements.

Policy Benefit Reserves

Policy benefit reserves for fixed index annuities with returns linked to the performance of a specified market index are equal to the sum of the fair value of the embedded derivatives and the host (or guaranteed) component of the contracts. The host value is established at inception of the contract and accreted over the policy's life at a constant rate of interest. Future policy benefit reserves for fixed index annuities earning a fixed rate of interest and other deferred annuity products are computed under a retrospective deposit method and represent policy account balances before applicable surrender charges. For the years ended December 31, 2019, 2018 and 2017, interest crediting rates for these products ranged from 1.00% to 2.80%.

The liability for lifetime income benefit riders is based on the actual and present value of expected benefit payments to be paid in excess of projected policy values recognizing the excess over the expected lives of the underlying policies based on the actual and present value of expected assessments including investment spreads, product charges and fees. The inputs used in the calculation of the liability for lifetime income benefit riders include actual policy values, actual income account values, actual payout factors, actual roll-up rates and our best estimate assumptions for future policy growth, expected utilization of lifetime income benefit riders, which includes the ages at which policyholders are expected to elect to begin to receive lifetime income benefit payments and the percentage of policyholders who elect to receive lifetime income benefit payments, the type of income benefit payments selected upon election and future assumptions for lapse, partial withdrawal and mortality rates. See Note 6 for more information on lifetime income benefit rider reserves.

Policy benefit reserves are not reduced for amounts ceded under coinsurance agreements which are reported as coinsurance deposits on our consolidated balance sheets. See Note 7 for more information on reinsurance.

Deferred Income Taxes

Deferred income tax assets or liabilities are computed based on the temporary differences between the financial statement and income tax bases of assets and liabilities using the enacted marginal tax rate. The effect on deferred income tax assets and liabilities resulting from a change in the enacted marginal tax rate is recognized in income in the period that includes the enactment date. Deferred income tax expenses or benefits are based on the changes in the asset or liability from period to period. Deferred income tax assets are subject to ongoing evaluation of whether such assets will more likely than not be realized. The realization of deferred income tax assets primarily depends on generating future taxable income during the periods in which temporary differences become deductible. Deferred income 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 asset will not be realized. In making such a determination, all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies and recent financial operations, is considered. The realization of deferred income tax assets related to unrealized losses on available for sale fixed maturity securities is also based upon our intent and ability to hold those securities for a period of time sufficient to allow for a recovery in fair value and not realize the unrealized loss.

Recognition of Premium Revenues and Costs

Revenues for annuity products include surrender and living income benefit rider charges assessed against policyholder account balances during the period. Interest sensitive and index product benefits related to annuity products include interest credited or index credits to policyholder account balances pursuant to accounting by insurance companies for certain long-duration contracts. The change in fair value of the embedded derivatives for fixed index annuities equals the change in the difference between policy benefit reserves for fixed index annuities computed under the derivative accounting standard and the long-duration contracts accounting standard at each balance sheet date.

Considerations from immediate annuities and supplemental contract annuities with life contingencies are recognized as revenue when the policy is issued.

All insurance-related revenues, including the change in the fair value of derivatives for call options related to the business ceded under coinsurance agreements (see Note 7), benefits, losses and expenses are reported net of reinsurance ceded.

Other Comprehensive Income (Loss)

Other comprehensive income (loss) includes all changes in stockholders' equity during a period except those resulting from investments by and distributions to stockholders. Other comprehensive income (loss) excludes net realized investment gains (losses) included in net income which merely represents transfers from unrealized to realized gains and losses.

Adopted Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued an accounting standards update ("ASU") related to revenue arising from contracts with customers. This ASU, which replaced most revenue recognition guidance existing at the time, including industry specific guidance, prescribes that an entity should recognize revenue to reflect the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. We adopted this ASU on January 1, 2018. The adoption of this ASU had no impact on our consolidated financial statements as revenues related to insurance and investment contracts are excluded from its scope.

In January 2016, the FASB issued an ASU that, among other aspects of recognition, measurement, presentation and disclosure of financial instruments, primarily requires equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income. However, an entity may choose to measure equity investments that do not have readily determinable fair values at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. Additionally, it changed the accounting for financial liabilities measured at fair value under the fair value option and eliminated some disclosures regarding fair value of financial assets and liabilities measured at amortized cost. We adopted this ASU on January 1, 2018. The adoption of this ASU had no impact on our consolidated financial statements.

In February 2016, the FASB issued an ASU that requires recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. This ASU affects accounting and disclosure more dramatically for lessees as accounting and disclosure for lessors is mainly unchanged. We adopted this ASU on January 1, 2019. The adoption of this ASU resulted in the recognition of a lease asset and lease liability of $6.0 million, respectively, on our consolidated balance sheet at December 31, 2019.

In March 2017, the FASB issued an ASU that applies to certain callable debt securities where the amortized cost basis is at a premium to the price repayable by the issuer at the earliest call date. Under this guidance, the premium is amortized to the first call date. We adopted this ASU on January 1, 2019. The adoption of this ASU did not have a material impact on our consolidated financial statements.

In February 2018, the FASB issued an ASU that allowed a reclassification from accumulated other comprehensive income (loss) to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act of 2017 ("Tax Reform"). We adopted this ASU on January 1, 2018. The adoption of this ASU resulted in a reclassification of $128 million between accumulated other comprehensive income (loss) and retained earnings within our consolidated balance sheet at December 31, 2018.

In June 2018, the FASB issued an ASU that expanded the scope of Accounting Standards Codification 718, Compensation-Stock Compensation, to include share-based payment transactions for acquiring goods and services to nonemployees and eliminated the existing accounting model for nonemployee share-based payment awards. We adopted this ASU on January 1, 2019. While this ASU results in an earlier measurement date for our nonemployee restricted stock units that have not vested as of January 1, 2019, there was no impact to our consolidated financial statements upon adoption.

New Accounting Pronouncements

In June 2016, the FASB issued an ASU that significantly changes the impairment model for most financial assets that are measured at amortized cost and certain other instruments from an incurred loss model to an expected loss model that requires these assets be presented at the net amount expected to be collected. In addition, credit losses on available for sale debt securities will be recorded through an allowance account. This ASU will be effective for us on January 1, 2020, with early adoption permitted. Our implementation procedures to date relative to this standard include, but are not limited to, identifying financial assets within the scope of this guidance, developing a current expected credit loss model for our commercial mortgage loans and reinsurance recoverable balances and refining internal processes and controls for financial assets impacted by this guidance. Based on our analyses to date, we estimate that our retained earnings as of January 1, 2020 will decrease by approximately $5 million to $10 million on a pretax basis due to an increase in our mortgage loan allowance as a result of earlier recognition of credit losses related to our commercial mortgage loans. In addition, we estimate our retained earnings will decrease by $1 million to $3 million on a pretax basis due to recognition of expected lifetime credit losses related to our reinsurance recoverable/coinsurance deposits balances.

In August 2018, the FASB issued an ASU that revises certain aspects of the measurement models and disclosure requirements for long duration insurance and investment contracts. The FASB's objective in issuing this ASU is to improve, simplify, and enhance the accounting for long-duration contracts. The revisions include updating cash flow assumptions in the calculation of the liability for traditional life products, introducing the term 'market risk benefit' ("MRB") and requiring all contract features meeting the definition of an MRB to be measured at fair value, simplifying the method used to amortize deferred policy acquisition costs and deferred sales inducements to a constant basis over the expected term of the related contracts rather than based on actual and estimated gross profits and enhancing disclosure requirements. While this ASU is effective for us on January 1, 2022, the transition date (the remeasurement date) is January 1, 2020. Early adoption of this ASU is permitted. We are in process of evaluating the impact this guidance will have on our consolidated financial statements.

Income Tax Reform

As a result of Tax Reform, the statutory federal corporate tax rate was reduced from 35% to 21% effective January 1, 2018.

2. Fair Values of Financial Instruments

The following sets forth a comparison of the carrying amounts and fair values of our financial instruments:

	December 31,			
	2019		2018	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
	(Dollars in thousands)			
Assets				
Fixed maturity securities, available for sale	$ 51,580,490	$ 51,580,490	$ 45,923,727	$ 45,923,727
Mortgage loans on real estate	3,448,793	3,536,446	2,943,091	2,920,612
Derivative instruments	1,355,989	1,355,989	205,149	205,149
Other investments	492,301	492,301	355,531	348,970
Cash and cash equivalents	2,293,392	2,293,392	344,396	344,396
Coinsurance deposits	5,115,013	4,635,926	4,954,068	4,553,790
Interest rate caps	6	6	597	597
Interest rate swap	—	—	354	354
Counterparty collateral	—	—	33,101	33,101
Liabilities				
Policy benefit reserves	61,540,992	51,800,247	57,249,510	49,180,143
Single premium immediate annuity (SPIA) benefit reserves	255,698	263,773	270,406	279,077
Notes payable	495,116	541,520	494,591	489,985
Subordinated debentures	157,265	168,357	242,982	215,514
Amounts due under repurchase agreements	—	—	109,298	109,298

Fair value is the price that would be received to sell an asset or paid to transfer a liability (exit price) in an orderly transaction between market participants at the measurement date. The objective of a fair value measurement is to determine that price for each financial instrument at each measurement date. We meet this objective using various methods of valuation that include market, income and cost approaches.

We categorize our financial instruments into three levels of fair value hierarchy based on the priority of inputs used in determining fair value. The hierarchy defines the highest priority inputs (Level 1) as quoted prices in active markets for identical assets or liabilities. The lowest priority inputs (Level 3) are our own assumptions about what a market participant would use in determining fair value such as estimated future cash flows. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, a financial instrument's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement. Our assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the financial instrument. We categorize financial assets and liabilities recorded at fair value in the consolidated balance sheets as follows:

Level 1— Quoted prices are available in active markets for identical financial instruments as of the reporting date. We do not adjust the quoted price for these financial instruments, even in situations where we hold a large position and a sale could reasonably impact the quoted price.

Level 2— Quoted prices in active markets for similar financial instruments, quoted prices for identical or similar financial instruments in markets that are not active; and models and other valuation methodologies using inputs other than quoted prices that are observable.

Level 3— Models and other valuation methodologies using significant inputs that are unobservable for financial instruments and include situations where there is little, if any, market activity for the financial instrument. The inputs into the determination of fair value require significant management judgment or estimation. Financial instruments that are included in Level 3 are securities for which no market activity or data exists and for which we used discounted expected future cash flows with our own assumptions about what a market participant would use in determining fair value.

Transfers of securities among the levels occur at times and depend on the type of inputs used to determine fair value of each security. There were no transfers between levels during any period presented.

Our assets and liabilities which are measured at fair value on a recurring basis as of December 31, 2019 and 2018 are presented below based on the fair value hierarchy levels:

	Total Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(Dollars in thousands)			
December 31, 2019				
Assets				
Fixed maturity securities, available for sale:				
United States Government full faith and credit	$ 161,765	$ 155,945	$ 5,820	$ —
United States Government sponsored agencies	625,020	—	625,020	—
United States municipalities, states and territories	4,527,671	—	4,527,671	—
Foreign government obligations	205,096	—	205,096	—
Corporate securities	32,536,839	4	32,536,835	—
Residential mortgage backed securities	1,575,664	—	1,575,664	—
Commercial mortgage backed securities	5,786,279	—	5,786,279	—
Other asset backed securities	6,162,156	—	6,162,156	—
Derivative instruments	1,355,989	—	1,355,989	—
Cash and cash equivalents	2,293,392	2,293,392	—	—
Interest rate caps	6	—	6	—
	$ 55,229,877	$ 2,449,341	$ 52,780,536	$ —
Liabilities				
Fixed index annuities - embedded derivatives	$ 9,624,395	$ —	$ —	$ 9,624,395
December 31, 2018				
Assets				
Fixed maturity securities, available for sale:				
United States Government full faith and credit	$ 11,652	$ 5,900	$ 5,752	$ —
United States Government sponsored agencies	1,138,529	—	1,138,529	—
United States municipalities, states and territories	4,126,267	—	4,126,267	—
Foreign government obligations	230,274	—	230,274	—
Corporate securities	28,371,514	7	28,371,507	—
Residential mortgage backed securities	1,202,159	—	1,202,159	—
Commercial mortgage backed securities	5,379,003	—	5,379,003	—
Other asset backed securities	5,464,329	—	5,464,329	—
Derivative instruments	205,149	—	205,149	—
Cash and cash equivalents	344,396	344,396	—	—
Interest rate caps	597	—	597	—
Interest rate swap	354	—	354	—
Counterparty collateral	33,101	—	33,101	—
	$ 46,507,324	$ 350,303	$ 46,157,021	$ —
Liabilities				
Fixed index annuities - embedded derivatives	$ 8,165,405	$ —	$ —	$ 8,165,405

The following methods and assumptions were used in estimating the fair values of financial instruments during the periods presented in these consolidated financial statements.

Fixed maturity securities

The fair values of fixed maturity securities in an active and orderly market are determined by utilizing independent pricing services. The independent pricing services incorporate a variety of observable market data in their valuation techniques, including:

- reported trading prices,
- benchmark yields,
- broker-dealer quotes,
- benchmark securities,
- bids and offers,
- credit ratings,
- relative credit information, and
- other reference data.

The independent pricing services also take into account perceived market movements and sector news, as well as a security's terms and conditions, including any features specific to that issue that may influence risk and marketability. Depending on the security, the priority of the use of observable market inputs may change as some observable market inputs may not be relevant or additional inputs may be necessary.

The independent pricing services provide quoted market prices when available. Quoted prices are not always available due to market inactivity. When quoted market prices are not available, the third parties use yield data and other factors relating to instruments or securities with similar characteristics to determine fair value for securities that are not actively traded. We generally obtain one value from our primary external pricing service. In situations where a price is not available from this service, we may obtain quotes or prices from additional parties as needed. Market indices of similar rated asset class spreads are considered for valuations and broker indications of similar securities are compared. Inputs used by the broker include market information, such as yield data and other factors relating to instruments or securities with similar characteristics. Valuations and quotes obtained from third party commercial pricing services are non-binding and do not represent quotes on which one may execute the disposition of the assets.

We validate external valuations at least quarterly through a combination of procedures that include the evaluation of methodologies used by the pricing services, comparison of the prices to a secondary pricing source, analytical reviews and performance analysis of the prices against trends, and maintenance of a securities watch list. Additionally, as needed we utilize discounted cash flow models or perform independent valuations on a case-by-case basis using inputs and assumptions similar to those used by the pricing services. Although we do identify differences from time to time as a result of these validation procedures, we did not make any significant adjustments as of December 31, 2019 and 2018.

Mortgage loans on real estate

Mortgage loans on real estate are not measured at fair value on a recurring basis. The fair values of mortgage loans on real estate are calculated using discounted expected cash flows using competitive market interest rates currently being offered for similar loans. The fair values of impaired mortgage loans on real estate that we have considered to be collateral dependent are based on the fair value of the real estate collateral (based on appraised values) less estimated costs to sell. The inputs utilized to determine fair value of all mortgage loans are unobservable market data (competitive market interest rates); therefore, fair value of mortgage loans falls into Level 3 in the fair value hierarchy.

Derivative instruments

The fair values of derivative instruments, primarily call options, are based upon the amount of cash that we will receive to settle each derivative instrument on the reporting date. These amounts are determined by our investment team using industry accepted valuation models and are adjusted for the nonperformance risk of each counterparty net of any collateral held. Inputs include market volatility and risk free interest rates and are used in income valuation techniques in arriving at a fair value for each option contract. The nonperformance risk for each counterparty is based upon its credit default swap rate. We have no performance obligations related to the call options purchased to fund our fixed index annuity policy liabilities.

Other investments

Financial instruments included in other investments that are not measured at fair value on a recurring basis are policy loans, equity method investments and company owned life insurance ("COLI"). We have not attempted to determine the fair values associated with our policy loans, as we believe any differences between carrying values and the fair values afforded these instruments are immaterial to our consolidated financial position and, accordingly, the cost to provide such disclosure does not justify the benefit to be derived. The fair values of our equity method investments are obtained from third parties and are determined using a variety of valuation techniques, including discounted cash flow analysis, valuation multiples analysis for comparable investments and appraisal values. As the risk spread and liquidity discount are unobservable market inputs, the fair value of our equity method investments falls within Level 3 of the fair value hierarchy. The fair value of our COLI approximates the cash surrender value of the policies and falls within Level 2 of the fair value hierarchy.

Cash and cash equivalents

Amounts reported in the consolidated balance sheets for these instruments are reported at their historical cost which approximates fair value due to the nature of the assets assigned to this category.

Interest rate swap and caps

The fair values of our pay fixed/receive variable interest rate swap and our interest rate caps are obtained from third parties and are determined by discounting expected future cash flows using a projected London Interbank Offered Rate ("LIBOR") for the term of the swap and caps.

Counterparty collateral

Amounts reported in other assets in the consolidated balance sheets for these instruments are reported at their historical cost which approximates fair value due to the nature of the assets assigned to this category.

Policy benefit reserves, coinsurance deposits and SPIA benefit reserves

The fair values of the liabilities under contracts not involving significant mortality or morbidity risks (principally deferred annuities), are stated at the cost we would incur to extinguish the liability (i.e., the cash surrender value) as these contracts are generally issued without an annuitization date. The coinsurance deposits related to the annuity benefit reserves have fair values determined in a similar fashion. For period-certain annuity benefit contracts, the fair value is determined by discounting the benefits at the interest rates currently in effect for newly issued immediate annuity contracts. We are not required to and have not estimated the fair value of the liabilities under contracts that involve significant mortality or morbidity risks, as these liabilities fall within the definition of insurance contracts that are exceptions from financial instruments that require disclosures of fair value. Policy benefit reserves, coinsurance deposits and SPIA benefit reserves are not measured at fair value on a recurring basis. All of the fair values presented within these categories fall within Level 3 of the fair value hierarchy as most of the inputs are unobservable market data.

Notes payable

The fair values of our senior unsecured notes are based upon pricing matrices developed by a third party pricing service when quoted market prices are not available and are categorized as Level 2 within the fair value hierarchy. Notes payable are not remeasured at fair value on a recurring basis.

Subordinated debentures

Fair values for subordinated debentures are estimated using discounted cash flow calculations based principally on observable inputs including our incremental borrowing rates, which reflect our credit rating, for similar types of borrowings with maturities consistent with those remaining for the debt being valued. These fair values are categorized as Level 2 within the fair value hierarchy. Subordinated debentures are not measured at fair value on a recurring basis.

Amounts due under repurchase agreements

The amounts reported in the consolidated balance sheets for short term indebtedness under repurchase agreements with variable interest rates approximate their fair values.

Fixed index annuities - embedded derivatives

We estimate the fair value of the embedded derivative component of our fixed index annuity policy benefit reserves at each valuation date by (i) projecting policy contract values and minimum guaranteed contract values over the expected lives of the contracts and (ii) discounting the excess of the projected contract value amounts at the applicable risk free interest rates adjusted for our nonperformance risk related to those liabilities. The projections of policy contract values are based on our best estimate assumptions for future policy growth and future policy decrements. Our best estimate assumptions for future policy growth include assumptions for the expected index credit on the next policy anniversary date which are derived from the fair values of the underlying call options purchased to fund such index credits and the expected costs of annual call options we will purchase in the future to fund index credits beyond the next policy anniversary. The projections of minimum guaranteed contract values include the same best estimate assumptions for policy decrements as were used to project policy contract values.

Within this determination we have the following significant unobservable inputs: 1) the expected cost of annual call options we will purchase in the future to fund index credits beyond the next policy anniversary and 2) our best estimates for future policy decrements, primarily lapse, partial withdrawal and mortality rates. As of December 31, 2019 and 2018, we utilized an estimate of 2.90% and 3.10%, respectively, for the expected cost of annual call options, which are based on estimated long-term account value growth and a historical review of our actual option costs.

Our best estimate assumptions for lapse, partial withdrawal and mortality rates are based on our actual experience and our outlook as to future expectations for such assumptions. These assumptions, which are consistent with the assumptions used in calculating deferred policy acquisition costs and deferred sales inducements, are reviewed on a quarterly basis and are revised as our experience develops and/or as future expectations change. The following table presents average lapse rate and partial withdrawal rate assumptions, by contract duration, used in estimating the fair value of the embedded derivative component of our fixed index annuity policy benefit reserves at each reporting date:

	Average Lapse Rates		Average Partial Withdrawal Rates	
Contract Duration (Years)	**December 31, 2019**	**December 31, 2018**	**December 31, 2019**	**December 31, 2018**
1 - 5	0.90%	2.05%	3.33%	3.33%
6 - 10	1.29%	7.28%	3.84%	3.33%
11 - 15	3.31%	11.35%	4.12%	3.35%
16 - 20	8.52%	11.90%	4.18%	3.22%
20+	7.10%	11.57%	4.12%	3.22%

Lapse rates are generally expected to increase as surrender charge percentages decrease. Lapse expectations reflect a significant increase in the year in which the surrender charge period on a contract ends. We review assumptions quarterly and as a result of this review we lowered lapse rate assumptions in 2019 as our experience indicates lapse rates have been lower than previously estimated.

The following table provides a reconciliation of the beginning and ending balances for our Level 3 liabilities, which are measured at fair value on a recurring basis using significant unobservable inputs for the years ended December 31, 2019 and 2018:

	Year Ended December 31,	
	2019	**2018**
	(Dollars in thousands)	
Fixed index annuities - embedded derivatives		
Beginning balance	$ 8,165,405	$ 8,790,427
Premiums less benefits	896,688	1,542,606
Change in fair value, net	562,302	(2,167,628)
Ending balance	$ 9,624,395	$ 8,165,405

The fair value of our fixed index annuities embedded derivatives is net of coinsurance ceded of $644.6 million and $538.8 million as of December 31, 2019 and 2018, respectively. Change in fair value, net for each period in our embedded derivatives is included in change in fair value of embedded derivatives in the consolidated statements of operations.

Certain derivatives embedded in our fixed index annuity contracts are our most significant financial instrument measured at fair value that are categorized as Level 3 in the fair value hierarchy. The contractual obligations for future annual index credits within our fixed index annuity contracts are treated as a "series of embedded derivatives" over the expected life of the applicable contracts. We estimate the fair value of these embedded derivatives at each valuation date by the method described above under **fixed index annuities - embedded derivatives.** The projections of minimum guaranteed contract values include the same best estimate assumptions for policy decrements as were used to project policy contract values.

The most sensitive assumption in determining policy liabilities for fixed index annuities is the rates used to discount the excess projected contract values. As indicated above, the discount rates reflect our nonperformance risk. If the discount rates used to discount the excess projected contract values at December 31, 2019, were to increase by 100 basis points, the fair value of the embedded derivatives would decrease by $871.3 million recorded through operations as a decrease in the change in fair value of embedded derivatives and there would be a corresponding decrease of $350.5 million to our combined balance for deferred policy acquisition costs and deferred sales inducements recorded through operations as an increase in amortization of deferred policy acquisition costs and deferred sales inducements. A decrease by 100 basis points in the discount rates used to discount the excess projected contract values would increase the fair value of the embedded derivatives by $1.0 billion recorded through operations as an increase in the change in fair value of embedded derivatives and there would be a corresponding increase of $434.2 million to our combined balance for deferred policy acquisition costs and deferred sales inducements recorded through operations as a decrease in amortization of deferred policy acquisition costs and deferred sales inducements.

We review these assumptions quarterly and as a result of these reviews, we made updates to assumptions in 2019, 2018 and 2017. In addition, we implemented an enhanced actuarial valuation system during 2019, and as a result, our 2019 assumption updates include model refinements resulting from the implementation.

The most significant revisions to the calculation of the fair value of the embedded derivative component of our fixed index annuity policy benefit reserves in 2019 were to decrease lapse rate assumptions. We have credible lapse and utilization data based upon a comprehensive experience study spanning over 10 years on our products with lifetime income benefit riders and have experienced lapse rates that are lower than previously estimated. The impact of the lapse rate assumption changes was partially offset by a decrease in the option budget from 3.10% to 2.90% as a result of a revised estimate of the cost of options over the 20 year mean reversion period.

The most significant revisions to the calculation of the fair value of embedded derivative component of our fixed index annuity policy benefit reserves in 2018 were to decrease lapse rate assumptions.

3. Investments

At December 31, 2019 and 2018, the amortized cost and fair value of fixed maturity securities were as follows:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(Dollars in thousands)			
December 31, 2019				
Fixed maturity securities, available for sale:				
United States Government full faith and credit	$ 161,492	$ 369	$ (96)	$ 161,765
United States Government sponsored agencies	601,672	28,133	(4,785)	625,020
United States municipalities, states and territories	4,147,343	388,578	(8,250)	4,527,671
Foreign government obligations	186,993	18,103	—	205,096
Corporate securities	29,822,172	2,796,926	(82,259)	32,536,839
Residential mortgage backed securities	1,477,738	101,617	(3,691)	1,575,664
Commercial mortgage backed securities	5,591,167	208,895	(13,783)	5,786,279
Other asset backed securities	6,250,369	90,978	(179,191)	6,162,156
	$ 48,238,946	$ 3,633,599	$ (292,055)	$ 51,580,490
December 31, 2018				
Fixed maturity securities, available for sale:				
United States Government full faith and credit	$ 11,872	$ 102	$ (322)	$ 11,652
United States Government sponsored agencies	1,208,468	13,095	(83,034)	1,138,529
United States municipalities, states and territories	3,880,703	261,222	(15,658)	4,126,267
Foreign government obligations	226,860	7,573	(4,159)	230,274
Corporate securities	28,483,138	727,105	(838,729)	28,371,514
Residential mortgage backed securities	1,134,623	71,661	(4,125)	1,202,159
Commercial mortgage backed securities	5,492,271	21,558	(134,826)	5,379,003
Other asset backed securities	5,693,255	41,308	(270,234)	5,464,329
	$ 46,131,190	$ 1,143,624	$ (1,351,087)	$ 45,923,727

The amortized cost and fair value of fixed maturity securities at December 31, 2019, by contractual maturity are shown below. Actual maturities will differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties. All of our mortgage and other asset backed securities provide for periodic payments throughout their lives and are shown below as separate lines.

	Available for sale	
	Amortized Cost	Fair Value
	(Dollars in thousands)	
Due in one year or less	$ 290,310	$ 294,212
Due after one year through five years	5,831,134	6,061,370
Due after five years through ten years	10,199,288	10,829,871
Due after ten years through twenty years	10,519,078	11,812,300
Due after twenty years	8,079,862	9,058,638
	34,919,672	38,056,391
Residential mortgage backed securities	1,477,738	1,575,664
Commercial mortgage backed securities	5,591,167	5,786,279
Other asset backed securities	6,250,369	6,162,156
	$ 48,238,946	$ 51,580,490

Net unrealized gains (losses) on available for sale fixed maturity securities reported as a separate component of stockholders' equity were comprised of the following:

	December 31,	
	2019	2018
	(Dollars in thousands)	
Net unrealized gains (losses) on available for sale fixed maturity securities	$ 3,341,544	$ (207,463)
Adjustments for assumed changes in amortization of deferred policy acquisition costs and deferred sales inducements	(1,473,966)	112,571
Deferred income tax valuation allowance reversal	22,534	22,534
Deferred income tax benefit (expense)	(392,191)	19,926
Net unrealized gains (losses) reported as accumulated other comprehensive income (loss)	$ 1,497,921	$ (52,432)

The National Association of Insurance Commissioners ("NAIC") assigns designations to fixed maturity securities. These designations range from Class 1 (highest quality) to Class 6 (lowest quality). In general, securities are assigned a designation based upon the ratings they are given by the Nationally Recognized Statistical Rating Organizations ("NRSRO's"). The NAIC designations are utilized by insurers in preparing their annual statutory statements. NAIC Class 1 and 2 designations are considered "investment grade" while NAIC Class 3 through 6 designations are considered "non-investment grade." Based on the NAIC designations, we had 98% and 97% of our fixed maturity portfolio rated investment grade at December 31, 2019 and 2018, respectively.

The following table summarizes the credit quality, as determined by NAIC designation, of our fixed maturity portfolio as of the dates indicated:

	December 31,			
	2019		2018	
NAIC Designation	Amortized Cost	Fair Value	Amortized Cost	Fair Value
	(Dollars in thousands)			
1	$ 27,781,525	$ 30,122,657	$ 26,588,352	$ 26,921,843
2	19,278,355	20,316,911	17,901,161	17,528,072
3	1,001,087	977,191	1,396,650	1,269,242
4	114,497	112,534	173,987	137,991
5	57,952	45,205	23,836	19,453
6	5,530	5,992	47,204	47,126
	$ 48,238,946	$ 51,580,490	$ 46,131,190	$ 45,923,727

The following table shows our investments' gross unrealized losses and fair value, aggregated by investment category and length of time that individual securities (consisting of 1,033 and 2,715 securities, respectively) have been in a continuous unrealized loss position, at December 31, 2019 and 2018:

	Less than 12 months		12 months or more		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
	(Dollars in thousands)					
December 31, 2019						
Fixed maturity securities, available for sale:						
United States Government full faith and credit	$ 144,582	$ (96)	$ —	$ —	$ 144,582	$ (96)
United States Government sponsored agencies	168,732	(1,229)	201,444	(3,556)	370,176	(4,785)
United States municipalities, states and territories	285,481	(8,173)	3,081	(77)	288,562	(8,250)
Corporate securities:						
Finance, insurance and real estate	267,521	(4,785)	121,993	(4,744)	389,514	(9,529)
Manufacturing, construction and mining	161,633	(6,039)	44,606	(3,951)	206,239	(9,990)
Utilities and related sectors	334,635	(7,730)	51,269	(3,482)	385,904	(11,212)
Wholesale/retail trade	54,289	(1,751)	129,364	(9,411)	183,653	(11,162)
Services, media and other	275,135	(6,135)	316,086	(34,231)	591,221	(40,366)
Residential mortgage backed securities	212,404	(2,686)	11,332	(1,005)	223,736	(3,691)
Commercial mortgage backed securities	602,394	(9,366)	194,328	(4,417)	796,722	(13,783)
Other asset backed securities	752,413	(11,709)	3,375,016	(167,482)	4,127,429	(179,191)
	$ 3,259,219	$ (59,699)	$ 4,448,519	$ (232,356)	$ 7,707,738	$ (292,055)
December 31, 2018						
Fixed maturity securities, available for sale:						
United States Government full faith and credit	$ 543	$ (3)	$ 7,785	$ (319)	$ 8,328	$ (322)
United States Government sponsored agencies	30,089	(949)	953,421	(82,085)	983,510	(83,034)
United States municipalities, states and territories	340,103	(6,816)	162,997	(8,842)	503,100	(15,658)
Foreign government obligations	98,511	(1,748)	11,859	(2,411)	110,370	(4,159)
Corporate securities:						
Finance, insurance and real estate	2,501,640	(87,220)	884,870	(77,507)	3,386,510	(164,727)
Manufacturing, construction and mining	2,045,859	(84,972)	349,738	(34,635)	2,395,597	(119,607)
Utilities and related sectors	2,313,271	(82,119)	591,482	(45,838)	2,904,753	(127,957)
Wholesale/retail trade	1,032,603	(51,228)	198,805	(26,326)	1,231,408	(77,554)
Services, media and other	4,618,477	(196,520)	1,072,722	(152,364)	5,691,199	(348,884)
Residential mortgage backed securities	145,613	(2,638)	22,689	(1,487)	168,302	(4,125)
Commercial mortgage backed securities	2,141,560	(37,150)	2,090,835	(97,676)	4,232,395	(134,826)
Other asset backed securities	4,073,249	(252,265)	271,994	(17,969)	4,345,243	(270,234)
	$ 19,341,518	$ (803,628)	$ 6,619,197	$ (547,459)	$ 25,960,715	$ (1,351,087)

The unrealized losses at December 31, 2019 are principally related to timing of the purchases of these securities, which carry less yield than those available at December 31, 2019. Approximately 79% and 87% of the unrealized losses on fixed maturity securities shown in the above table for December 31, 2019 and 2018, respectively, are on securities that are rated investment grade, defined as being the highest two NAIC designations.

Because we did not have the intent to sell fixed maturity securities with unrealized losses and it was not more likely than not that we would be required to sell these securities prior to recovery of the amortized cost, which may be maturity, we did not consider these investments to be other than temporarily impaired as of December 31, 2019 and 2018.

Changes in net unrealized gains/losses on investments for the years ended December 31, 2019, 2018 and 2017 are as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Fixed maturity securities held for investment carried at amortized cost	$ —	$ 581	$ 7,478
Investments carried at fair value:			
Fixed maturity securities, available for sale	$ 3,549,007	$ (2,463,693)	$ 1,149,691
Equity securities	—	—	(479)
	3,549,007	(2,463,693)	1,149,212
Adjustment for effect on other balance sheet accounts:			
Deferred policy acquisition costs and deferred sales inducements	(1,586,537)	1,318,649	(587,417)
Deferred income tax asset/liability	(412,117)	240,459	(177,162)
	(1,998,654)	1,559,108	(764,579)
Change in net unrealized gains/losses on investments carried at fair value	$ 1,550,353	$ (904,585)	$ 384,633

Components of net investment income are as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Fixed maturity securities	$ 2,171,768	$ 2,027,599	$ 1,876,542
Equity securities	4,083	4,735	764
Mortgage loans on real estate	145,344	131,259	122,680
Cash and cash equivalents	5,164	2,320	2,562
Other	3,119	1,548	4,073
	2,329,478	2,167,461	2,006,621
Less investment expenses	(21,843)	(19,649)	(14,624)
Net investment income	$ 2,307,635	$ 2,147,812	$ 1,991,997

Proceeds from sales of available for sale fixed maturity securities for the years ended December 31, 2019, 2018 and 2017 were $1.0 billion, $2.5 billion and $0.7 billion, respectively. Scheduled principal repayments, calls and tenders for available for sale fixed maturity securities for the years ended December 31, 2019, 2018 and 2017 were $2.3 billion, $1.4 billion and $1.2 billion, respectively.

Realized gains and losses on sales are determined on the basis of specific identification of investments based on the trade date. Net realized gains (losses) on investments, excluding net OTTI losses are as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Available for sale fixed maturity securities:			
Gross realized gains	$ 21,449	$ 12,245	$ 18,254
Gross realized losses	(6,397)	(47,974)	(9,058)
	15,052	(35,729)	9,196
Equity securities:			
Gross realized gains	—	—	348
Other investments:			
Gross realized gains	7,296	—	—
Gross realized losses	(14,446)	—	—
Gain on sale of real estate	—	—	56
	(7,150)	—	56
Mortgage loans on real estate:			
Decrease (increase) in allowance for credit losses	(940)	(3,165)	278
Recovery of specific allowance	—	1,592	631
Gain on sale of mortgage loans	—	124	—
	(940)	(1,449)	909
	$ 6,962	$ (37,178)	$ 10,509

Losses on available for sale fixed maturity securities in 2019, 2018 and 2017 were realized primarily due to strategies to reposition the fixed maturity security portfolio that result in improved net investment income, credit risk or duration profiles as they pertain to our asset liability management.

The following table summarizes the carrying value of our investments that have been non-income producing for 12 consecutive months:

	December 31,	
	2019	2018
	(Dollars in thousands)	
Fixed maturity securities, available for sale	$ 5,792	$ 6,717

We review and analyze all investments on an ongoing basis for changes in market interest rates and credit deterioration. This review process includes analyzing our ability to recover the amortized cost basis of each investment that has a fair value that is materially lower than its amortized cost and requires a high degree of management judgment and involves uncertainty. The evaluation of securities for other than temporary impairments is a quantitative and qualitative process, which is subject to risks and uncertainties.

We have a policy and process to identify securities that could potentially have impairments that are other than temporary. This process involves monitoring market events and other items that could impact issuers. The evaluation includes but is not limited to such factors as:

- the length of time and the extent to which the fair value has been less than amortized cost or cost;
- whether the issuer is current on all payments and all contractual payments have been made as agreed;
- the remaining payment terms and the financial condition and near-term prospects of the issuer;
- the lack of ability to refinance due to liquidity problems in the credit market;
- the fair value of any underlying collateral;
- the existence of any credit protection available;
- our intent to sell and whether it is more likely than not we would be required to sell prior to recovery for debt securities;
- consideration of rating agency actions; and
- changes in estimated cash flows of mortgage and asset backed securities.

We determine whether other than temporary impairment losses should be recognized for debt securities by assessing all facts and circumstances surrounding each security. Where the decline in fair value of debt securities is attributable to changes in market interest rates or to factors such as market volatility, liquidity and spread widening, and we anticipate recovery of all contractual or expected cash flows, we do not consider these investments to be other than temporarily impaired because we do not intend to sell these investments and it is not more likely than not we will be required to sell these investments before a recovery of amortized cost, which may be maturity.

If we intend to sell a debt security or if it is more likely than not that we will be required to sell a debt security before recovery of its amortized cost basis, other than temporary impairment has occurred and the difference between amortized cost and fair value will be recognized as a loss in operations.

If we do not intend to sell and it is not more likely than not we will be required to sell the debt security but also do not expect to recover the entire amortized cost basis of the security, an impairment loss would be recognized in operations in the amount of the expected credit loss. We determine the amount of expected credit loss by calculating the present value of the cash flows expected to be collected discounted at each security's acquisition yield based on our consideration of whether the security was of high credit quality at the time of acquisition. The difference between the present value of expected future cash flows and the amortized cost basis of the security is the amount of credit loss recognized in operations. The remaining amount of the other than temporary impairment is recognized in other comprehensive income (loss).

The determination of the credit loss component of a mortgage backed security is based on a number of factors. The primary consideration in this evaluation process is the issuer's ability to meet current and future interest and principal payments as contractually stated at time of purchase. Our review of these securities includes an analysis of the cash flow modeling under various default scenarios considering independent third party benchmarks, the seniority of the specific tranche within the structure of the security, the composition of the collateral and the actual default, loss severity and prepayment experience exhibited. With the input of third party assumptions for default projections, loss severity and prepayment expectations, we evaluate the cash flow projections to determine whether the security is performing in accordance with its contractual obligation.

We utilize the models from a leading structured product software specialist serving institutional investors. These models incorporate each security's seniority and cash flow structure. In circumstances where the analysis implies a potential for principal loss at some point in the future, we use the "best estimate" cash flow projection discounted at the security's effective yield at acquisition to determine the amount of our potential credit loss associated with this security. The discounted expected future cash flows equates to our expected recovery value. Any shortfall of the expected recovery when compared to the amortized cost of the security will be recorded as the credit loss component of other than temporary impairment.

The cash flow modeling is performed on a security-by-security basis and incorporates actual cash flows on the residential mortgage backed securities through the current period, as well as the projection of remaining cash flows using a number of assumptions including default rates, prepayment rates and loss severity rates. The default curves we use are tailored to the Prime or Alt-A residential mortgage backed securities that we own, which assume lower default rates and loss severity for Prime securities versus Alt-A securities. These default curves are scaled higher or lower depending on factors such as current underlying mortgage loan performance, rating agency loss projections, loan to value ratios, geographic diversity, as well as other appropriate considerations.

The determination of the credit loss component of a corporate bond is based on the underlying financial performance of the issuer and their ability to meet their contractual obligations. Considerations in our evaluation include, but are not limited to, credit rating changes, financial statement and ratio analysis, changes in management, significant changes in credit spreads, breaches of financial covenants and a review of the economic outlook for the industry and markets in which they trade. In circumstances where an issuer appears unlikely to meet its future obligation, or the security's price decline is deemed other than temporary, an estimate of credit loss is determined. Credit loss is calculated using default probabilities as derived from the credit default swaps markets in conjunction with recovery rates derived from independent third party analysis or a best estimate of credit loss. This credit loss rate is then incorporated into a present value calculation based on an expected principal loss in the future discounted at the yield at the date of purchase and compared to amortized cost to determine the amount of credit loss associated with the security.

In addition, for debt securities which we do not intend to sell and it is not more likely than not we will be required to sell, but our intent changes due to changes or events that could not have been reasonably anticipated, an other than temporary impairment charge is recognized. Once an impairment charge has been recorded, we then continue to review the other than temporarily impaired securities for appropriate valuation on an ongoing basis. Unrealized losses may be recognized in future periods through a charge to earnings should we later conclude that the decline in fair value below amortized cost is other than temporary pursuant to our accounting policy described above. The use of different methodologies and assumptions to determine the fair value of investments and the timing and amount of impairments may have a material effect on the amounts presented in our consolidated financial statements.

The following table summarizes other than temporary impairments by asset type:

	Number of Securities	Total OTTI Losses	Portion of OTTI Losses Recognized from Other Comprehensive Income	Net OTTI Losses Recognized in Operations
			(Dollars in thousands)	
Year ended December 31, 2019				
Fixed maturity securities, available for sale:				
Corporate securities:				
Energy	3	$ (17,273)	$ —	$ (17,273)
Residential mortgage backed securities	3	(101)	(215)	(316)
Commercial mortgage backed securities	2	(488)	—	(488)
Other asset backed securities	1	(649)	—	(649)
	9	$ (18,511)	$ (215)	$ (18,726)
Year ended December 31, 2018				
Fixed maturity securities, available for sale:				
Corporate securities:				
Capital goods	1	$ (719)	$ —	$ (719)
Consumer discretionary	8	(9,533)	—	(9,533)
Energy	4	(4,793)	—	(4,793)
Financials	5	(3,495)	—	(3,495)
Information technology	1	(550)	—	(550)
Industrials	1	(2,299)	—	(2,299)
Telecommunications	2	(249)	—	(249)
Transportation	1	(178)	—	(178)
Utilities	2	(5,518)	—	(5,518)
Residential mortgage backed securities	3	(63)	(295)	(358)
Commercial mortgage backed securities	5	(4,859)	—	(4,859)
Other asset backed securities	2	(2,749)	(1,356)	(4,105)
	35	$ (35,005)	$ (1,651)	$ (36,656)
Year ended December 31, 2017				
Fixed maturity securities, available for sale:				
Corporate securities:				
Industrials	1	$ (2,485)	$ —	$ (2,485)
Residential mortgage backed securities	8	(273)	(1,585)	(1,858)
Other asset backed securities	1	—	(287)	(287)
	10	$ (2,758)	$ (1,872)	$ (4,630)

The cumulative portion of other than temporary impairments determined to be credit losses which have been recognized in operations for debt securities are summarized as follows:

	Year Ended December 31,	
	2019	2018
	(Dollars in thousands)	
Cumulative credit loss at beginning of year	$ (175,398)	$ (157,066)
Additions for the amount related to credit losses for which OTTI has not previously been recognized	(18,271)	(35,005)
Additional credit losses on securities for which OTTI has previously been recognized	(455)	(1,651)
Accumulated losses on securities that were disposed of during the period	24,422	18,324
Cumulative credit loss at end of year	$ (169,702)	$ (175,398)

The following table summarizes the cumulative noncredit portion of OTTI and the change in fair value since recognition of OTTI, both of which were recognized in other comprehensive income, by major type of security, for securities that are part of our investment portfolio at December 31, 2019 and 2018:

	Amortized Cost	OTTI Recognized in Other Comprehensive Income (Loss)	Change in Fair Value Since OTTI was Recognized	Fair Value
	(Dollars in thousands)			
December 31, 2019				
Fixed maturity securities, available for sale:				
Corporate securities	$ 50,755	$ (3,700)	$ 9,268	$ 56,323
Residential mortgage backed securities	183,948	(145,446)	172,577	211,079
Commercial mortgage backed securities	12,776	—	(401)	12,375
Other asset backed securities	977	—	261	1,238
	$ 248,456	$ (149,146)	$ 181,705	$ 281,015
December 31, 2018				
Fixed maturity securities, available for sale:				
Corporate securities	$ 69,580	$ (3,700)	$ 6,195	$ 72,075
Residential mortgage backed securities	245,691	(167,846)	199,191	277,036
Commercial mortgage backed securities	35,244	—	—	35,244
Other asset backed securities	1,692	—	326	2,018
	$ 352,207	$ (171,546)	$ 205,712	$ 386,373

At December 31, 2019 and 2018, fixed maturity securities and short-term investments with an amortized cost of $51.6 billion and $49.2 billion, respectively, were on deposit with state agencies to meet regulatory requirements. There are no restrictions on these assets.

At December 31, 2019 and 2018, we had no investment in any person or its affiliates (other than bonds issued by agencies of the United States Government) that exceeded 10% of stockholders' equity.

4. Mortgage Loans on Real Estate

Our mortgage loan portfolio is summarized in the following table. There were commitments outstanding of $244.3 million at December 31, 2019.

	December 31,	
	2019	2018
	(Dollars in thousands)	
Principal outstanding	$ 3,458,914	$ 2,952,464
Loan loss allowance	(9,179)	(8,239)
Deferred prepayment fees	(942)	(1,134)
Carrying value	$ 3,448,793	$ 2,943,091

The portfolio consists of commercial mortgage loans collateralized by the related properties and diversified as to property type, location and loan size. Our mortgage lending policies establish limits on the amount that can be loaned to one borrower and other criteria to attempt to reduce the risk of default. The mortgage loan portfolio is summarized by geographic region and property type as follows:

	December 31,			
	2019		2018	
	Principal	Percent	Principal	Percent
	(Dollars in thousands)			
Geographic distribution				
East	$ 645,991	18.7%	$ 586,773	19.9%
Middle Atlantic	284,597	8.2%	168,969	5.7%
Mountain	389,892	11.3%	357,642	12.1%
New England	9,152	0.3%	9,418	0.3%
Pacific	655,518	19.0%	521,363	17.7%
South Atlantic	751,199	21.7%	694,599	23.5%
West North Central	302,534	8.7%	291,890	9.9%
West South Central	420,031	12.1%	321,810	10.9%
	$ 3,458,914	100.0%	$ 2,952,464	100.0%
Property type distribution				
Office	$ 250,287	7.3%	$ 268,932	9.1%
Medical Office	29,990	0.9%	33,467	1.1%
Retail	1,225,670	35.4%	1,091,627	37.0%
Industrial/Warehouse	896,558	25.9%	762,887	25.8%
Apartment	858,679	24.8%	600,638	20.3%
Agricultural	51,303	1.5%	25,000	0.9%
Mixed use/Other	146,427	4.2%	169,913	5.8%
	$ 3,458,914	100.0%	$ 2,952,464	100.0%

Our financing receivables currently consist of one portfolio segment which is our commercial mortgage loan portfolio. These are mortgage loans with collateral consisting of commercial real estate and borrowers consisting mostly of limited liability partnerships or limited liability corporations.

We evaluate our mortgage loan portfolio for the establishment of a loan loss allowance by specific identification of impaired loans and the measurement of an estimated loss for each individual loan identified. A mortgage loan is impaired when it is probable that we will be unable to collect all amounts due according to the contractual terms of the loan agreement. If we determine that the value of any specific mortgage loan is impaired, the carrying amount of the mortgage loan will be reduced to its fair value, based upon the present value of expected future cash flows from the loan discounted at the loan's effective interest rate, or the fair value of the underlying collateral less estimated costs to sell.

In addition, we analyze the mortgage loan portfolio for the need of a general loan allowance for probable losses on all other loans on a quantitative and qualitative basis. The amount of the general loan allowance is based upon management's evaluation of the collectability of the loan portfolio, historical loss experience, delinquencies, credit concentrations, underwriting standards and national and local economic conditions.

We rate each of the mortgage loans in our portfolio based on factors such as historical operating performance, loan to value ratio and economic outlook, among others. We calculate a loss factor to apply to each rating based on historical losses we have recognized in our mortgage loan portfolio. We apply the loss factors to the total principal outstanding within each rating category to determine an appropriate estimate of the general loan loss allowance. We also assess the portfolio qualitatively and apply a loss rate to all loans without a specific allowance based on management's assessment of economic conditions, and we apply an additional amount of loss allowance to a group of loans that we have identified as having higher risk of loss.

The following table presents a rollforward of our specific and general valuation allowances for mortgage loans on real estate:

	Year Ended December 31,					
	2019		2018		2017	
	Specific Allowance	General Allowance	Specific Allowance	General Allowance	Specific Allowance	General Allowance
	(Dollars in thousands)					
Beginning allowance balance	$ (229)	$ (8,010)	$ (1,418)	$ (6,100)	$ (1,327)	$ (7,100)
Charge-offs	—	—	852	—	—	—
Recoveries	—	—	1,592	—	631	—
Change in provision for credit losses	—	(940)	(1,255)	(1,910)	(722)	1,000
Ending allowance balance	$ (229)	$ (8,950)	$ (229)	$ (8,010)	$ (1,418)	$ (6,100)

The specific allowance represents the total credit loss allowances on loans which are individually evaluated for impairment. The general allowance is for the group of loans discussed above which are collectively evaluated for impairment. The following table presents the total outstanding principal of loans evaluated for impairment by basis of impairment method:

	December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Individually evaluated for impairment	$ 1,229	$ 1,253	$ 5,445
Collectively evaluated for impairment	3,457,685	2,951,211	2,668,870
Total loans evaluated for impairment	$ 3,458,914	$ 2,952,464	$ 2,674,315

Charge-offs include allowances that have been established on loans that were satisfied either by taking ownership of the collateral or by some other means such as discounted pay-off or loan sale. When ownership of the property is taken it is recorded at the lower of the mortgage loan's carrying value or the property's fair value (based on appraised values) less estimated costs to sell. The real estate owned is recorded as a component of Other investments and the mortgage loan is recorded as fully paid, with any allowance for credit loss that has been established charged off. Fair value of the real estate is determined by third party appraisal. Recoveries are situations where we have received a payment from the borrower in an amount greater than the carrying value of the loan (principal outstanding less specific allowance). We did not own any real estate during the years ended December 31, 2019, 2018 and 2017.

We analyze credit risk of our mortgage loans by analyzing all available evidence on loans that are delinquent and loans that are in a workout period.

	December 31,	
	2019	2018
	(Dollars in thousands)	
Credit Exposure - By Payment Activity		
Performing	$ 3,458,914	$ 2,952,464
In workout	—	—
Collateral dependent	—	—
	$ 3,458,914	$ 2,952,464

Loans that are categorized as "in workout" consist of loans that we have agreed to lower or no mortgage payments for a period of time while the borrowers address cash flow and/or operational issues. The key features of these workouts are determined on a loan-by-loan basis. Most of these loans are in a period of low cash flow due to tenants vacating their space or tenants requesting rent relief during difficult economic periods. Generally, we allow the borrower a six month interest only period and in some cases a twelve month period of interest only. Interest only workout loans are expected to return to their regular debt service payments after the interest only period. Interest only loans that are not fully amortizing will have a larger balance at their balloon date than originally contracted. Fully amortizing loans that are in interest only periods will have larger debt service payments for their remaining term due to lost principal payments during the interest only period. In limited circumstances we have allowed borrowers to pay the principal portion of their loan payment into an escrow account that can be used for capital and tenant improvements for a period of not more than twelve months. In these situations new loan amortization schedules are calculated based on the principal not collected during this twelve month workout period and larger payments are collected for the remaining term of each loan. In all cases, the original interest rate and maturity date have not been modified, and we have not forgiven any principal amounts.

Mortgage loans are considered delinquent when they become 60 days or more past due. In general, when loans become 90 days past due, become collateral dependent or enter a period with no debt service payments required we place them on non-accrual status and discontinue recognizing interest income. If payments are received on a delinquent loan, interest income is recognized to the extent it would have been recognized if normal principal and interest would have been received timely. If the payments are received to bring a delinquent loan back to current we will resume accruing interest income on that loan. There were no loans in non-accrual status at December 31, 2019 and 2018, respectively.

We define collateral dependent loans as those mortgage loans for which we will depend on the value of the collateral real estate to satisfy the outstanding principal of the loan.

All of our commercial mortgage loans depend on the cash flow of the borrower to be at a sufficient level to service the principal and interest payments as they come due. In general, cash inflows of the borrowers are generated by collecting monthly rent from tenants occupying space within the borrowers' properties. Our borrowers face collateral risks such as tenants going out of business, tenants struggling to make rent payments as they become due, and tenants canceling leases and moving to other locations. We have a number of loans where the real estate is occupied by a single tenant. Our borrowers sometimes face both a reduction in cash flow on their mortgage property as well as a reduction in the fair value of the real estate collateral. If borrowers are unable to replace lost rent revenue and increases in the fair value of their property do not materialize, we could potentially incur more losses than what we have allowed for in our specific and general loan loss allowances.

Aging of financing receivables is summarized in the following table, with loans in a "workout" period as of the reporting date considered current if payments are current in accordance with agreed upon terms:

	30 - 59 Days	60 - 89 Days	90 Days and Over	Total Past Due	Current	Collateral Dependent Receivables	Total Financing Receivables
	(Dollars in thousands)						
Commercial Mortgage Loans							
December 31, 2019	$ —	$ —	$ —	$ —	$ 3,458,914	$ —	$ 3,458,914
December 31, 2018	$ —	$ —	$ —	$ —	$ 2,952,464	$ —	$ 2,952,464

Financing receivables summarized in the following two tables represent all loans that we are either not currently collecting, or those we feel it is probable we will not collect all amounts due according to the contractual terms of the loan agreements (all loans that we have worked with the borrower to alleviate short-term cash flow issues, loans delinquent for 60 days or more at the reporting date, loans we have determined to be collateral dependent and loans that we have recorded specific impairments on that we feel may continue to have performance issues).

	Recorded Investment	Unpaid Principal Balance	Related Allowance
	(Dollars in thousands)		
December 31, 2019			
Mortgage loans with an allowance	$ 1,000	$ 1,229	$ (229)
Mortgage loans with no related allowance	—	—	—
	$ 1,000	$ 1,229	$ (229)
December 31, 2018			
Mortgage loans with an allowance	$ 1,024	$ 1,253	$ (229)
Mortgage loans with no related allowance	—	—	—
	$ 1,024	$ 1,253	$ (229)

	Average Recorded Investment	Interest Income Recognized
	(Dollars in thousands)	
December 31, 2019		
Mortgage loans with an allowance	$ 1,012	$ 69
Mortgage loans with no related allowance	—	—
	$ 1,012	$ 69
December 31, 2018		
Mortgage loans with an allowance	$ 1,042	$ 74
Mortgage loans with no related allowance	—	—
	$ 1,042	$ 74
December 31, 2017		
Mortgage loans with an allowance	$ 4,464	$ 221
Mortgage loans with no related allowance	1,513	91
	$ 5,977	$ 312

A Troubled Debt Restructuring ("TDR") is a situation where we have granted a concession to a borrower for economic or legal reasons related to the borrower's financial difficulties that we would not otherwise consider. A mortgage loan that has been granted new terms, including workout terms as described previously, would be considered a TDR if it meets conditions that would indicate a borrower is experiencing financial difficulty and the new terms constitute a concession on our part. We analyze all loans where we have agreed to workout terms and all loans that we have refinanced to determine if they meet the definition of a TDR. We consider the following factors in determining whether or not a borrower is experiencing financial difficulty:

- borrower is in default,
- borrower has declared bankruptcy,
- there is growing concern about the borrower's ability to continue as a going concern,
- borrower has insufficient cash flows to service debt,
- borrower's inability to obtain funds from other sources, and
- there is a breach of financial covenants by the borrower.

If the borrower is determined to be in financial difficulty, we consider the following conditions to determine if the borrower is granted a concession:

- assets used to satisfy debt are less than our recorded investment,
- interest rate is modified,
- maturity date extension at an interest rate less than market rate,
- capitalization of interest,
- delaying principal and/or interest for a period of three months or more, and
- partial forgiveness of the balance or charge-off.

Mortgage loan workouts, refinances or restructures that are classified as TDRs are individually evaluated and measured for impairment. There were no mortgage loans on commercial real estate that we determined to be a TDR at December 31, 2019 and 2018, respectively.

5. Derivative Instruments

None of our derivatives qualify for hedge accounting, thus, any change in the fair value of the derivatives is recognized immediately in the consolidated statements of operations. The fair value of our derivative instruments, including derivative instruments embedded in fixed index annuity contracts, presented in the consolidated balance sheets are as follows:

	December 31, 2019	December 31, 2018
	(Dollars in thousands)	
Assets		
Derivative instruments		
Call options	$ 1,355,989	$ 205,149
Other assets		
Interest rate caps	6	597
Interest rate swap	—	354
	$ 1,355,995	$ 206,100
Liabilities		
Policy benefit reserves - annuity products		
Fixed index annuities - embedded derivatives, net	$ 9,624,395	$ 8,165,405

The changes in fair value of derivatives included in the consolidated statements of operations are as follows:

	Year Ended December 31, 2019	2018	2017
	(Dollars in thousands)		
Change in fair value of derivatives:			
Call options	$ 908,556	$ (778,899)	$ 1,678,283
Interest rate swap	(1,059)	869	255
Interest rate caps	(591)	182	(667)
	$ 906,906	$ (777,848)	$ 1,677,871
Change in fair value of embedded derivatives:			
Fixed index annuities - embedded derivatives	$ 562,302	$ (2,167,628)	$ 174,154
Other changes in difference between policy benefit reserves computed using derivative accounting vs. long-duration contracts accounting	891,740	778,137	745,581
	$ 1,454,042	$ (1,389,491)	$ 919,735

The amounts presented as "Other changes in difference between policy benefit reserves computed using derivative accounting vs. long-duration contracts accounting" represents the total change in the difference between policy benefit reserves for fixed index annuities computed under the derivative accounting standard and the long-duration contracts accounting standard at each balance sheet date, less the change in fair value of our fixed index annuities embedded derivatives that is presented as Level 3 liabilities in Note 2.

We have fixed index annuity products that guarantee the return of principal to the policyholder and credit interest based on a percentage of the gain in a specified market index. When fixed index annuity deposits are received, a portion of the deposit is used to purchase derivatives consisting of call options on the applicable market indices to fund the index credits due to fixed index annuity policyholders. Substantially all such call options are one year options purchased to match the funding requirements of the underlying policies. The call options are marked to fair value with the change in fair value included as a component of revenues. The change in fair value of derivatives includes the gains or losses recognized at the expiration of the option term and the changes in fair value for open positions. On the respective anniversary dates of the index policies, the index used to compute the index credit is reset and we purchase new call options to fund the next index credit. We manage the cost of these purchases through the terms of our fixed index annuities, which permit us to change caps, participation rates, and/or asset fees, subject to guaranteed minimums on each policy's anniversary date. By adjusting caps, participation rates, or asset fees, we can generally manage option costs except in cases where the contractual features would prevent further modifications.

Our strategy attempts to mitigate any potential risk of loss due to the nonperformance of the counterparties to these call options through a regular monitoring process which evaluates the program's effectiveness. We do not purchase call options that would require payment or collateral to another institution and our call options do not contain counterparty credit-risk-related contingent features. We are exposed to risk of loss in the event of nonperformance by the counterparties and, accordingly, we purchase our option contracts from multiple counterparties and evaluate the creditworthiness of all counterparties prior to purchase of the contracts. All non-exchange traded options have been purchased from nationally recognized financial institutions with a Standard and Poor's credit rating of A- or higher at the time of purchase and the maximum credit exposure to any single counterparty is subject to concentration limits. We also have credit support agreements that allow us to request the counterparty to provide collateral to us when the fair value of our exposure to the counterparty exceeds specified amounts.

The notional amount and fair value of our call options by counterparty and each counterparty's current credit rating are as follows:

			December 31,			
			2019		2018	
Counterparty	Credit Rating (S&P)	Credit Rating (Moody's)	Notional Amount	Fair Value	Notional Amount	Fair Value
			(Dollars in thousands)			
Bank of America	A+	Aa2	$ 2,680,543	$ 80,692	$ 6,518,808	$ 6,704
Barclays	A	A2	5,753,868	217,536	2,301,414	27,032
Canadian Imperial Bank of Commerce	A+	Aa2	4,110,525	154,917	4,856,150	29,313
Citibank, N.A.	A+	Aa3	4,075,544	109,046	4,792,208	27,239
Credit Suisse	A+	A1	4,526,414	116,659	2,877,916	12,887
J.P. Morgan	A+	Aa2	4,703,234	151,651	3,701,964	17,564
Morgan Stanley	A+	A1	1,886,995	41,253	3,560,044	1,561
Royal Bank of Canada	AA-	A2	2,565,202	101,511	1,871,305	14,011
Societe Generale	A	A1	3,280,286	139,101	2,343,165	21,681
SunTrust	A	A2	2,051,229	74,910	1,755,030	12,047
Wells Fargo	A+	Aa2	4,221,408	163,520	4,618,569	33,398
Exchange traded			191,948	5,193	224,204	1,712
			$ 40,047,196	$ 1,355,989	$ 39,420,777	$ 205,149

As of December 31, 2019 and 2018, we held $1.3 billion and $0.2 billion, respectively, of cash and cash equivalents and other investments from counterparties for derivative collateral, which is included in Other liabilities on our consolidated balance sheets. This derivative collateral limits the maximum amount of economic loss due to credit risk that we would incur if parties to the call options failed completely to perform according to the terms of the contracts to $25.2 million and $16.1 million at December 31, 2019 and 2018, respectively.

The future index credits on our fixed index annuities are treated as a "series of embedded derivatives" over the expected life of the applicable contract. We do not purchase call options to fund the index liabilities which may arise after the next policy anniversary date. We must value both the call options and the related forward embedded options in the policies at fair value.

We entered into an interest rate swap and interest rate caps to manage interest rate risk associated with the floating rate component on certain of our subordinated debentures. See Note 10 for more information on our subordinated debentures. The terms of the interest rate swap provide that we pay a fixed rate of interest and receive a floating rate of interest. The terms of the interest rate caps limit the three month LIBOR to 2.50%. The interest rate swap and caps are not effective hedges under accounting guidance for derivative instruments and hedging activities. Therefore, we record the interest rate swap and caps at fair value and any net cash payments received or paid are included in the change in fair value of derivatives in the consolidated statements of operations.

Effective December 13, 2019 we terminated the interest rate swap in conjunction with our redemption of certain of our subordinated debentures.

Details regarding the interest rate swap are as follows:

					December 31,	
					2019	2018
Maturity Date	Notional Amount	Receive Rate	Pay Rate	Counterparty	Fair Value	Fair Value
					(Dollars in thousands)	
March 15, 2021	$ 85,500	LIBOR	2.415%	SunTrust	$ —	$ 354

Details regarding the interest rate caps are as follows:

					December 31,	
					2019	2018
Maturity Date	Notional Amount	Floating Rate	Cap Rate	Counterparty	Fair Value	Fair Value
					(Dollars in thousands)	
July 7, 2021	$ 40,000	LIBOR	2.50%	SunTrust	$ 3	$ 302
July 8, 2021	12,000	LIBOR	2.50%	SunTrust	1	91
July 29, 2021	27,000	LIBOR	2.50%	SunTrust	2	204
	$ 79,000				$ 6	$ 597

The interest rate caps cap our interest rates until July 2021.

6. Deferred Policy Acquisition Costs, Deferred Sales Inducements and Liability for Lifetime Income Benefit Riders

Policy acquisition costs deferred and amortized are as follows:

	December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Balance at beginning of year	$ 3,535,838	$ 2,714,523	$ 2,905,377
Costs deferred during the year:			
Commissions	419,165	384,432	401,124
Policy issue costs	3,351	3,790	5,517
Amortization:			
Amortization	(280,699)	(358,563)	(304,162)
Impact of unlocking	192,982	30,572	48,198
Effect of net unrealized gains/losses	(947,183)	761,084	(341,531)
Balance at end of year	$ 2,923,454	$ 3,535,838	$ 2,714,523

Sales inducements deferred and amortized are as follows:

	December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Balance at beginning of year	$ 2,516,721	$ 2,001,892	$ 2,208,218
Costs deferred during the year	177,941	179,465	216,172
Amortization:			
Amortization	(193,292)	(243,666)	(210,886)
Impact of unlocking	104,707	21,465	34,274
Effect of net unrealized gains/losses	(639,354)	557,565	(245,886)
Balance at end of year	$ 1,966,723	$ 2,516,721	$ 2,001,892

The following table presents a rollforward of the liability for lifetime income benefit riders (net of coinsurance ceded):

	December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Balance at beginning of year	$ 808,167	$ 704,441	$ 533,391
Benefit expense accrual	179,901	157,333	149,442
Impact of unlocking	315,383	(53,607)	21,608
Claim payments	—	—	—
Balance at end of year	$ 1,303,451	$ 808,167	$ 704,441

We periodically revise the key assumptions used in the calculation of amortization of deferred policy acquisition costs and deferred sales inducements retrospectively through an unlocking process when estimates of current or future gross profits (including the impact of realized investment gains and losses) to be realized from a group of products are revised. In addition, we periodically revise the assumptions used in determining the liability for lifetime income benefit riders as experience develops that is different from our assumptions.

We review these assumptions quarterly and as a result of these reviews, we made updates to assumptions in 2019, 2018 and 2017. In addition, we implemented an enhanced actuarial valuation system during 2019, and as a result, our 2019 assumption updates include model refinements resulting from the implementation.

The most significant assumption changes from the 2019 review were to lapse and utilization assumptions. We have credible lapse and utilization data based upon a comprehensive experience study spanning over 10 years on our products with lifetime income benefit riders and have experienced lapse rates that are lower than previously estimated.

Lower lapse assumptions result in an expectation that more policies will remain in force than previously anticipated which results in a greater amount of benefit payments in excess of account value and the need for a greater liability for lifetime income benefit riders. The decrease in lapse rate assumptions also results in policies being in force for a longer period of time and an increase in expected gross profits as compared to previous estimates. The higher level of expected future gross profits results in an increase in the balances of deferred policy acquisition costs and deferred sales inducements.

Our experience study also indicated that the ultimate utilization of certain lifetime income benefit riders is expected to be less than our prior assumptions and the timing of utilization of lifetime income benefit riders is later than in our prior assumptions. We reduced our ultimate utilization assumptions for fee riders from 75% to 60% and for no-fee riders from 37.5% to 30%, for policies issued in 2014 and prior years. The net effect of the utilization assumption revisions resulted in a decrease in the liability for lifetime income benefit riders and partially offset the increase in the liability for lifetime income benefit riders from the change in lapse assumptions.

In addition, we revised our assumptions regarding future crediting rates on policies. We are assuming a 3.80% U.S. Treasury rate with a 20 year mean reversion period. Our assumption for aggregate spread is 2.60% which translates to an ultimate discount rate of 2.90%. While the aggregate spread of 2.60% did not change from prior estimates, our estimates of the profitability of individual issue year cohorts has changed with the use of an aggregate portfolio yield across all issue year cohorts. This assumption revision resulted in a change in the allocation of profitability by issue year cohort, which caused a reduction in the deferred policy acquisition costs and deferred sales inducements assets and partially offset the increase in the deferred policy acquisition costs and deferred sales inducements assets from the change in lapse assumptions.

The most significant revisions made during 2018 as a result of our quarterly reviews were account balance true-ups which were favorable to us due to stronger index credits than we assumed due to strong equity market performance and adjustments to generally decrease lapse rate assumptions to reflect better persistency experienced than assumed. The favorable impact of the account balance true-ups and lapse rate assumption changes was partially offset by revisions to lower our future investment spread assumptions primarily due to an increase in the cost of money we had been experiencing.

The most significant revisions made during 2017 as a result of our quarterly reviews were account balance true-ups which were favorable to us due to stronger index credits than we assumed due to strong equity market performance and adjustments to generally decrease lapse rate assumptions to reflect better persistency experienced than assumed. The favorable impact of the account balance true-ups and lapse rate assumption changes was partially offset by reductions in estimated future gross profits attributable to revisions to assumptions used in determining the liability for lifetime income benefit riders as well as an increase in estimated expenses associated with a reinsurance agreement with an unaffiliated reinsurer.

The 2018 and 2017 revisions to the liability for lifetime income benefit riders were consistent with the revisions used in the calculation of amortization of deferred policy acquisition costs and deferred sales inducements described above. The 2018 revisions were primarily attributable to account balance true-ups and future investment spread assumptions. The impact of the account balance true-ups and future investment spread changes was partially offset by the lapse rate assumptions changes described above. The 2017 revisions were primarily due to the lapse rate assumption changes described above and changes to our account value growth projections.

7. Reinsurance and Policy Provisions

Coinsurance

We have two coinsurance agreements with EquiTrust Life Insurance Company ("EquiTrust"), covering 70% of certain of American Equity Life's fixed index and fixed rate annuities issued from August 1, 2001 through December 31, 2001, 40% of those contracts issued during 2002 and 2003, and 20% of those contracts issued from January 1, 2004 to July 31, 2004. The business reinsured under these agreements may not be recaptured. Coinsurance deposits (aggregate policy benefit reserves transferred to EquiTrust under these agreements) were $481.9 million and $560.8 million at December 31, 2019 and 2018, respectively. We remain liable to policyholders with respect to the policy liabilities ceded to EquiTrust should EquiTrust fail to meet the obligations it has coinsured. None of the coinsurance deposits with EquiTrust are deemed by management to be uncollectible. The balance due under these agreements to EquiTrust was $10.7 million and $2.2 million at December 31, 2019 and 2018, respectively, and represents the fair value of call options held by us to fund index credits related to the ceded business net of cash due to or from EquiTrust related to monthly settlements of policy activity and other expenses.

We have three coinsurance agreements with Athene Life Re Ltd. ("Athene"), an unauthorized life reinsurer domiciled in Bermuda. One agreement ceded 20% of certain of American Equity Life's fixed index annuities issued from January 1, 2009 through March 31, 2010. The business reinsured under this agreement is no longer eligible for recapture. The second agreement ceded 80% of American Equity Life's multi-year rate guaranteed annuities issued from July 1, 2009 through December 31, 2013 and 80% of Eagle Life's multi-year rate guaranteed annuities issued from November 20, 2013 through December 31, 2013. The business reinsured under this agreement may not be recaptured. The third agreement cedes 80% of American Equity Life's and Eagle Life's multi-year rate guaranteed annuities issued on or after January 1, 2014, 80% of Eagle Life's fixed index annuities issued prior to January 1, 2017, 50% of certain of Eagle Life's fixed index annuities issued from January 1, 2017 through December 31, 2018, 20% of certain of Eagle Life's fixed index annuities issued on or after January 1, 2019 and 80% of certain of American Equity Life's fixed index annuities issued from August 1, 2016 through December 31, 2016. The business reinsured under this agreement may not be recaptured. Coinsurance deposits (aggregate policy benefit reserves transferred to Athene under these agreements) were $4.6 billion and $4.4 billion at December 31, 2019 and 2018, respectively. American Equity Life is an intermediary for reinsurance of Eagle Life's business ceded to Athene. American Equity Life and Eagle Life remain liable to policyholders with respect to the policy liabilities ceded to Athene should Athene fail to meet the obligations it has coinsured. The annuity deposits that have been ceded to Athene are secured by assets held in trusts and American Equity Life is the sole beneficiary of the trusts. The assets in the trusts are required to remain at a value that is sufficient to support the current balance of policy benefit liabilities of the ceded business on a statutory basis. If the value of the trust accounts would ever be less than the amount of the ceded policy benefit liabilities on a statutory basis, Athene is required to either establish a letter of credit or deposit securities in the trusts for the amount of any shortfall. None of the coinsurance deposits with Athene are deemed by management to be uncollectible. The balance due under these agreements to Athene was $100.2 million and $16.2 million at December 31, 2019 and 2018, respectively, and represents the fair value of call options held by us to fund index credits related to the ceded business net of cash due from Athene related to monthly settlements of policy activity.

Amounts ceded to EquiTrust and Athene under these agreements are as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Consolidated Statements of Operations			
Annuity product charges	$ 7,792	$ 7,074	$ 6,458
Change in fair value of derivatives	97,195	(41,487)	94,382
	$ 104,987	$ (34,413)	$ 100,840
Interest sensitive and index product benefits	$ 132,127	$ 165,485	$ 177,332
Change in fair value of embedded derivatives	109,002	(92,649)	35,561
Other operating costs and expenses	18,778	20,415	19,877
	$ 259,907	$ 93,251	$ 232,770
Consolidated Statements of Cash Flows			
Annuity deposits	$ (290,040)	$ (413,222)	$ (387,280)
Cash payments to policyholders	381,276	389,384	380,683
	$ 91,236	$ (23,838)	$ (6,597)

Financing Arrangements

We have a reinsurance agreement with Hannover Life Reassurance Company of America ("Hannover"), which is treated as reinsurance under statutory accounting practices and as a financing arrangement under GAAP. The statutory surplus benefit under this agreement is eliminated under GAAP and the associated charges are recorded as risk charges and included in other operating costs and expenses in the consolidated statements of operations. The agreement became effective April 1, 2019 (the "2019 Hannover Agreement").

The 2019 Hanover Agreement is a coinsurance funds withheld reinsurance agreement for statutory purposes covering 80% of lifetime income benefit rider payments in excess of policy fund values and waived surrender charges related to penalty free withdrawals on certain business. We may recapture the risks reinsured under this agreement without penalty as of the end of the accounting period in which every reinsured policy in the issue year cohort reaches its 12th anniversary date. We can elect to recapture the business by issue year cohort any time prior to the 12th anniversary date however we are subject to paying a make-whole payment to Hannover in the event of an early recapture. The agreement also makes it punitive to us if we do not recapture the business on or before the 12th anniversary of each issue year cohort.

The 2019 Hannover Agreement replaced a yearly renewable term reinsurance transaction we had with Hannover, which was effective July 1, 2013 and was subsequently amended effective October 1, 2016 (the "2013 Hannover Agreement"). The 2013 Hannover Agreement was also treated as reinsurance under statutory accounting practices and as a financing arrangement for GAAP. The 2013 Hannover Agreement covered 45.6% of waived surrender charges related to penalty free withdrawals, deaths and lifetime income benefit rider payments as well as lifetime income benefit rider payments in excess of policy fund values on certain business.

The reserve credit recorded on a statutory basis by American Equity Life was $1.2 billion and $780.0 million at December 31, 2019 and 2018, respectively. We pay a quarterly risk charge based on the pretax statutory benefit as of the end of each calendar quarter. Risk charges attributable to our agreements with Hannover were $37.8 million, $30.8 million, and $28.5 million during 2019, 2018 and 2017, respectively.

8. Income Taxes

We file consolidated federal income tax returns that include all of our wholly-owned subsidiaries. Our income tax expense as presented in the consolidated financial statements is summarized as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Consolidated statements of operations:			
Current income taxes	$ 12,528	$ 120,289	$ 188,356
Deferred income taxes (benefits)	56,947	(12,563)	(46,730)
Total income tax expense included in consolidated statements of operations	69,475	107,726	141,626
Stockholders' equity:			
Expense (benefit) relating to:			
Change in net unrealized investment losses	412,117	(240,459)	177,162
Total income tax expense (benefit) included in consolidated financial statements	$ 481,592	$ (132,733)	$ 318,788

Income tax expense in the consolidated statements of operations differed from the amount computed at the applicable statutory federal income tax rates of 21% for the years ended December 31, 2019 and 2018, and 35% for the year ended December 31, 2017 as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
Income before income taxes	$ 315,565	$ 565,742	$ 316,271
Income tax expense on income before income taxes	$ 66,269	$ 118,806	$ 110,695
Tax effect of:			
State income taxes	5,111	5,777	1,961
Tax exempt net investment income	(4,385)	(4,223)	(4,288)
Impact of Tax Reform	—	—	35,932
Worthless stock deduction	—	(7,448)	—
Other	2,480	(5,186)	(2,674)
Income tax expense	$ 69,475	$ 107,726	$ 141,626
Effective tax rate	22.0%	19.0%	44.8%

Tax Reform was enacted on December 22, 2017, reducing the statutory federal income tax rate from 35% to 21% effective January 1, 2018. The primary impact on our 2017 financial results was the impact of the reduction in the U.S. statutory tax rate from 35% to 21% on our deferred tax balances as of December 31, 2017.

Deferred income tax assets or liabilities are established for temporary differences between the financial reporting amounts and tax bases of assets and liabilities that will result in deductible or taxable amounts, respectively, in future years. The tax effects of temporary differences that give rise to the deferred tax assets and liabilities at December 31, 2019 and 2018, are as follows:

	December 31,	
	2019	2018
	(Dollars in thousands)	
Deferred income tax assets:		
Policy benefit reserves	$ 1,733,672	$ 1,538,371
Other than temporary impairments	15,166	9,804
Net unrealized losses on available for sale fixed maturity securities	—	19,928
Derivative instruments	—	141,075
Amounts due reinsurer	8,784	—
Other policyholder funds	4,359	3,368
Deferred compensation	3,705	3,334
Share-based compensation	2,775	3,169
Net operating loss carryforwards	37,509	2,286
Other	14,677	9,439
Gross deferred tax assets	1,820,647	1,730,774
Deferred income tax liabilities:		
Deferred policy acquisition costs and deferred sales inducements	(1,303,385)	(1,214,998)
Net unrealized gains on available for sale fixed maturity securities	(392,189)	—
Derivative instruments	(109,287)	—
Policy benefit reserves	(147,924)	(172,578)
Investment income items	(42,105)	(37,795)
Amounts due reinsurer	—	(12,620)
Other	(3,654)	(1,614)
Gross deferred tax liabilities	(1,998,544)	(1,439,605)
Net deferred income tax asset (liability)	$ (177,897)	$ 291,169

Included in deferred income taxes is the expected income tax benefit attributable to unrealized losses on available for sale fixed maturity securities. There is no valuation allowance provided for the deferred income tax asset attributable to unrealized losses on available for sale fixed maturity securities. Management expects that the passage of time will result in the reversal of these unrealized losses due to the fair value increasing as these securities near maturity. We have the intent and ability to hold these securities to maturity and do not believe it would be necessary to liquidate these securities at a loss. In addition, we have the ability to sell fixed maturity securities in unrealized gain positions to offset realized deferred income tax assets attributable to unrealized losses on available for sale fixed maturity securities.

Realization of our deferred income tax assets is more likely than not based on expectations as to our future taxable income and considering all other available evidence, both positive and negative. Therefore, no valuation allowance against deferred income tax assets has been established as of December 31, 2019 and 2018.

There were no material income tax contingencies requiring recognition in our consolidated financial statements as of December 31, 2019. We are no longer subject to income tax examinations by tax authorities for years 2015 and prior.

At December 31, 2019, we have an estimated $178.6 million net operating loss carryforward for federal income tax purposes, which does not expire.

9. Notes and Loan Payable and Amounts Due Under Repurchase Agreements

Notes payable includes the following:

	December 31,	
	2019	2018
	(Dollars in thousands)	
Senior notes due 2027		
Principal	$ 500,000	$ 500,000
Unamortized debt issue costs	(4,607)	(5,102)
Unamortized discount	(277)	(307)
	$ 495,116	$ 494,591

On June 16, 2017, we issued $500 million aggregate principal amount of senior unsecured notes due 2027 which bear interest at 5.0% per year and will mature on June 15, 2027 (the “2027 Notes”). The 2027 Notes were issued at a $0.3 million discount, which is being amortized over the term of the 2027 Notes using the effective interest method. Contractual interest is payable semi-annually in arrears each June 15th and December 15th. The initial transaction fees and costs totaling $5.8 million were capitalized as deferred financing costs and are being amortized over the term of the 2027 Notes using the effective interest method. We used the net proceeds from the issuance of the 2027 Notes to prepay our $100 million term loan (the "Term Loan") that was scheduled to mature in 2019 on June 16, 2017, and to redeem our $400 million notes that were scheduled to mature in 2021 (the "2021 Notes") on July 17, 2017. We paid $413.3 million to redeem the 2021 Notes which included a redemption premium equal to 3.313% of the $400 million principal amount of the 2021 Notes. We incurred a loss of $18.4 million in 2017 on the redemption of the 2021 Notes.

On September 30, 2016, we entered into a credit agreement with six banks that provided for a $150 million unsecured revolving line of credit (the "Revolving Facility") that terminates on September 30, 2021 and a $100 million term loan that was scheduled to terminate on September 30, 2019 but was repaid on June 16, 2017 without penalty. We utilized the proceeds from the Term Loan to make a contribution to the capital and surplus of our subsidiary, American Equity Life. Any proceeds from the Revolving Facility will be used to finance our general corporate purposes. The interest rate for all borrowings under the credit agreement is floating at a rate based on our election that will be equal to the alternate base rate (as defined in the credit agreement) plus the applicable margin or the adjusted LIBOR rate (as defined in the credit agreement) plus the applicable margin. We also pay a commitment fee based on the available unused portion of the Revolving Facility. The applicable margin and commitment fee rate are based on our credit rating and can change throughout the period of the borrowings. Based upon our current credit rating, the applicable margin is 0.75% for alternate base rate borrowings and 1.75% for adjusted LIBOR rate borrowings, and the commitment fee is 0.275%. The interest rate in effect on the Term Loan was 3.125% in 2017. Under this agreement, we were required to maintain a minimum risk-based capital ratio at our subsidiary, American Equity Life, of 275%, a maximum ratio of adjusted debt to total adjusted capital of 0.35, and a minimum level of statutory surplus at American Equity Life equal to the sum of 1) 80% of statutory surplus at June 30, 2016, 2) 50% of the statutory net income for each fiscal quarter ending after June 30, 2016, and 3) 50% of all capital contributed to American Equity Life after June 30, 2016. The Revolving Facility contains an accordion feature that allows us, on up to three occasions and subject to credit availability, to increase the credit facility by an additional $50 million in the aggregate. We also have the ability to extend the maturity date of the Revolving Facility by an additional one year past the initial maturity date of September 30, 2021 with the consent of the extending banks. There are currently no guarantors of the Revolving Facility, but certain of our subsidiaries must guarantee our obligations under the credit agreement if such subsidiaries guarantee other material amounts of our debt. No amounts were outstanding under the Revolving Facility at December 31, 2019 and 2018. As of December 31, 2019, $984.6 million is unrestricted and could be distributed to shareholders and still be in compliance with all covenants under this credit agreement.

As part of our investment strategy, we enter into securities repurchase agreements (short-term collateralized borrowings). When we do borrow cash on these repurchase agreements, we pledge collateral in the form of debt securities with fair values approximately equal to the amount due and we use the cash to purchase debt securities ahead of the time we collect the cash from selling annuity policies to avoid a lag between the investment of funds and the obligation to credit interest to policyholders. We earn investment income on the securities purchased with these borrowings at a rate in excess of the cost of these borrowings. Such borrowings averaged $33.0 million, $51.8 million and $40.0 million for the years ended December 31, 2019, 2018 and 2017, respectively. The maximum amount borrowed during 2019, 2018 and 2017 was $243.6 million, $544.1 million and $274.5 million, respectively. The weighted average interest rate on amounts due under repurchase agreements was 2.99%, 1.90% and 0.84% for the years ended December 31, 2019, 2018 and 2017, respectively.

10. Subordinated Debentures

Our wholly-owned subsidiary trusts (which are not consolidated) have issued fixed rate and floating rate trust preferred securities and have used the proceeds from these offerings to purchase subordinated debentures from us. We also issued subordinated debentures to the trusts in exchange for all of the common securities of each trust. The sole assets of the trusts are the subordinated debentures and any interest accrued thereon. The interest payment dates on the subordinated debentures correspond to the distribution dates on the trust preferred securities issued by the trusts. The trust preferred securities mature simultaneously with the subordinated debentures. Our obligations under the subordinated debentures and related agreements provide a full and unconditional guarantee of payments due under the trust preferred securities. All subordinated debentures are callable by us at any time, except for the Trust II subordinated debt obligations.

Following is a summary of subordinated debt obligations to the trusts at December 31, 2019 and 2018:

	December 31,			
	2019	2018	Interest Rate	Due Date
	(Dollars in thousands)			
American Equity Capital Trust II	$ 77,822	$ 77,551	5%	June 1, 2047
American Equity Capital Trust III	27,840	27,840	*LIBOR + 3.90%	April 29, 2034
American Equity Capital Trust IV	12,372	12,372	*LIBOR + 4.00%	January 8, 2034
American Equity Capital Trust VII	—	10,830	*LIBOR + 3.75%	December 15, 2034
American Equity Capital Trust VIII	—	20,620	*LIBOR + 3.75%	December 15, 2034
American Equity Capital Trust IX	—	15,470	*LIBOR + 3.65%	June 15, 2035
American Equity Capital Trust X	—	20,620	*LIBOR + 3.65%	September 15, 2035
American Equity Capital Trust XI	—	20,620	*LIBOR + 3.65%	December 15, 2035
American Equity Capital Trust XII	41,238	41,238	*LIBOR + 3.50%	April 7, 2036
	159,272	247,161		
Unamortized debt issue costs	(2,007)	(4,179)		
	$ 157,265	$ 242,982		

*—three month London Interbank Offered Rate

The principal amount of the subordinated debentures issued by us to American Equity Capital Trust II ("Trust II") is $100.0 million. These debentures were assigned a fair value of $74.7 million at the date of issue (based upon an effective yield-to-maturity of 6.8%). The difference between the fair value at the date of issue and the principal amount is being accreted over the life of the debentures. The trust preferred securities issued by Trust II were issued to Iowa Farm Bureau Federation, which owns more than 50% of the voting capital stock of FBL Financial Group, Inc. ("FBL"). The consideration received by Trust II in connection with the issuance of its trust preferred securities consisted of fixed income securities of equal value which were issued by FBL.

We redeemed subordinated debentures issued to the following trusts during December 2019: American Equity Capital Trust VII, American Equity Capital Trust VIII, American Equity Capital Trust IX, American Equity Capital Trust X and American Equity Capital Trust XI. In addition, we redeemed subordinated debentures issued to American Equity Capital Trust IV and American Equity Capital Trust XII during January 2020 and subordinated debentures issued to American Equity Capital Trust III during February 2020.

11. Retirement and Share-based Compensation Plans

We have adopted a contributory defined contribution plan which is qualified under Section 401(k) of the Internal Revenue Code. The plan covers substantially all of our full-time employees subject to minimum eligibility requirements. Employees can contribute a percentage of their annual salary (up to a maximum annual contribution of $19,000 in 2019, $18,500 in 2018 and $18,000 in 2017) to the plan. We contribute an additional amount, subject to limitations, based on the voluntary contribution of the employee. Further, the plan provides for additional employer contributions based on the discretion of the Board of Directors. Plan contributions charged to expense were $1.8 million, $1.7 million and $1.4 million for the years ended December 31, 2019, 2018 and 2017, respectively.

The following table summarizes compensation expense recognized for employees and directors as a result of share-based compensation:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
ESOP	$ 2,547	$ 2,194	$ 1,474
Employee Incentive Plans	6,559	5,434	2,155
Director Equity Plans	922	966	812
	$ 10,028	$ 8,594	$ 4,441

The principal purpose of the American Equity Investment Employee Stock Ownership Plan ("ESOP") is to provide each eligible employee with an equity interest in us. Employees become eligible once they have completed a minimum of six months of service. Employees become 100% vested after two years of service. Our contribution to the ESOP is determined by the Board of Directors.

In 2016, we adopted the 2016 Employee Incentive Plan which authorized the issuance of up to 2,500,000 shares of our Common stock in the form of grants of options, stock appreciation rights, restricted stock awards and restricted stock units. At December 31, 2019, we had 1,712,924 shares of common stock available for future grant under the 2016 Employee Incentive Plan. The 2009 Employee Incentive Plan, which expired in June 2014, authorized the issuance of up to 2,500,000 shares of our common stock in the form of grants of options, stock appreciation rights, restricted stock awards and restricted stock units. All options granted under this plan had six or ten year terms and a three year vesting period after which they become fully exercisable immediately.

We have a long-term performance incentive plan under which certain members of our senior management team are granted restricted stock units pursuant to the 2016 Employee Incentive Plan. During 2019, 2018 and 2017, we granted 152,678, 105,617 and 84,476 restricted stock units under this plan, respectively. For the 2019, 2018 and 2017 grants, vesting is tied to threshold, target and maximum performance goals for the three year periods ending December 31, 2021, December 31, 2020 and December 31, 2019, respectively. Fifty percent of the restricted stock units will vest if we meet threshold goals, 100% of the restricted stock units will vest if we meet target performance goals and 150% of the restricted stock units will vest if we meet maximum performance goals. Compensation expense is recognized over the three year vesting period based on the likelihood of meeting threshold, target and maximum goals. Restricted stock units that ultimately vest are payable in an equal number of shares of our common stock. Restricted stock units are accounted for as equity awards and the estimated fair value of restricted stock units is based upon the closing price of our common stock on the date of grant.

During 2019 and 2018, we granted 72,696 and 85,500, respectively, time-based restricted stock units under the 2016 Employee Incentive Plan to certain employees. The 2019 grant will vest on the date three years following the grant date provided the participant remains employed with us. The 2018 grant generally vested on the date one year following the grant date provided the participant remains employed with us. The 2018 grant includes 6,000 restricted stock units that will vest on the date three years following the grant date provided the participant remains employed with us. Shares will vest early upon an employee reaching 65 years of age with 10 years of service with us. Compensation expense is recognized over the one year or three year vesting period. Restricted stock units that ultimately vest are payable in an equal number of shares of our common stock. Restricted stock units are accounted for as equity awards and the estimated fair value of restricted stock units is based upon the closing price of our common stock on the date of grant.

During 2018 and 2017, we issued 36,270 and 39,826, respectively, shares of restricted common stock under the 2016 Employee Incentive Plan to certain employees. These shares will generally vest on the date three years following the grant date provided the participant remains employed with us. The 2017 grant included 6,727 shares that vested on the date one year following the grant date provided the participant remained employed with us. Compensation expense is recognized over the one year or three year vesting period. Shares vest immediately for participants over 65 years of age with 10 years of service with us, and compensation expense under this plan for these participants was recognized upon approval of the incentive award by the compensation committee.

The 2013 Director Equity and Incentive Plan authorizes the grant of options, stock appreciation rights, restricted stock awards and restricted stock units convertible into or based upon our common stock of up to 250,000 shares to our Directors. During 2019, 2018 and 2017, we issued 32,000, 28,600 and 33,000 shares of common stock, respectively, all of which are restricted stock, and which vest on the earlier of the next annual meeting date or one year from the grant date provided the individual remains a Director during that time period. At December 31, 2019, we had 22,900 shares of common stock available for future grant under the 2013 Director and Equity Incentive Plan.

During 2014, we established the 2014 Independent Insurance Agent Restricted Stock and Restricted Stock Unit Plan, which was amended during 2016. Under the amended plan, agents of American Equity Life may receive grants of restricted stock and restricted stock units based upon their individual sales. The plan authorizes grants of up to 1,800,000 shares of our common stock. At December 31, 2019, we had 711,001 shares of common stock available for future grant under the amended 2014 Independent Insurance Agent Restricted Stock and Restricted Stock Unit Plan. We recognize commission expense and an increase to additional paid-in capital as share-based compensation equal to the fair value of the restricted stock and restricted stock units as they are earned.

In January 2017, American Equity Life's agents were granted 363,624 restricted stock units based on their production during 2016. In January 2018, agents vested in 138,820 restricted stock units granted in January 2017 based on their continued service as an independent agent and their 2017 individual sales of our products, and for which we recorded commission expense (capitalized as deferred policy acquisition costs) of $1.3 million in 2017. In January 2019, agents vested in 57,562 restricted stock units granted in January 2017 based on their continued service as an independent agent and their 2018 individual sales of our products, and for which we recorded commission expense (capitalized as deferred policy acquisition costs) of $1.6 million in 2018. In January 2020, agents vested in 58,617 restricted stock units granted in January 2017 based on their continued service as an independent agent and their 2019 individual sales of our products, and for which we recorded commission expense (capitalized as deferred policy acquisition costs) of $1.4 million in 2019.

In January 2016, American Equity Life's agents were granted 650,683 restricted stock units based on their production during 2015. In January 2018, agents vested in 100,586 restricted stock units granted in January 2016 based on their continued service as an independent agent and their 2017 individual sales of our products, and for which we recorded commission expense (capitalized as deferred policy acquisition costs) of $2.2 million in 2017. In January 2019, agents vested in 89,367 restricted stock units granted in January 2016 based on their continued service as an independent agent and their 2018 individual sales of our products, and for which we recorded commission expense (capitalized as deferred policy acquisition costs) of $2.4 million in 2018. In January 2020, agents vested in 89,382 restricted stock units granted in January 2016 based on their continued service as an independent agent and their 2019 individual sales of our products, and for which we recorded commission expense (capitalized as deferred policy acquisition costs) of $2.2 million in 2019.

For the restricted stock units granted to agents in January of 2017 and 2016, 20% of the restricted stock units vested one year from the grant date if the agent was in good standing with American Equity Life at that date. The remaining 80% of the restricted stock units granted to retirement eligible individuals vest over a three year period if the agent remains in good standing with American Equity Life. The remaining 80% of the restricted stock units granted to non-retirement eligible individuals vest based on the agent's individual sales and continued service as an independent agent over a period of time not to exceed five years.

In January 2015, American Equity Life's agents were granted 27,985 shares of restricted stock and 221,489 restricted stock units based on their production during 2014. In January 2018, agents vested in 32,815 restricted stock units granted in January 2015 based on their continued service as an independent agent and their 2017 individual sales of our products, and for which we recorded commission expense (capitalized as deferred policy acquisition costs) of $0.8 million in 2017. In January 2019, agents vested in 28,575 restricted stock units granted in January 2015 based on their continued service as an independent agent and their 2018 individual sales of our products, and for which we recorded commission expense (capitalized as deferred policy acquisition costs) of $0.9 million in 2018. In January 2020, agents vested in 2,943 restricted stock units granted in January 2015 based on their continued service as an independent agent and their 2019 individual sales of our products, and for which we recorded commission expense (capitalized as deferred policy acquisition costs) of $0.1 million in 2019. The restricted stock was granted to retirement eligible individuals and vested immediately upon grant. 20% of the restricted stock units vested one year from the grant date if the agent was in good standing with American Equity Life at that date. The remaining 80% of the restricted stock units granted vest based on the agent's individual sales and continued service as an independent agent over a period of time not to exceed five years.

Our 2000 Director Stock Option Plan, 2009 Employee Incentive Plan and 2011 Director Stock Option Plan authorized grants of options to officers, directors and employees for an aggregate of up to 2,975,000 shares of our common stock. All options granted under these plans have ten year terms and a six month or three year vesting period after which they become fully exercisable immediately. At December 31, 2019, we had 18,000 shares of common stock available for future grant under the 2011 Director Stock Option Plan.

During 2007, 2010 and 2012 we established Independent Insurance Agent Stock Option plans. Under these plans, agents of American Equity Life received grants of options to acquire shares of our common stock based upon their individual sales. The plans authorize grants of options to agents for an aggregate of up to 8,000,000 shares of our common stock. We recognized commission expense and an increase to additional paid-in capital as share-based compensation equal to the fair value of the options as they were earned.

Changes in the number of stock options granted to employees and agents outstanding during the years ended December 31, 2019, 2018 and 2017 are as follows:

	Number of Shares	Weighted-Average Exercise Price per Share	Total Exercise Price
	(Dollars in thousands, except per share data)		
Outstanding at January 1, 2017	2,918,946	$ 16.06	$ 46,885
Granted	—	—	—
Canceled	(57,200)	13.66	(781)
Exercised	(881,481)	15.90	(14,020)
Outstanding at December 31, 2017	1,980,265	16.20	32,084
Granted	—	—	—
Canceled	(40,850)	18.87	(771)
Exercised	(717,550)	13.99	(10,040)
Outstanding at December 31, 2018	1,221,865	17.41	21,273
Granted	—	—	—
Canceled	(22,600)	18.14	(410)
Exercised	(370,352)	11.76	(4,357)
Outstanding at December 31, 2019	828,913	19.91	$ 16,506

The following table summarizes information about stock options outstanding at December 31, 2019:

	Stock Options Outstanding and Vested		
Range of Exercise Prices	Number of Awards	Remaining Life (yrs)	Weighted-Average Exercise Price Per Share
$9.27 - $11.35	147,500	1.19	$ 9.74
$12.04 - $24.79	681,413	0.94	22.12
$9.27 - $24.79	828,913	0.98	19.91

The aggregate intrinsic value for stock options outstanding and vested awards was $8.3 million at December 31, 2019. For the years ended December 31, 2019, 2018 and 2017, the total intrinsic value of options exercised by officers, directors and employees was $3.4 million, $3.0 million and $1.5 million, respectively. Intrinsic value for stock options is calculated as the difference between the exercise price of the underlying awards and the price of our common stock as of the reporting date. Cash received from stock options exercised for the years ended December 31, 2019, 2018 and 2017 was $4.4 million, $10.0 million and $14.0 million, respectively.

We have deferred compensation arrangements with certain officers, directors, and consultants, whereby these individuals agreed to take our common stock at a future date in lieu of cash payments at the time of service. The common stock is to be issued in conjunction with a "trigger event," as that term is defined in the individual agreements. At December 31, 2019 and 2018, these individuals have earned, and we have reserved for future issuance, 335,875 and 364,000 shares of common stock, respectively, pursuant to these arrangements. No equity-based deferred compensation arrangements were in effect during 2019, 2018 or 2017.

We have deferred compensation agreements with certain former officers whereby these individuals have deferred certain salary and bonus compensation which is deposited into the American Equity Officer Rabbi Trust (Officer Rabbi Trust). The amounts deferred for certain former employees are invested in assets at the direction of the former employee. The assets of the Officer Rabbi Trust are included in our assets and a corresponding deferred compensation liability is recorded. The deferred compensation liability is recorded at the fair market value of the assets in the Officer Rabbi Trust with the change in fair value included as a component of compensation expense. The deferred compensation liability related to these agreements was $1.3 million and $1.5 million at December 31, 2019 and 2018, respectively. The Officer Rabbi Trust held 30,532 shares and 32,597 shares of our common stock at December 31, 2019 and 2018, respectively, which are treated as treasury shares.

12. Statutory Financial Information and Dividend Restrictions

Statutory accounting practices prescribed or permitted by regulatory authorities for our life insurance subsidiaries differ from GAAP. Net income for our primary life insurance subsidiary as determined in accordance with statutory accounting practices was as follows:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands)		
American Equity Life	$ 143,309	$ 210,049	$ 375,900

Statutory capital and surplus for our primary life insurance subsidiary was as follows:

	December 31,	
	2019	2018
	(Dollars in thousands)	
American Equity Life	$ 3,490,196	$ 3,251,881

American Equity Life is domiciled in the State of Iowa and is regulated by the Iowa Insurance Division. In some instances, the Iowa Insurance Division has adopted prescribed or permitted statutory accounting practices that differ from the required accounting outlined in National Association of Insurance Commissioners ("NAIC") Statutory Accounting Principles ("SAP"). For the year ended December 31, 2019, American Equity Life's use of prescribed statutory accounting practices resulted in lower statutory capital and surplus of $411.7 million relative to NAIC SAP due to its accounting for call option derivative instruments and fixed index annuity reserves. For the year ended December 31, 2018, American Equity Life's use of the same prescribed statutory accounting practice resulted in higher statutory capital and surplus of $232.4 million. We purchase call options to hedge the growth in interest credited on fixed index products. The Iowa Insurance Division allows an insurer to elect (1) to use an amortized cost method to account for such call options and (2) to use a fixed index annuity reserve calculation methodology under which call options associated with the current index interest crediting term are valued at zero.

Life insurance companies are subject to the NAIC risk-based capital (RBC) requirements which are intended to be used by insurance regulators as an early warning tool to identify deteriorating or weakly capitalized insurance companies for the purpose of initiating regulatory action. Calculations using the NAIC formula indicated that American Equity Life's ratio of total adjusted capital to the highest level of required capital at which regulatory action might be initiated (Company Action Level) is as follows:

	December 31,	
	2019	2018
	(Dollars in thousands)	
Total adjusted capital	$ 3,824,457	$ 3,542,339
Company Action Level RBC	1,028,662	983,169
Ratio of adjusted capital to Company Action Level RBC	372%	360%

Prior approval of regulatory authorities is required for the payment of dividends to the parent company by American Equity Life which exceed an annual limitation. American Equity Life may pay dividends without prior approval, unless such payments, together with all other such payments within the preceding twelve months, exceed the greater of (1) net gain from operations before net realized capital gains/losses for the preceding calendar year or, (2) 10% of the American Equity Life's surplus at the preceding year-end. The amount of dividends permitted to be paid by American Equity Life to its parent company without prior approval of regulatory authorities is $349.0 million as of December 31, 2019. No dividends were paid by any of our insurance subsidiaries for any of the years presented in these financial statements.

The Parent Company relies on its subsidiaries for cash flow, which has primarily been in the form of investment management fees. Retained earnings in our consolidated financial statements primarily represent undistributed earnings of American Equity Life. As such, our ability to pay dividends is limited by the regulatory restriction placed upon insurance companies as described above. In addition, American Equity Life retains funds to allow for sufficient capital for growth.

13. Commitments and Contingencies

We lease our home office space and certain equipment under various operating leases. Rent expense for the years ended December 31, 2019, 2018 and 2017 totaled $3.3 million, $3.2 million and $2.9 million, respectively. At December 31, 2019, the aggregate future minimum lease payments are $13.7 million. The following represents payments due by period for operating lease obligations as of December 31, 2019 (dollars in thousands):

Year Ending December 31:	
2020	$ 2,427
2021	2,354
2022	2,085
2023	1,866
2024	1,832
2025 and thereafter	3,108

We are occasionally involved in litigation, both as a defendant and as a plaintiff. In addition, state and federal regulatory bodies, such as state insurance departments, the SEC and the DOL, regularly make inquiries and conduct examinations or investigations concerning our compliance with, among other things, insurance laws, securities laws and the Employee Retirement Income Security Act of 1974, as amended.

In accordance with applicable accounting guidelines, we establish an accrued liability for litigation and regulatory matters when those matters present loss contingencies that are both probable and estimable. As a litigation or regulatory matter is developing we, in conjunction with outside counsel, evaluate on an ongoing basis whether the matter presents a loss contingency that meets conditions indicating the need for accrual and/or disclosure, and if not the matter will continue to be monitored for further developments. If and when the loss contingency related to litigation or regulatory matters is deemed to be both probable and estimable, we will establish an accrued liability with respect to that matter and will continue to monitor the matter for further developments that may affect the amount of the accrued liability.

There can be no assurance that any pending or future litigation will not have a material adverse effect on our business, financial condition, or results of operations.

In addition to our commitments to fund mortgage loans, we have unfunded commitments at December 31, 2019 to limited partnerships of $43.7 million and to fixed maturity securities of $82.0 million.

14. Earnings Per Share and Stockholders' Equity

Earnings Per Share

The following table sets forth the computation of earnings per common share and earnings per common share - assuming dilution:

	Year Ended December 31,		
	2019	2018	2017
	(Dollars in thousands, except per share data)		
Numerator:			
Net income - numerator for earnings per common share	$ 246,090	$ 458,016	$ 174,645
Denominator:			
Weighted average common shares outstanding	91,139,453	90,347,915	88,982,442
Effect of dilutive securities:			
Stock options and deferred compensation agreements	304,196	709,433	945,612
Restricted stock and restricted stock units	338,593	365,237	382,954
Denominator for earnings per common share - assuming dilution	91,782,242	91,422,585	90,311,008
Earnings per common share	$ 2.70	$ 5.07	$ 1.96
Earnings per common share - assuming dilution	$ 2.68	$ 5.01	$ 1.93

There were no options to purchase shares of our common stock outstanding excluded from the computation of diluted earnings per share during the years ended December 31, 2019, 2018 and 2017, as the exercise price of all options outstanding was less than the average market price of our common shares for those periods.

Stockholders' Equity

On November 21, 2019 we issued 16,000 shares of 5.95% Fixed-Rate Reset Non-Cumulative Preferred Stock, Series A (the "preferred stock") with a $1.00 par value per share and a liquidation preference of $25,000 per share, for aggregate net proceeds of $388.9 million. We used a portion of the proceeds to redeem certain subordinated debentures. See Note 10 for more information on the redemption of our subordinated debentures.

Dividends on the preferred stock are payable on a non-cumulative basis only when, as and if declared, quarterly in arrears on the first day of March, June, September and December of each year, commencing March 1, 2020. We did not declare or pay any dividends on the preferred stock during 2019. The preferred stock ranks senior to our common stock with respect to dividends, to the extent declared, and in liquidation, to the extent of the liquidation preference. The preferred stock is not subject to any mandatory redemption, sinking fund, retirement fund, purchase fund or similar provisions.

15. Quarterly Financial Information (Unaudited)

Unaudited quarterly results of operations are summarized below.

	Quarter Ended			
	March 31,	June 30,	September 30,	December 31,
	(Dollars in thousands, except per share data)			
2019				
Premiums and product charges	$ 58,376	$ 64,826	$ 68,799	$ 71,568
Net investment income	558,438	570,568	590,412	588,217
Change in fair value of derivatives	384,469	76,045	(20,042)	466,434
Net realized gains (losses) on investments, excluding OTTI losses	(563)	(3,832)	4,328	7,029
Net OTTI losses recognized in operations	—	(1,213)	(101)	(17,412)
Loss on extinguishment of debt	—	—	—	(2,001)
Total revenues	1,000,720	706,394	643,396	1,113,835
Net income (loss)	(30,010)	18,590	37,360	220,150
Earnings (loss) per common share	(0.33)	0.20	0.41	2.41
Earnings (loss) per common share - assuming dilution	(0.33)	0.20	0.41	2.40
2018				
Premiums and product charges	$ 59,776	$ 60,763	$ 65,605	$ 64,824
Net investment income	510,784	533,282	549,391	554,355
Change in fair value of derivatives	(451,083)	132,205	595,311	(1,054,281)
Net realized gains (losses) on investments, excluding OTTI losses	302	(38,381)	(2,196)	3,097
Net OTTI losses recognized in operations	(907)	(2,396)	(14,373)	(18,980)
Total revenues	118,872	685,473	1,193,738	(450,985)
Net income	140,962	93,903	169,328	53,823
Earnings per common share	1.57	1.04	1.87	0.59
Earnings per common share - assuming dilution	1.55	1.03	1.85	0.59

Earnings (loss) per common share for each quarter is computed independently of earnings per common share for the year. As a result, the sum of the quarterly earnings (loss) per common share amounts may not equal the earnings per common share for the year.

The differences between the change in fair value of derivatives for each quarter primarily correspond to the performance of the indices upon which our call options are based. The comparability of net income is impacted by the application of fair value accounting to our fixed index annuity business as follows:

	Quarter Ended			
	March 31,	June 30,	September 30,	December 31,
	(Dollars in thousands)			
2019	$ 118,491	$ 78,397	$ 196,396	$ (100,305)
2018	(61,794)	(23,593)	427	28,298

Schedule I—Summary of Investments—
Other Than Investments in Related Parties

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY

December 31, 2019

Column A	Column B	Column C	Column D
Type of Investment	Amortized Cost (1)	Fair Value	Amount at which shown in the balance sheet
	(Dollars in thousands)		
Fixed maturity securities:			
Available for sale:			
United States Government full faith and credit	$ 161,492	$ 161,765	$ 161,765
United States Government sponsored agencies	601,672	625,020	625,020
United States municipalities, states and territories	4,147,343	4,527,671	4,527,671
Foreign government obligations	186,993	205,096	205,096
Corporate securities	29,822,172	32,536,839	32,536,839
Residential mortgage backed securities	1,477,738	1,575,664	1,575,664
Commercial mortgage backed securities	5,591,167	5,786,279	5,786,279
Other asset backed securities	6,250,369	6,162,156	6,162,156
Total fixed maturity securities	48,238,946	51,580,490	51,580,490
Mortgage loans on real estate	3,448,793	3,536,446	3,448,793
Derivative instruments	412,163	1,355,989	1,355,989
Other investments	492,301		492,301
Total investments	$ 52,592,203		$ 56,877,573

(1) On the basis of cost adjusted for other than temporary impairments, repayments and amortization of premiums and accrual of discounts for fixed maturity securities and short-term investments, original cost for derivative instruments and unpaid principal balance less allowance for credit losses for mortgage loans.

See accompanying Report of Independent Registered Public Accounting Firm.

Schedule II—Condensed Financial Information of Registrant

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY (PARENT COMPANY)

Condensed Balance Sheets

(Dollars in thousands)

	December 31,	
	2019	**2018**
Assets		
Cash and cash equivalents	$ 332,526	$ 68,876
Equity securities of subsidiary trusts	4,785	7,437
Receivable from subsidiaries	1,210	1,170
Deferred income taxes	5,818	7,905
Other assets	3,067	2,751
	347,406	88,139
Investment in and advances to subsidiaries	4,891,431	3,066,039
Total assets	$ 5,238,837	$ 3,154,178
Liabilities and Stockholders' Equity		
Liabilities:		
Notes payable	$ 495,116	$ 494,591
Subordinated debentures payable to subsidiary trusts	157,265	242,982
Federal income tax payable	9,274	8,892
Other liabilities	7,063	8,612
Total liabilities	668,718	755,077
Stockholders' equity:		
Preferred stock	16	—
Common stock	91,107	90,369
Additional paid-in capital	1,212,311	811,186
Accumulated other comprehensive income (loss)	1,497,921	(52,432)
Retained earnings	1,768,764	1,549,978
Total stockholders' equity	4,570,119	2,399,101
Total liabilities and stockholders' equity	$ 5,238,837	$ 3,154,178

See accompanying note to condensed financial statements.
See accompanying Report of Independent Registered Public Accounting Firm.

Schedule II—Condensed Financial Information of Registrant (Continued)

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY (PARENT COMPANY)

Condensed Statements of Operations

(Dollars in thousands)

	Year Ended December 31,		
	2019	**2018**	**2017**
Revenues:			
Net investment income	$ 1,755	$ 773	$ 492
Dividends from subsidiary trusts	469	461	410
Dividends from dissolved subsidiaries	—	10,393	—
Investment advisory fees	107,945	92,335	83,941
Surplus note interest from subsidiary	4,080	4,080	4,080
Change in fair value of derivatives	(1,650)	1,051	(412)
Loss on extinguishment of debt	(2,001)	—	(18,817)
Total revenues	110,598	109,093	69,694
Expenses:			
Interest expense on notes and loan payable	25,525	25,498	30,368
Interest expense on subordinated debentures issued to subsidiary trusts	15,764	15,491	14,124
Other operating costs and expenses	28,357	18,579	9,234
Total expenses	69,646	59,568	53,726
Income before income taxes and equity in undistributed income of subsidiaries	40,952	49,525	15,968
Income tax expense	11,586	2,603	6,895
Income before equity in undistributed income of subsidiaries	29,366	46,922	9,073
Equity in undistributed income of subsidiaries	216,724	411,094	165,572
Net income	$ 246,090	$ 458,016	$ 174,645

See accompanying note to condensed financial statements.
See accompanying Report of Independent Registered Public Accounting Firm.

Schedule II—Condensed Financial Information of Registrant (Continued)

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY (PARENT COMPANY)

Condensed Statements of Cash Flows

(Dollars in thousands)

	Year Ended December 31,		
	2019	2018	2017
Operating activities			
Net income	$ 246,090	$ 458,016	$ 174,645
Adjustments to reconcile net income to net cash provided by operating activities:			
Provision for depreciation and amortization	1,136	916	1,610
Accrual of discount on equity security	(8)	(8)	(7)
Equity in undistributed income of subsidiaries	(216,724)	(411,094)	(165,572)
Change in fair value of derivatives	945	(1,325)	(657)
Loss on extinguishment of debt	2,001	—	18,817
Accrual of discount on debenture issued to subsidiary trust	270	254	236
Share-based compensation	2,923	1,626	951
Deferred income taxes	2,087	40	1,583
Changes in operating assets and liabilities:			
Receivable from subsidiaries	(40)	(1,004)	16
Federal income tax recoverable/payable	382	9,951	(4,673)
Other assets	(1,229)	(229)	158
Other liabilities	(1,846)	4,860	(12,427)
Net cash provided by operating activities	35,987	62,003	14,680
Investing activities			
Repayment of equity securities	$ 2,660	$ —	$ —
Contribution to subsidiary	(50,000)	—	—
Purchases of property, plant and equipment	(117)	(29)	(45)
Net cash used in investing activities	(47,457)	(29)	(45)
Financing activities			
Financing fees incurred and deferred	$ —	$ —	$ (5,817)
Repayment of notes payable	—	—	(413,252)
Repayment of loan payable	—	—	(100,000)
Proceeds from issuance of notes payable	—	—	499,650
Repayment of subordinated debentures	(88,160)	—	—
Proceeds from issuance of common stock, net	1,691	9,681	14,028
Proceeds from issuance of preferred stock, net	388,893	—	—
Dividends paid	(27,304)	(25,265)	(23,152)
Net cash provided by (used in) financing activities	275,120	(15,584)	(28,543)
Increase (decrease) in cash and cash equivalents	263,650	46,390	(13,908)
Cash and cash equivalents at beginning of year	68,876	22,486	36,394
Cash and cash equivalents at end of year	$ 332,526	$ 68,876	$ 22,486
Supplemental disclosures of cash flow information			
Cash paid during the year for:			
Interest on notes and loan payable	$ 25,000	$ 25,000	$ 40,537
Interest on subordinated debentures	16,891	13,593	14,573

See accompanying note to condensed financial statements.
See accompanying Report of Independent Registered Public Accounting Firm.

Schedule II—Condensed Financial Information of Registrant (Continued)

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY (PARENT COMPANY)

Note to Condensed Financial Statements

December 31, 2019

1. Basis of Presentation

The accompanying condensed financial statements should be read in conjunction with the consolidated financial statements and notes thereto of American Equity Investment Life Holding Company (Parent Company).

In the Parent Company financial statements, its investment in and advances to subsidiaries are stated at cost plus equity in undistributed income (losses) of subsidiaries since the date of acquisition and net unrealized gains/losses on the subsidiaries' fixed maturity securities classified as "available for sale" and equity securities.

See Notes 9 and 10 to our audited consolidated financial statements in this Form 10-K for a description of the Parent Company's notes payable and subordinated debentures payable to subsidiary trusts.

Schedule III—Supplementary Insurance Information

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY

Column A	Column B	Column C	Column D	Column E
	Deferred policy acquisition costs	Future policy benefits, losses, claims and loss expenses	Unearned premiums	Other policy claims and benefits payable
	(Dollars in thousands)			
As of December 31, 2019:				
Life insurance	$ 2,923,454	$ 61,893,945	$ —	$ 256,105
As of December 31, 2018:				
Life insurance	$ 3,535,838	$ 57,606,009	$ —	$ 270,858
As of December 31, 2017:				
Life insurance	$ 2,714,523	$ 56,142,673	$ —	$ 282,884

Column A	Column F	Column G	Column H	Column I	Column J
	Premium revenue	Net investment income	Benefits, claims, losses and settlement expenses	Amortization of deferred policy acquisition costs	Other operating expenses
	(Dollars in thousands)				
For the year ended December 31, 2019:					
Life insurance	$ 263,569	$ 2,307,635	$ 2,865,621	$ 87,717	$ 195,442
For the year ended December 31, 2018:					
Life insurance	$ 250,968	$ 2,147,812	$ 483,075	$ 327,991	$ 170,290
For the year ended December 31, 2017:					
Life insurance	$ 234,722	$ 1,991,997	$ 3,163,234	$ 255,964	$ 156,183

See accompanying Report of Independent Registered Public Accounting Firm.

Schedule IV—Reinsurance

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY

Column A	Column B	Column C	Column D	Column E	Column F
	Gross amount	Ceded to other companies	Assumed from other companies	Net amount	Percent of amount assumed to net
			(Dollars in thousands)		
Year ended December 31, 2019					
Life insurance in force, at end of year	$ 56,451	$ 6,722	$ 52,653	$ 102,382	51.43%
Insurance premiums and other considerations:					
Annuity product charges	$ 247,827	$ 7,792	$ —	$ 240,035	—
Traditional life, accident and health insurance, and life contingent immediate annuity premiums	23,395	145	284	23,534	1.21%
	$ 271,222	$ 7,937	$ 284	$ 263,569	0.11%
Year ended December 31, 2018					
Life insurance in force, at end of year	$ 64,544	$ 7,832	$ 53,658	$ 110,370	48.62%
Insurance premiums and other considerations:					
Annuity product charges	$ 231,562	$ 7,074	$ —	$ 224,488	—
Traditional life, accident and health insurance, and life contingent immediate annuity premiums	26,319	189	350	26,480	1.32%
	$ 257,881	$ 7,263	$ 350	$ 250,968	0.14%
Year ended December 31, 2017					
Life insurance in force, at end of year	$ 1,942,129	$ 9,378	$ 57,965	$ 1,990,716	2.91%
Insurance premiums and other considerations:					
Annuity product charges	$ 206,952	$ 6,458	$ —	$ 200,494	—
Traditional life, accident and health insurance, and life contingent immediate annuity premiums	33,938	215	505	34,228	1.48%
	$ 240,890	$ 6,673	$ 505	$ 234,722	0.22%

See accompanying Report of Independent Registered Public Accounting Firm.

Schedule V—Valuation and Qualifying Accounts

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY

	Balance January 1,	Charged to Costs and Expenses	Translation Adjustment	Write-offs/ Payments/Other	Balance December 31,
			(Dollars in thousands)		
Year ended December 31, 2019					
Valuation allowance on mortgage loans	$ (8,239)	$ (940)	$ —	$ —	$ (9,179)
Year ended December 31, 2018					
Valuation allowance on mortgage loans	$ (7,518)	$ (3,165)	$ —	$ 2,444	$ (8,239)
Year ended December 31, 2017					
Valuation allowance on mortgage loans	$ (8,427)	$ 278	$ —	$ 631	$ (7,518)

See accompanying Report of Independent Registered Public Accounting Firm.

Exhibit 10.33

EMPLOYEE STOCK OPTION AGREEMENT

THIS EMPLOYEE STOCK OPTION AGREEMENT, hereinafter referred to as the “Option” or the “Agreement,” is made effective as of the [___] day of [__________], between American Equity Investment Life Holding Company (the “Company”) and [____________] (the “Optionee”).

The Company hereby grants an option of [_______] shares of common stock of the Company, $1.00 par value per share (“Stock”), to the Optionee at the price and in all respects subject to the terms, definitions and provisions of the Agreement, and the 2016 Employee Incentive Plan, adopted by the Company effective June 2, 2016 (the “Plan”), the terms and definitions of which are incorporated herein, unless the context implies otherwise.

1. ***Option Price***. The option price is [$____] for each share, the price being at least 100% of the fair market value of a share of the Stock on the date of the grant of this Option.

2. ***Exercise of Option and Vesting Schedule***. This Option is granted for a ten (10) year term and, therefore, may not be exercised after the expiration of ten (10) years from the date that it is granted. This Option shall become exercisable at any time subject to the terms of this Agreement and applicable law.

(a) **Vesting Schedule**. This option will vest on [____________]. Should the Optionee be terminated (except for death or disability) prior to the date of vesting, then Optionee will forfeit all rights under this Agreement.

(b) **Right to Exercise**. This Option shall be exercisable during the term of the Option, by the Optionee:

(i) While the Optionee is an employee of the Company, or within sixty (60) days of the termination of Optionee as an employee; provided that in the event Optionee’s employment by the Company is terminated because of disability, as that term is defined in Section 105(d)(4) of the Internal Revenue Code, as amended (the “Code”), the Option privileges, with respect to the shares purchasable by the Optionee as of the date that the Optionee terminated, may be exercised by the Optionee within one (1) year after the date of termination of the Optionee’s employment by the Company. However, nothing contained within this statement shall be construed to extend the ultimate term of this Option beyond the period of time set out above in paragraph 2.

(ii) If the Optionee should die during the option period while employed by the Company, the option privileges may be exercised in full by the legal representative of the Optionee’s estate, or by the person or persons to whom the Optionee’s rights under the Option shall have passed by will or the laws of descent and distribution within one (1) year after the Optionee’s date of death. However, nothing contained within this statement shall be construed to extend the ultimate term of this Option beyond the period of time set out above in paragraph 2.

(c) **Restrictions on Exercise**. The minimum number of shares for which this Option may be exercised is 100 shares. In addition, as a condition to the Optionee’s exercise of this option, the Company may require the person exercising this Option to execute any buy-sell agreement in effect between the Company and its shareholders and to make such representations or warranties to the Company as may be required by applicable law or regulation.

(d) **Method of Exercise.** This Option shall be exercisable by a written notice which shall:

(i) State the election to exercise the Option, the number of shares in respect of which it is being exercised (which may be no less than 100 shares), the person in whose name the stock certificate for such shares of Stock is to be registered, the person’s address and social security number (or if more than one, the names, addresses and social security numbers of such persons);

(ii) Contain such representations and agreements as to the holder’s investment intent with respect to such shares of Stock as may be satisfactory to the Company’s counsel; and

(iii) Be signed by the person or persons entitled to exercise the Option and, if the Option is being exercised by any persons other than the Optionee, be accompanied by proof satisfactory to counsel for the Company, of the right of such person or persons to exercise the Option.

Payment of the purchase price of any shares with respect to which the Option is being exercised shall be by certified or bank cashier check, wire transfer or by shares of the Company’s Stock and shall be delivered with the notice of exercise or as soon as practicable thereafter.

In accordance with applicable federal, state and/or local tax withholding requirements, the Company shall withhold from Optionee’s compensation the required amounts. Optionee may satisfy any such withholding tax obligation by any of the following means or by a combination of such means: (i) tendering a cash payment, (ii) authorizing the Company to withhold shares of Stock otherwise issuable to the Optionee valued at Fair Market Value on Date of Exercise, or (iii) delivering to the Company already owned and unencumbered shares of Stock valued at Fair Market Value on Date of Exercise.

(e) **Payment of Option Price.** Payment of the aggregate Option Price for the shares of Stock with respect to which an Option is being exercised shall be made by the Optionee in cash or in one of the following manners:

(i) By delivery (including constructive delivery) to the Company of shares of Stock having an aggregate Fair Market Value on Date of Exercise equal to the aggregate Option Price; or

(ii) By delivery on a form prescribed by the Committee of a properly executed exercise notice and irrevocable instructions to a registered securities broker approved by the Committee to sell shares of Stock and promptly deliver cash to the Company.

3. ***No transferability of Option***. This Option may not be transferred in any manner otherwise than by will or the laws of descent and distribution and may be exercised during the lifetime of the Optionee only by the Optionee and after Optionee’s death by the legal representative of the Optionee’s estate or by the person or persons to whom the Optionee’s rights under the Option passed by will or the laws of descent and distribution. This Option shall not be pledged or hypothecated in any way and shall not be subject to executive, attachment of similar process except with the express consent of the Committee.

4. ***Adjustments***:

(a) Whenever a stock split, stock dividend or other relevant change in capitalization of the Company occurs, (1) the number of shares that can thereafter be purchased and the option price per share under each Option that has been granted and not exercised, and (2) the number of shares used in determining whether a particular Option is grantable thereafter shall be appropriately adjusted.

(b) In the event of the dissolution or liquidation of the Company, any Option granted under the Plan shall terminate as of a date to be fixed by the Committee, provided that not less than 30 days’ written notice of the date so fixed shall be given to each Optionee and each such Optionee shall have the right during such period to exercise Optionee’s Option as to all or any part of the shares covered thereby, including shares as to which such Option would not otherwise be exercisable by reason of an insufficient lapse of time.

(c) Adjustments and determinations under this paragraph 4 shall be made by the Company's Board of Directors, whose decisions as to what adjustments or determinations shall be made, and the extent thereof, shall be final, binding and conclusive.

5. ***Notices***. Each notice relating to this Agreement shall be in writing and delivered in person or by certified mail to the proper address, and shall be deemed to have been given on the date it is received. Each notice to the Company shall be addressed to it at its principal office, attention of the Secretary. Each notice to the Optionee or other person or person then entitled to exercise the Option shall be addressed to the Optionee or such other person or persons at the Optionee's address set forth in the heading of this Agreement. Anyone to whom a notice may be given under this Agreement may designate a new address by written notice to that effect.

6. ***Benefits of Agreement***. This Agreement shall inure to the benefit of and be binding upon each successor of the Company. All obligations imposed upon the Optionee and all rights granted to the Company under this Agreement shall be binding upon the Optionee's heir, legal representatives and successors. This Agreement shall be the sole and exclusive source of any and all rights which the Optionee, the Optionee's heirs, legal representatives, or successors may have in respect to the Plan or any options or Stock granted or issued thereunder whether to the Optionee or to any other person.

7. ***Resolution of Disputes***. Any dispute or disagreement which should arise under, or as a result of, or in any way relate to, the interpretation, construction or applicability of this Agreement will be determined by the Board of Directors of the Company. Any determination made hereunder shall be final, binding, and conclusive for all purposes.

IN WITNESS WHEREOF, the Company and the Optionee have caused this Agreement to be executed effective as of the day, month and year first above written.

AMERICAN EQUITY INVESTMENT LIFE
HOLDING COMPANY

By: ______________________________
[Name and Title]

OPTIONEE:

By: ______________________________

Exhibit 21.2

AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY
Subsidiaries of American Equity Investment Life Holding Company

	State of Incorporation
Insurance Subsidiaries:	
American Equity Investment Life Insurance Company	Iowa
American Equity Investment Life Insurance Company of New York	New York
Eagle Life Insurance Company	Iowa
Noninsurance Subsidiaries:	
American Equity Properties, L.C.	Iowa
American Equity Capital Trust II	Delaware
American Equity Capital Trust III	Delaware
American Equity Capital Trust IV	Delaware
American Equity Capital Trust VII	Delaware
American Equity Capital Trust VIII	Delaware
American Equity Capital Trust IX	Delaware
American Equity Capital Trust X	Delaware
American Equity Capital Trust XI	Delaware
American Equity Capital Trust XII	Delaware
AERL, L.C.	Iowa

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
American Equity Investment Life Holding Company:

We consent to the incorporation by reference in the registration statements (No. 333-233544, No. 333-213544, No. 333-207077, No. 333-201008, No. 333-184162, No. 333-183504, No. 333-171161, No. 333-149854, and No. 333-148681) on Form S-3 and the registration statements (No. 333-214885, No. 333-213545, No. 333-175355, No. 333-167755, and No. 333-127001) on Form S-8 of American Equity Investment Life Holding Company of our report dated February 25, 2020, with respect to the consolidated balance sheets of American Equity Investment Life Holding Company and subsidiaries as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income (loss), changes in stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes and financial statement schedules I to V, and the effectiveness of internal control over financial reporting as of December 31, 2019, which report appears in the December 31, 2019 annual report on Form 10-K of American Equity Investment Life Holding Company.

/s/ KPMG LLP

Des Moines, Iowa
February 25, 2020

Exhibit 31.1

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, John M. Matovina, certify that:

1. I have reviewed this annual report on Form 10-K of American Equity Investment Life Holding 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 control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 25, 2020

By: /s/ JOHN M. MATOVINA

John M. Matovina, Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Ted M. Johnson, certify that:

1. I have reviewed this annual report on Form 10-K of American Equity Investment Life Holding 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 control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 25, 2020	By:	/s/ TED M. JOHNSON
		Ted M. Johnson, Chief Financial Officer and Treasurer
		(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of American Equity Investment Life Holding Company (the "Company") on Form 10-K for the fiscal year ended December 31, 2019 as filed with the Securities and Exchange Commission on or about the date hereof (the "Report"), I, John M. Matovina, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934;

and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 25, 2020	By:	/s/ JOHN M. MATOVINA
		John M. Matovina, Chief Executive Officer
		(Principal Executive Officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of American Equity Investment Life Holding Company (the "Company") on Form 10-K for the fiscal year ended December 31, 2019 as filed with the Securities and Exchange Commission on or about the date hereof (the "Report"), I, Ted M. Johnson, Chief Financial Officer and Treasurer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934;

and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 25, 2020	By:	/s/ TED M. JOHNSON
		Ted M. Johnson, Chief Financial Officer and Treasurer *(Principal Financial Officer)*