Consolidated Financial Statements
Years ended 2018, 2017, and 2016

ATHENE LIFE RE LTD.
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April 10, 2019

Report of Independent Auditors

To the Board of Directors and Shareholder of Athene Life Re Ltd.

We have audited the accompanying consolidated financial statements of Athene Life Re Ltd. and its subsidiaries, which comprise the consolidated balance sheets as of December 31, 2018 and 2017, and the related consolidated statements of income, consolidated statements of comprehensive income (loss), consolidated statements of equity and consolidated statements of cash flows for each of the three years in the period ended December 31, 2018.

Management's responsibility for the consolidated financial statements

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

Auditors' responsibility

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

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

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Athene Life Re Ltd. and its subsidiaries as of December 31, 2018 and 2017, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2018 in accordance with accounting principles generally accepted in the United States of America.

PricewaterhouseCoopers Ltd.

Chartered Professional Accountants

(In millions)	December 31, 2018		December 31, 2017	
Assets				
Investments				
Available-for-sale securities, at fair value (amortized cost: 2018 – $59,979 and 2017 – $54,485)	$	59,220	$	56,846
Trading securities, at fair value		1,949		2,183
Equity securities, at fair value		216		189
Mortgage loans, net of allowances (portion at fair value: 2018 – $32 and 2017 – $41)		10,340		6,069
Investment funds (portion at fair value: 2018 – $182 and 2017 – $145)		703		660
Policy loans		488		537
Funds withheld at interest (portion at fair value: 2018 – $57 and 2017 – $312)		15,023		7,085
Derivative assets		1,043		2,517
Short-term investments, at fair value		191		201
Other investments (portion at fair value: 2018 – $52 and 2017 – $0)		122		75
Total investments		89,295		76,362
Cash and cash equivalents		2,797		4,450
Restricted cash		492		105
Investments in related parties				
Available-for-sale securities, at fair value (amortized cost: 2018 – $1,462 and 2017 – $403)		1,437		410
Trading securities, at fair value		249		307
Equity securities, at fair value		120		—
Mortgage loans		291		—
Investment funds (portion at fair value: 2018 – $96 and 2017 – $30)		2,127		1,213
Funds withheld at interest (portion at fair value: 2018 – $(110) and 2017 – $0)		13,577		—
Short-term investments, at fair value		—		52
Other investments		386		238
Intercompany notes receivable		105		—
Accrued investment income (related party: 2018 – $25 and 2017 – $10)		681		592
Reinsurance recoverable (related party: 2018 – $344 and 2017 – $0; portion at fair value: 2018 – $1,676 and 2017 – $1,824)		5,534		5,320
Deferred acquisition costs, deferred sales inducements and value of business acquired		5,907		2,972
Other assets (related party: 2018 – $357 and 2017 – $0)		1,613		898
Assets of consolidated variable interest entities				
Investments				
Trading securities, at fair value – related party		35		48
Equity securities, at fair value – related party		50		240
Investment funds (related party: 2018 – $583 and 2017 – $571; portion at fair value: 2018 – $567 and 2017 – $549)		624		571
Cash and cash equivalents		2		4
Other assets		1		1
Total assets	$	125,323	$	93,783

(Continued)

See accompanying notes to consolidated financial statements

(In millions, except share and per share data)	December 31, 2018		December 31, 2017	
Liabilities and Equity				
Liabilities				
Interest sensitive contract liabilities (related party: 2018 – $16,850 and 2017 – $0; portion at fair value: 2018 – $8,901 and 2017 – $8,416)	$	96,610	$	67,786
Future policy benefits (related party: 2018 – $1,259 and 2017 – $0; portion at fair value: 2018 – $2,173 and 2017 – $2,428)		16,704		13,033
Other policy claims and benefits (related party: 2018 – $10 and 2017 – $0)		142		137
Dividends payable to policyholders		118		121
Intercompany notes payable		—		16
Derivative liabilities		85		130
Payables for collateral on derivatives		969		2,323
Funds withheld liability (related party: 2018 – $337 and 2017 – $0; portion at fair value: 2018 – $(1) and 2017 – $22)		721		407
Other liabilities (related party: 2018 – $54 and 2017 – $58)		866		855
Liabilities of consolidated variable interest entities		1		2
Total liabilities		116,216		84,810
Commitments and Contingencies (Note 14)				
Equity				
Common stock – par value $1 per share; authorized, issued and outstanding 1,500,000 shares		2		2
Additional paid-in capital		5,174		4,264
Retained earnings		4,403		3,286
Accumulated other comprehensive income (loss) (related party: 2018 – $(25) and 2017 – $48)		(472)		1,421
Total shareholders' equity		9,107		8,973
Total liabilities and equity	$	125,323	$	93,783

(Concluded)

See accompanying notes to consolidated financial statements

ATHENE LIFE RE LTD.
Consolidated Statements of Income

	Years ended December 31,		
(In millions)	2018	2017	2016
Revenues			
Premiums (related party: 2018 – $679, 2017 – $0 and 2016 – $0)	$ 3,368	$ 2,286	$ 54
Product charges (related party: 2018 – $34, 2017 – $0 and 2016 – $0)	449	340	281
Net investment income (related party investment income: 2018 – $542, 2017 – $217 and 2016 – $224; and related party investment expense: 2018 – $350, 2017 – $315 and 2016 – $297)	3,988	3,171	2,812
Investment related gains (losses) (related party: 2018 – $(23), 2017 – $(16) and 2016 – $(38))	(1,338)	2,442	610
Other-than-temporary impairment investment losses			
Other-than-temporary impairment losses	(24)	(20)	(32)
Other-than-temporary impairment losses reclassified to (from) other comprehensive income	6	(4)	2
Net other-than-temporary impairment losses	(18)	(24)	(30)
Other revenues	21	29	36
Revenues of consolidated variable interest entities			
Net investment income (related party: 2018 – $55, 2017 – $42 and 2016 – $44)	56	42	67
Investment related gains (losses) (related party: 2018 – $(21), 2017 – $35 and 2016 – $(25))	(18)	35	(53)
Total revenues	6,508	8,321	3,777
Benefits and expenses			
Interest sensitive contract benefits (related party: 2018 – $63, 2017 – $0 and 2016 – $0)	290	2,842	1,334
Amortization of deferred sales inducements	54	63	39
Future policy and other policy benefits (related party: 2018 – $707, 2017 – $0 and 2016 – $0)	4,187	2,953	773
Amortization of deferred acquisition costs and value of business acquired	174	344	304
Dividends to policyholders	37	51	39
Policy and other operating expenses (related party: 2018 – $35, 2017 – $6 and 2016 – $7)	518	446	431
Operating expenses of consolidated variable interest entities	1	—	13
Total benefits and expenses	5,261	6,699	2,933
Income before income taxes	1,247	1,622	844
Income tax expense (benefit)	122	105	(53)
Net income	$ 1,125	$ 1,517	$ 897

See accompanying notes to consolidated financial statements

ATHENE LIFE RE LTD.
Consolidated Statements of Comprehensive Income (Loss)

	Years ended December 31,		
(In millions)	2018	2017	2016
Net income	$ 1,125	$ 1,517	$ 897
Other comprehensive income (loss), before tax			
Unrealized investment gains (losses) on available-for-sale securities	(2,419)	1,328	848
Noncredit component of other-than-temporary impairment losses on available-for-sale securities	(6)	4	(2)
Unrealized gains (losses) on hedging instruments	146	(105)	(5)
Pension adjustments	(1)	—	1
Foreign currency translation adjustments	—	1	(2)
Other comprehensive income (loss), before tax	(2,280)	1,228	840
Income tax expense (benefit) related to other comprehensive income (loss)	(429)	339	254
Other comprehensive income (loss)	(1,851)	889	586
Comprehensive income (loss)	$ (726)	$ 2,406	$ 1,483

See accompanying notes to consolidated financial statements

ATHENE LIFE RE LTD.
Consolidated Statements of Equity

(In millions)	Common stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive income (loss)	Total shareholders' equity
Balance at December 31, 2015	$ 2	$ 4,246	$ 1,059	$ (241)	$ 5,066
Net income	—	—	897	—	897
Other comprehensive income	—	—	—	586	586
Contribution from parent	—	18	—	—	18
Balance at December 31, 2016	2	4,264	1,956	345	6,567
Net income	—	—	1,517		1,517
Other comprehensive income	—	—	—	889	889
Adoption of accounting standard	—	—	(187)	187	—
Balance at December 31, 2017	2	4,264	3,286	1,421	8,973
Adoption of accounting standard	—	—	42	(42)	—
Net income	—	—	1,125	—	1,125
Other comprehensive loss	—	—	—	(1,851)	(1,851)
Contribution from parent	—	910	—	—	910
Dividend to parent	—	—	(50)	—	(50)
Balance at December 31, 2018	$ 2	$ 5,174	$ 4,403	$ (472)	$ 9,107

See accompanying notes to consolidated financial statements

	Years ended December 31,		
(In millions)	2018	2017	2016
Cash flows from operating activities			
Net income	$ 1,125	$ 1,517	$ 897
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of deferred acquisition costs and value of business acquired	174	344	304
Amortization of deferred sales inducements	54	63	39
Amortization (accretion) of net investment premiums, discounts, and other	(178)	(242)	(233)
Payment at inception of reinsurance agreements, net (related party: 2018 – $(407))	(394)	—	—
Net investment income (related party: 2018 – $(106), 2017 – $(63) and 2016 – $(33))	(87)	(53)	(7)
Net recognized (gains) losses on investments and derivatives (related party: 2018 – $16, 2017 – $8 and 2016 – $33)	1,109	(2,024)	(303)
Policy acquisition costs deferred	(919)	(493)	(601)
Changes in operating assets and liabilities:			
Accrued investment income (related party: 2018 – $(15), 2017 – $0 and 2016 – $0)	(66)	(101)	(44)
Interest sensitive contract liabilities (related party: 2018 – $30, 2017 – $0 and 2016 – $0)	(365)	2,536	941
Future policy benefits, other policy claims and benefits, dividends payable to policyholders and reinsurance recoverable (related party: 2018 – $109, 2017 – $0 and 2016 – $0)	2,457	2,106	511
Funds withheld assets and liabilities (related party: 2018 – $113, 2017 – $0 and 2016 – $0)	270	(419)	(128)
Other assets and liabilities	(207)	184	(30)
Consolidated variable interest entities related:			
Net recognized (gains) losses on investments and derivatives (related party: 2018 – $20, 2017 – $(36) and 2016 – $3)	17	(36)	25
Other operating activities, net	—	3	31
Net cash provided by operating activities	2,990	3,385	1,402
Cash flows from investing activities			
Sales, maturities and repayments of:			
Available-for-sale securities (related party: 2018 – $179, 2017 – $131 and 2016 – $78)	11,976	10,592	8,186
Trading securities (related party: 2018 – $30, 2017 – $55 and 2016 – $26)	348	156	356
Equity securities (related party: 2018 – $29, 2017 – $22 and 2016 – $0)	132	147	19
Mortgage loans (related party: 2018 – $13, 2017 – $0 and 2016 – $0)	1,373	1,633	1,138
Investment funds (related party: 2018 – $305, 2017 – $348 and 2016 – $293)	481	483	409
Derivative instruments and other invested assets	1,859	1,487	467
Short-term investments (related party: 2018 – $172, 2017 – $65 and 2016 – $55)	534	351	870
Purchases of:			
Available-for-sale securities (related party: 2018 – $(809), 2017 – $(186) and 2016 – $(86))	(14,474)	(17,014)	(10,961)
Trading securities (related party: 2018 – $(4), 2017 – $0 and 2016 – $(39))	(54)	(89)	(473)
Equity securities (related party: 2018 – $(149), 2017 – $0 and 2016 – $(20))	(334)	(105)	(38)
Mortgage loans (related party: 2018 – $(389), 2017 – $0 and 2016 – $0)	(5,745)	(2,336)	(1,157)
Investment funds (related party: 2018 – $(1,140), 2017 – $(509) and 2016 – $(357))	(1,375)	(660)	(450)
Derivative instruments and other invested assets (related party: 2018 – $(150), 2017 – $0 and 2016 – $0)	(1,348)	(743)	(671)
Short-term investments (related party: 2018 – $(121), 2017 – $(117) and 2016 – $0)	(473)	(421)	(873)
Consolidated variable interest entities related:			
Sales, maturities and repayments of investments (related party: 2018 – $203, 2017 – $85 and 2016 – $22)	217	95	504
Purchases of investments (related party: 2018 – $(31), 2017 – $(23) and 2016 – $(19))	(83)	(23)	(19)
Issuances of intercompany note receivable	(104)	—	—
Other investing activities, net	(35)	319	(118)
Net cash used in investing activities	$ (7,105)	$ (6,128)	$ (2,811)

(Continued)

See accompanying notes to consolidated financial statements

	Years ended December 31,		
(In millions)	2018	2017	2016
Cash flows from financing activities			
Capital contributions	$ 95	$ —	$ —
Proceeds from short-term debt	183	—	—
Repayment of short-term debt	(183)	—	—
Proceeds from intercompany notes payable	20	—	—
Repayment of intercompany notes payable	(36)	—	—
Deposits on investment-type policies and contracts (related party: 2018 – $151, 2017 – $0 and 2016 – $0)	10,262	9,033	5,766
Withdrawals on investment-type policies and contracts (related party: 2018 – $(252), 2017 – $0 and 2016 – $0)	(6,205)	(4,812)	(4,579)
Payments for coinsurance agreements on investment-type and contracts, net	(2)	(33)	(89)
Repayment on borrowings of consolidated variable interest entities	—	—	(500)
Net change in cash collateral posted for derivative transactions	(1,354)	946	510
Dividends paid	(50)	—	—
Other financing activities, net	117	(48)	54
Net cash provided by financing activities	2,847	5,086	1,162
Net (decrease) increase in cash and cash equivalents	(1,268)	2,343	(247)
Cash and cash equivalents at beginning of year[1]	4,559	2,216	2,463
Cash and cash equivalents at end of year[1]	$ 3,291	$ 4,559	$ 2,216
Supplementary information			
Cash paid (refunded) for taxes	$ 52	$ (74)	$ (40)
Cash paid for interest	3	—	9
Non-cash transactions			
Deposits on investment-type policies and contracts through reinsurance agreements (related party: 2018 – $17,619, 2017 – $0 and 2016 – $0)	26,532	663	3,441
Withdrawals on investment-type policies and contracts through reinsurance agreements (related party: 2018 – $1,050, 2017 – $0 and 2016 – $0)	1,843	482	448
Investments received from settlements on reinsurance agreements	52	73	47
Investments received from pension risk transfer premiums	435	334	—
Investments exchanged for related party investments	95	26	—
Related party investments exchanged for investments	115	—	—
Ceding commission on reinsurance agreements settled in investments	266	—	—
Non-cash capital contributions	815	—	—

[1] *Includes cash and cash equivalents, restricted cash, and cash and cash equivalents of consolidated variable interest entities.*

(Concluded)

See accompanying notes to consolidated financial statements

1. Business, Basis of Presentation and Significant Accounting Policies

Athene Life Re Ltd. (ALRe, the Company, we, us, or our), a Bermuda exempted company, is a leading retirement services company that issues, reinsures and acquires retirement savings products in the United States (U.S.) and the District of Columbia. ALRe is wholly owned by Athene Holding Ltd. (AHL), a publicly traded Bermuda exempted company. We are registered as a Class E long-term insurer under the Insurance Act 1978 of Bermuda.

Consolidation and Basis of Presentation—Our consolidated financial statements include our wholly-owned subsidiaries, investees we control and any variable interest entities (VIEs) where we are the primary beneficiary. Investments in entities that we do not control, but have the ability to exercise significant influence over operating and financing decisions, other than investments for which we have elected the fair value option, are accounted for under the equity method. Intercompany balances and transactions have been eliminated.

For entities that are consolidated, but not 100% owned, we allocate a portion of the income or loss and corresponding equity to the owners other than the Company. We include the aggregate of the income or loss and corresponding equity that is not owned by the Company in noncontrolling interests in the consolidated financial statements.

We report investments in related parties and assets and liabilities of consolidated VIEs separately, as further described in the accounting policies that follow.

We have prepared the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America (GAAP), which requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the period. Actual experience could materially differ from these estimates and assumptions. Our principal estimates impact:

- fair value of investments;
- impairment of investments and valuation allowances;
- derivatives valuation, including embedded derivatives;
- deferred acquisition costs (DAC), deferred sales inducements (DSI) and value of business acquired (VOBA);
- future policy benefit reserves;
- valuation allowances on deferred tax assets; and
- stock-based compensation.

Additional details around these principal estimates and assumptions are discussed in the significant accounting policies that follow and the related footnote disclosures.

On January 1, 2018, AHL contributed its subsidiary, Athene USA Corporation and its subsidiaries (together with its subsidiaries, Athene USA), to ALRe. Since ALRe and Athene USA were under the common control of AHL for all periods included in these consolidated financial statements, the comparative balances are presented as though the contribution had occurred prior to December 31, 2015.

Summary of Significant Accounting Policies

Investments

Fixed Maturity Securities – Fixed maturity securities includes bonds, collateralized loan obligations (CLO), asset-backed securities (ABS), residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS) and redeemable preferred stock. We classify fixed maturity securities as available-for-sale (AFS) or trading at the time of purchase and subsequently carry them at fair value. Fair value hierarchy and valuation methodologies are discussed in *Note 5 – Fair Value*. Classification is dependent on a variety of factors including our expected holding period, election of the fair value option and asset and liability matching.

AFS Securities – Unrealized gains and losses on AFS securities, net of tax and adjustments to DAC, DSI, VOBA and future policy benefits, if applicable, are generally reflected in accumulated other comprehensive income (loss) (AOCI) on the consolidated balance sheets. Unrealized gains or losses relating to identified risks within AFS securities in fair value hedging relationships are reflected in investment related gains (losses) on the consolidated statements of income.

Trading Securities – We elected the fair value option for certain fixed maturity securities. These fixed maturity securities are classified as trading, with changes to fair value included in investment related gains (losses) on the consolidated statements of income. Although the securities are classified as trading, the trading activity related to these investments is primarily focused on asset and liability matching activities and is not intended to be an income strategy based on active trading. As such, the activity related to these investments on the consolidated statements of cash flows is classified as investing activities.

We generally record security transactions on a trade date basis, with any unsettled trades recorded in other assets or other liabilities on the consolidated balance sheets.

Equity Securities – Equity securities includes common stock, mutual funds and non-redeemable preferred stock. Equity securities are carried at fair value with subsequent changes in fair value recognized in net income effective January 1, 2018. Prior to January 1, 2018, the accounting for subsequent changes in the fair value of an equity security was dependent on its classification as AFS or trading as discussed previously.

Purchased Credit Impaired (PCI) Investments – We purchase certain structured securities, primarily RMBS, and re-performing mortgage loans having experienced deterioration in credit quality since their issuance which meet the definition of PCI investments. We determined, based on our expectations as to the timing and amount of cash flows expected to be received, that it was probable at acquisition that we would not collect all contractually required payments, including both principal and interest, while also considering the effects of any prepayments for these PCI investments. Based on these assumptions, the difference between the undiscounted expected future cash flows of the PCI investment and the recorded investment represents the initial accretable yield, which is accreted into investment income, net of related expenses, over its remaining life on a level-yield basis. The difference between the contractually required payments on the PCI investment and the undiscounted expected future cash flows represents the non-accretable difference at acquisition. Over time, based on actual payments received and changes in estimates of undiscounted expected future cash flows, the accretable yield and the non-accretable difference can change. PCI investments are presented on the consolidated financial statements consistent with AFS securities or mortgage loans depending on the underlying investment.

Quarterly, we evaluate the undiscounted expected future cash flows associated with PCI investments based on updates to key assumptions. Changes to undiscounted expected future cash flows due solely to the changes in the contractual benchmark interest rates on variable rate PCI investments will change the accretable yield prospectively. Declines in undiscounted expected future cash flows due to further credit deterioration, as well as changes in the expected timing of the cash flows, can result in the recognition of an other-than-temporary impairment (OTTI) charge for PCI securities or a valuation allowance for PCI loans. Significant increases in undiscounted expected future cash flows are recognized prospectively as an adjustment to the accretable yield.

Mortgage Loans – Mortgage loans are primarily stated at unpaid principal balance, adjusted for any unamortized premium or discount, and net of valuation allowances. Interest income is accrued on the principal amount of the loan based on its contractual interest rate. We record amortization of premiums and discounts using the effective yield method and contractual cash flows on the underlying loan. We accrue interest on loans until it is probable we will not receive interest or the loan is 90 days past due. Interest income, amortization of premiums and discounts, and prepayment fees are reported in net investment income on the consolidated statements of income. We have also elected the fair value option on a portion of our mortgage loans.

Investment Funds – We invest in certain non-fixed income, alternative investments in the form of limited partnerships or similar legal structures (investment funds). For investment funds in which we have determined we are not the primary beneficiary, and therefore not required to consolidate, we typically record these investments using the equity method of accounting, where the cost is recorded as an investment in the fund, or we have elected the fair value option. Adjustments to the carrying amount reflect our pro rata ownership percentage of the operating results as indicated by net asset value (NAV) in the investment fund financial statements, which can be on a lag of up to three months when investee information is not received in a timely manner.

We record our proportionate share of investment fund income within net investment income on the consolidated statements of income. Contributions paid or distributions received by us are recorded directly to the investment fund balance as an increase to carrying value or as a return of capital, thus reducing our carrying value.

Policy Loans – Policy loans are funds provided to policyholders in return for a claim on the policy's account value. The funds provided are limited to a specified percentage of the account balance. The majority of policy loans do not have a stated maturity and the balances and accrued interest are repaid with proceeds from the policy account balance. Policy loans are reported at the unpaid principal balance. Interest income is recorded as earned using the contract interest rate and is reported in net investment income on the consolidated statements of income.

Funds Withheld at Interest – Funds withheld at interest represents a receivable for amounts contractually withheld by ceding companies in accordance with funds withheld coinsurance (funds withheld) and modified coinsurance (modco) reinsurance agreements in which we act as reinsurer. Generally, assets equal to statutory reserves are withheld and legally owned by the ceding company, and any excess or shortfall is settled periodically. The underlying agreements contain embedded derivatives as discussed below.

Short-term Investments – Short-term investments consists of financial instruments with maturities of greater than three months but less than twelve months when purchased. Short-term debt securities are accounted for as trading or AFS consistent with our policies for those investments. Short-term loans are carried at amortized cost. Fair values are determined consistent with methodologies described in *Note 5 – Fair Value* for the respective investment type.

Investment Income – We recognize investment income as it accrues or is legally due, net of investment management and custody fees. Investment income on fixed maturity securities includes coupon interest, as well as the amortization of any premium and the accretion of any discount. Investment income on equity securities represents dividend income and preferred coupons interest. Realized gains and losses on sales of investments are included in investment related gains (losses) on the consolidated statements of income. Realized gains and losses on investments sold are determined based on a first-in first-out method.

Other-Than-Temporary Impairment – We identify securities that could potentially have impairments that are other-than-temporary by monitoring market events for changes in market interest rates, credit issues, changes in business climate, management changes, litigation, government actions and other similar factors. Indicators of impairment may include changes in the issuers' credit ratings and outlook, frequency of late payments, pricing levels, key financial ratios, financial statements, revenue forecasts and cash flow projections.

We review securities on a case-by-case basis to determine whether an other-than-temporary decline in value exists and whether losses should be recognized. We consider relevant facts and circumstances in evaluating whether a credit or interest rate-related impairment of a security is other-than-temporary. Relevant facts and circumstances include: (1) the extent and length of time the fair value has been below cost; (2) the reasons for the decline in fair value; (3) the issuer's financial position and access to capital; and (4) for fixed maturity securities, our intent to sell a security or whether it is more likely than not that we will be required to sell the security before the recovery of its cost or amortized cost which, in some cases, may extend to maturity and for equity securities prior to January 1, 2018, our ability and intent to hold the security for a period of time that allows for the recovery in value. To the extent we determine that a security is other-than-temporarily impaired, an impairment loss is recognized.

The recognition of impairment losses on fixed maturity securities is dependent upon the facts and circumstances related to the specific security. If we intend to sell a security or it is more likely than not that we would be required to sell a security before the recovery of its cost or amortized cost, less any recorded credit loss, we recognize a loss in other-than-temporary impairment losses on the consolidated statements of income for the difference between cost or amortized cost and fair value. If neither of these two conditions exists, then the recognition of the loss is bifurcated and we recognize the credit loss portion in other-than-temporary impairment losses on the consolidated statements of income and the non-credit loss portion in AOCI on the consolidated balance sheets. Impairment losses on equity securities were recognized in investment related gains (losses) on the consolidated statements of income prior to January 1, 2018. Effective January 1, 2018, equity securities are no longer evaluated for impairment as all changes in fair value are recognized in net income.

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

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

We impair a mortgage loan when it is probable we will not collect all amounts due under the agreement. We establish a general valuation allowance on mortgage loans based on loss history. Additionally, we establish a valuation allowance on individual loans based on expected losses from future dispositions or settlement, including foreclosures. We calculate the allowance based on how much the carrying value exceeds one of these values:

- the present value of expected future cash flows discounted at the loan's original effective interest rate;
- the value of the loan's collateral if it is in the process of foreclosure or otherwise collateral dependent; or
- the loan's fair value if the loan is being sold.

We first apply any interest accrued or received on the net carrying amount of the impaired loan to the principal of the loan, and once the principal is repaid, we include amounts received in net investment income. We limit accrued interest income on impaired loans to 90 days of interest. Once accrued interest on the impaired loan is received, we recognize interest income on a cash basis. Loans deemed uncollectible or in foreclosure are charged off against the valuation allowances, and subsequent recoveries, if any, are credited to the valuation allowances. Changes in valuation allowances are reported in investment related gains (losses) on the consolidated statements of income.

The cost of other invested assets is adjusted for impairments in value deemed to be other-than-temporary in the period in which the determination is made. These impairments are included within other-than-temporary impairment losses on the consolidated statements of income, and the cost basis of the investment securities is reduced accordingly. We do not change the revised cost basis for subsequent recoveries in value.

Derivative Instruments—We invest in derivatives to hedge the risks experienced in our ongoing operations, such as equity, interest rate and cash flow risks, or for other risk management purposes, which primarily involve managing liability risks associated with our indexed annuity products and reinsurance agreements. Derivatives are financial instruments whose values are derived from interest rates, foreign exchange rates, financial indices or other underlying notional amounts. Derivative assets and liabilities are carried at fair value on the consolidated balance sheets. We elect to present any derivatives subject to master netting provisions as a gross asset or liability and gross of collateral. Disclosures regarding balance sheet presentation of derivatives subject to master netting agreements are discussed in *Note 3 – Derivative Instruments*. We may designate derivatives as cash flow or fair value hedges.

Hedge Documentation and Hedge Effectiveness – To qualify for hedge accounting, at the inception of the hedging relationship, we formally document our designation of the hedge as a cash flow or fair value hedge and our risk management objective and strategy for undertaking the hedging transaction. In this documentation, we identify how the hedging instrument is expected to hedge the designated risks related to the hedged item, the method that will be used to retrospectively and prospectively assess the hedging instrument's effectiveness and the method which will be used to measure ineffectiveness. A derivative designated as a hedging instrument must be assessed as being highly effective in offsetting the designated risk of the hedged item. Hedge effectiveness is formally assessed at inception and periodically throughout the life of the designated hedging relationship.

For a cash flow hedge, all changes in the fair value of the hedging derivative are reported within AOCI beginning January 1, 2018, and the related gains or losses on the derivative are reclassified into the consolidated statements of income when the cash flows of the hedged item affect earnings. Prior to January 1, 2018, any portion deemed to be ineffective was reported in investment related gains (losses) on the consolidated statements of income each reporting period as effectiveness was assessed.

For a fair value hedge, changes in the fair value of the hedging derivative and changes in the fair value of the hedged item related to the designated risk being hedged, are reported on the consolidated statements of income according to the nature of the risk being hedged. Additionally, changes in the fair value of amounts excluded from the assessment of effectiveness are recorded in earnings.

We discontinue hedge accounting prospectively when: (1) we determine the derivative is no longer highly effective in offsetting changes in the estimated cash flows or fair value of a hedged item; (2) the derivative expires, is sold, terminated, or exercised; or (3) the derivative is de-designated as a hedging instrument. When hedge accounting is discontinued, the derivative continues to be carried on the consolidated balance sheets at fair value, with changes in fair value recognized in investment related gains (losses) on the consolidated statements of income.

For a derivative not designated as a hedge, changes in the derivative's fair value and any income received or paid on derivatives at the settlement date are included in investment related gains (losses) on the consolidated statements of income.

Embedded Derivatives – We issue and reinsure products, primarily fixed indexed annuity products, or purchase investments that contain embedded derivatives. If we determine the embedded derivative has economic characteristics not clearly and closely related to the economic characteristics of the host contract, and a separate instrument with the same terms would qualify as a derivative instrument, the embedded derivative is bifurcated from the host contract and accounted for separately, unless the fair value option is elected on the host contract. Under the fair value option, bifurcation of the embedded derivative is not necessary as the entire contract is carried at fair value with all related gains and losses recognized in investment related gains (losses) on the consolidated statements of income. Embedded derivatives are carried on the consolidated balance sheets at fair value in the same line item as the host contract.

Fixed indexed annuity and indexed universal life insurance contracts allow the policyholder to elect a fixed interest rate return or an equity market component for which interest credited is based on the performance of certain stock market indices. The equity market option is an embedded derivative, similar to a call option. The benefit reserve is equal to the sum of the fair value of the embedded derivative and the host (or guaranteed) component of the contracts. The fair value of the embedded derivatives is computed as the present value of benefits attributable to the excess of the projected policy contract values over the projected minimum guaranteed contract values. The projections of policy contract values are based on assumptions for future policy growth, which include assumptions for expected index credits on the next policy anniversary date, future equity option costs, volatility, interest rates and policyholder behavior. The projections of minimum guaranteed contract values include the same assumptions for policyholder behavior as were used to project policy contract values. The embedded derivative cash flows are discounted using a rate that reflects our own credit rating. The host contract is established at contract inception as the initial account value less the initial fair value of the embedded derivative and accreted over the policy's life. The host contract accretion rate is updated each quarter so that the present value of actual and expected guaranteed cash flows is equal to the initial host value. Changes in the fair value of embedded derivatives associated with fixed indexed annuities and indexed universal life insurance contracts are included in interest sensitive contract benefits on the consolidated statements of income.

Additionally, reinsurance agreements written on a funds withheld or modco basis contain embedded derivatives. The right to receive or obligation to pay the total return on the assets supporting the funds withheld at interest or funds withheld liability, respectively, represents a total return swap with a floating rate leg. The fair value of embedded derivatives on funds withheld and modco agreements is computed as the unrealized gain (loss) on the underlying assets and is included in the funds withheld at interest and funds withheld liability lines on the consolidated balance sheets for assumed and ceded agreements, respectively. The change in the fair value of the embedded derivatives is recorded in investment related gains (losses) on the consolidated statements of income. Assumed and ceded earnings from funds withheld at interest, funds withheld liability and changes in the fair value of embedded derivatives are reported in operating activities on the consolidated statements of cash flows. Contributions to and withdrawals from funds withheld at interest and funds withheld liability are reported in operating activities on the consolidated statements of cash flows.

Variable Interest Entities—An entity that does not have sufficient equity to finance its activities without additional financial support, or in which the equity investors, as a group, do not have the characteristics typically afforded to common shareholders is a VIE. The determination as to whether an entity qualifies as a VIE depends on the facts and circumstances surrounding each entity and may require significant judgment. Our investment funds generally qualify as VIEs and are evaluated for consolidation under the VIE model.

We are required to consolidate a VIE if we are the primary beneficiary, defined as the variable interest holder with both the power to direct the activities that most significantly impact the VIE's economic performance and rights to receive benefits or obligations to absorb losses that could be potentially significant to the VIE. We determine whether we are the primary beneficiary of an entity based on a qualitative assessment of the VIE's capital structure, contractual terms, nature of the VIE's operations and purpose and our relative exposure to the related risks of the VIE. Since affiliates of Apollo Global Management, LLC (AGM and, together with its subsidiaries, Apollo), a related party, are the decision makers in certain of the investment funds, we and a member of our related party group may together have the characteristics of the primary beneficiary of an investment fund. In this situation, we have concluded we are not under common control, as defined by GAAP, with the related party, and therefore consolidate in the circumstances when substantially all of the activities of the VIE are conducted on our behalf. We reassess the VIE and primary beneficiary determinations on an ongoing basis.

For entities that we do not consolidate but have significant influence over the entities' operations, we record our investment under the equity method of accounting. If we do not consolidate and do not have significant influence, generally on investment funds in which we own a less than a 3% interest, we elect the fair value option.

See *Note 4 – Variable Interest Entities* for discussion of our interest in entities that meet the definition of a VIE.

Business Combinations and Goodwill—Business combination transactions are accounted for under the acquisition method. Accordingly, the purchase consideration is allocated to assets and liabilities based on their estimated fair value at the acquisition date. The consideration for the net assets acquired is determined prior to the assessment of the fair value of the net assets at the acquisition date. We have identified several intangible assets acquired in business combinations including VOBA, acquired distribution channels and state licenses. We value VOBA as described below under *–Deferred Acquisition Costs, Deferred Sales Inducements and Value of Business Acquired*. We value distribution channels using the multi-period excess earnings method under the income approach and the state licenses using the market approach. Intangible assets related to distribution channels and state licenses are included in other assets on the consolidated balance sheets.

Goodwill represents the excess of purchase consideration over the acquisition date fair value of net assets acquired and is included in the other assets on the consolidated balance sheets. Goodwill is not amortized but reviewed for impairment annually or more frequently if events occur or circumstances change indicating potential impairment has occurred. If the acquisition date fair value of the net assets acquired exceeds the purchase consideration in a business combination, a bargain purchase gain is recorded on the consolidated statements of income.

Reinsurance—We assume and cede insurance and investment contracts under coinsurance, funds withheld and modco. We follow reinsurance accounting for transactions that provide indemnification against loss or liability relating to insurance risk (risk transfer). To meet risk transfer requirements, a reinsurance agreement must transfer insurance risk arising from uncertainties about both underwriting and timing risks. Cessions under reinsurance do not discharge our obligations as the primary insurer, unless the requirements of assumption reinsurance have been met. We generally have the right of offset on reinsurance contracts, but have elected to present reinsurance settlement amounts due to and from the Company on a gross basis.

Assets and liabilities assumed or ceded under coinsurance, funds withheld, or modco are presented gross on the consolidated balance sheets. For investment contracts, the change in assumed and ceded reserves are presented net in interest sensitive contract benefits on the consolidated statements of income. For insurance contracts, the change in assumed and ceded reserves and benefits are presented net in future policy and other policy benefits on the consolidated statements of income. Assumed or ceded premiums are included in premiums on the consolidated statements of income.

Accounting for reinsurance requires the use of assumptions, particularly related to the future performance of the underlying business and the potential impact of counterparty credit risks. We attempt to minimize our counterparty credit risk through the structuring of the terms of our reinsurance agreements, including the use of trusts, and we monitor credit ratings of counterparties for signs of declining credit quality. When a ceding company does not report information on a timely basis, we record accruals based on the best available information at the time, which includes the reinsurance agreement terms and historical experience. We periodically compare actual and anticipated experience to the assumptions used to establish reinsurance assets and liabilities. See *Note 6 – Reinsurance* for more information.

Funds Withheld and ModCo – For business assumed or ceded on a funds withheld or modco basis, a funds withheld segregated portfolio, comprised of invested assets and other assets is maintained by the ceding entity, which is sufficient to support the current balance of statutory reserves. The fair value of the funds withheld is recorded as a funds withheld asset or liability and any excess or shortfall in relation to statutory reserves is settled periodically.

Cash and Cash Equivalents—Cash and cash equivalents include deposits and short-term highly liquid investments with a maturity of less than 90 days from the date of acquisition. Amounts included are readily convertible to known amounts of cash and are subject to an insignificant risk of change in value.

Restricted Cash—Restricted cash primarily consists of cash and cash equivalents held in funds in trust as part of certain coinsurance agreements to secure statutory reserves and liabilities of the coinsured parties. Restricted cash is reported separately on the consolidated balance sheets, but is included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period amounts shown on the consolidated statements of cash flows.

Investments in Related Parties—Investments in related parties and associated earnings, other comprehensive income and cash flows are separately identified on the consolidated financial statements and accounted for consistently with the policies described above for each category of investment. Investments in related parties are primarily a result of investments over which Apollo can exercise significant influence.

Deferred Acquisition Costs, Deferred Sales Inducements and Value of Business Acquired

Deferred Acquisition Costs and Deferred Sales Inducements – Costs related directly to the successful acquisition of new, or renewal of, insurance or investment contracts are deferred to the extent they are recoverable from future premiums or gross profits. These costs consist of commissions and policy issuance costs, as well as sales inducements credited to policyholder account balances, and are included in deferred acquisition costs, deferred sales inducements and value of business acquired on the consolidated balance sheets. We perform periodic tests, including at issuance, to determine if the deferred costs are recoverable. If we determine that the deferred costs are not recoverable, we record a cumulative charge to the current period.

Deferred costs related to universal life-type policies and investment contracts with significant revenue streams from sources other than investment of the policyholder funds are amortized over the lives of the policies, based upon the proportion of current period gross profits to the present value of gross profits to be earned over the life of the policies. Gross profits include investment spread margins, surrender charge income, policy administration, changes in the guaranteed lifetime withdrawal benefit (GLWB) and guaranteed minimum death benefit (GMDB) reserves and realized gains and losses on investments. Current period gross profits for fixed indexed annuities also include the change in fair value of both freestanding and embedded derivatives. Estimates of the future gross profits and margins are based on assumptions using accepted actuarial methods related to policyholder behavior and mortality, yields on investments supporting the liabilities, future interest credited amounts (including indexed related credited amounts on fixed indexed annuity products), surrender and other policy changes as applicable, and the level of expenses necessary to maintain the policies over their expected lives. Each reporting period, we update estimated gross profits with actual gross profits as part of the amortization process and adjust the DAC and DSI balances due to the other comprehensive income (OCI) effects of unrealized investment gains and losses on AFS securities. We also periodically revise the key assumptions used in the amortization calculation, which results in revisions to the estimated future gross profits. The effects of changes in assumptions are recorded as unlocking in the period in which the changes are made.

Deferred costs related to investment contracts without significant revenue streams from sources other than investment of the policyholder funds are amortized using the effective interest method. The effective interest method amortizes the deferred costs by discounting the future liability cash flows at a break-even rate. The break-even rate is solved such that the present value of future liability cash flows is equal to the net liability at the inception of the contract.

Value of Business Acquired – We establish VOBA for blocks of insurance contracts acquired through the acquisition of insurance entities. We record the fair value of the liabilities assumed in two components: reserves and VOBA. Reserves are established using our best estimate assumptions consistent with the policies described below for future policy benefits and interest sensitive contract liabilities. VOBA is the difference between the fair value of the liabilities and the reserves. VOBA can be either positive or negative. Any negative VOBA is recorded to the same financial statement line on the consolidated balance sheets as the associated reserves. Positive VOBA is recorded in deferred acquisition costs, deferred sales inducements and value of business acquired on the consolidated balance sheets. We perform periodic tests to determine if the VOBA remains recoverable. If we determine that VOBA is not recoverable, we record a cumulative charge to the current period.

VOBA associated with investment contracts without significant revenue streams from sources other than investment of the policyholder funds is amortized using the effective interest method. VOBA associated with immediate annuity contracts classified as long duration contracts is amortized at a constant rate in relation to net policyholder liabilities. For universal life-type policies and investment contracts with significant revenue streams from sources other than investment of policyholder funds, VOBA is amortized in relation to the present value of estimated gross profits using methods consistent with those used to amortize DAC and DSI. Negative VOBA is amortized at a constant rate in relation to applicable net policyholder liabilities.

See *Note 7 – Deferred Acquisition Costs, Deferred Sales Inducements and Value of Business Acquired* for further discussion.

Interest Sensitive Contract Liabilities—Universal life-type policies and investment contracts include fixed indexed and traditional fixed annuities in the accumulation phase, funding agreements, universal life insurance, fixed indexed universal life insurance and immediate annuities without significant mortality risk (which includes pension risk transfer (PRT) annuities without life contingencies). We carry liabilities for fixed annuities, universal life insurance and funding agreements at the account balances without reduction for potential surrender or withdrawal charges, except for a block of universal life business ceded to Global Atlantic Financial Group Limited (together with its subsidiaries, Global Atlantic) which we carry at fair value. Liabilities for immediate annuities without significant mortality risk are calculated as the present value of future liability cash flows and policy maintenance expenses discounted at contractual interest rates. For a discussion regarding our indexed products, refer above to the embedded derivative discussion.

Changes in the interest sensitive contract liabilities, excluding deposits and withdrawals, are recorded in interest sensitive contract benefits or product charges on the consolidated statements of income. Interest sensitive contract liabilities are not reduced for amounts ceded under reinsurance agreements which are reported as reinsurance recoverable on the consolidated balance sheets. See the reinsurance accounting policy discussed in –*Reinsurance* above and *Note 6 – Reinsurance* for more information on reinsurance.

Future Policy Benefits—We issue contracts classified as long-duration, which includes endowments, term and whole life, accident and health, disability, and deferred and immediate annuities with life contingencies (which includes PRT annuities with life contingencies). Liabilities for non-participating long-duration contracts are established using accepted actuarial valuation methods which require the use of assumptions related to expenses, investment yields, mortality, morbidity and persistency, with a provision for adverse deviation, at the date of issue or acquisition. As of December 31, 2018, the reserve investment yield assumptions for non-participating contracts range from 3.31% to 5.44% and are specific to our expected earned rate on the asset portfolio supporting the reserves. Liabilities for participating long-duration contracts were established using accepted actuarial valuation methods, which required the use of guaranteed interest and mortality assumptions. Participating long-duration contracts resulted from our previously consolidated German subsidiaries. We base other key assumptions, such as mortality and morbidity, on industry standard data adjusted to align with actual company experience, if necessary.

For long-duration contracts, the assumptions are locked in at contract inception and only modified if we deem the reserves to be inadequate. We periodically review actual and anticipated experience compared to the assumptions used to establish policy benefits. If the net GAAP liability (gross reserves less DAC, DSI and VOBA) is less than the gross premium liability, impairment is deemed to have occurred, and the DAC, DSI and VOBA asset balances are reduced until the net GAAP liability is equal to the gross premium liability. If the DAC, DSI and VOBA asset balances are completely written off and the net GAAP liability is still less than the gross premium liability, then an additional liability is recorded to arrive at the gross premium liability.

We issue and reinsure deferred annuity contracts which contain GLWB and GMDB riders. We establish future policy benefits for GLWB and GMDB by estimating the expected value of withdrawal and death benefits in excess of the projected account balance. We recognize the excess proportionally over the accumulation period based on total actual and expected assessments. The methods we use to estimate the liabilities have assumptions about policyholder behavior, which includes lapses, withdrawals and use of benefit riders; mortality; and market conditions affecting the account balance growth.

Future policy benefits includes liabilities for no-lapse guarantees on universal life insurance and fixed indexed universal life insurance. We establish future policy benefits for no-lapse guarantees by estimating the expected value of death benefits paid after policyholder account balances have been exhausted. We recognize these benefits proportionally over the life of the contracts based on total expected assessments. The methods we use to estimate the liabilities have assumptions about policyholder behavior, mortality and market conditions affecting the account balance growth.

For the liabilities associated with GLWB and GMDB riders and no-lapse guarantees, each reporting period, we update expected excess benefits and assessments with actual excess benefits and assessments and adjust the liability balances due to the OCI effects of unrealized investment gains and losses on AFS securities. We also periodically revise the key assumptions used in the calculation of the liabilities which results in revisions to the expected excess benefits and assessments. The effects of changes in assumptions are recorded as unlocking in the period in which the changes are made.

Changes in future policy benefits other than the adjustment for the OCI effects of unrealized investment gains and losses on AFS securities, are recorded in future policy and other policy benefits on the consolidated statements of income. Future policy benefits are not reduced for amounts ceded under reinsurance agreements which are reported as reinsurance recoverable on the consolidated balance sheets. See the reinsurance accounting policy discussed in *–Reinsurance* above and *Note 6 – Reinsurance* for more information on reinsurance.

Closed Block Business—Two closed blocks of policies were established in connection with the reorganization of two predecessor subsidiaries from mutual companies to stock companies, collectively referred to as the Closed Blocks, and individually referred to as the AmerUs Life Insurance Company (AmerUs) closed block (AmerUs Closed Block) and the Indianapolis Life Insurance Company (ILICO) closed block (ILICO Closed Block). Insurance policies which had a dividend scale in effect as of each closed block establishment date were included in the respective closed block. The Closed Blocks were designed to give reasonable assurance to owners of insurance policies included therein that, after the reorganization, assets would be available to maintain the dividend scales and interest credits in effect prior to the reorganization, if the experience underlying such scales and crediting continued. The assets, including related revenue, allocated to the Closed Blocks will accrue solely to the benefit of the policyholders included in the Closed Blocks until they no longer exist. A policyholder dividend obligation is required to be established for earnings in the Closed Blocks that are not available to the shareholders. We have elected the fair value option for the AmerUs Closed Block and the ILICO Closed Block. See *Note 8 – Closed Block* for more information on the Closed Blocks.

Other Policy Claims and Benefits—Other policy claims and benefits include amounts payable relating to in course of settlements (ICOS) and incurred but not reported (IBNR) liabilities associated with interest sensitive contract liabilities and future policy benefits. For traditional life and universal life policies, ICOS claim liabilities are established when we are notified of the death of the policyholder but the claim has not been paid as of the reporting date. For immediate annuities and supplemental contracts, ICOS claim liabilities are established to accrue suspended benefit payments between the date of notification of death and the date of verification of death.

We determine IBNR claim liabilities using studies of past experience. The time that elapses from the death or claim date to when the claim is reported to us can vary significantly by product type, but generally ranges between one to six months for life business. We estimate IBNR claims on an undiscounted basis, using actuarial estimates of historical claims expense, adjusted for current trends and conditions. These estimates are continually reviewed and the ultimate liability may vary significantly from the amount recognized.

Dividends Payable to Policyholders—Participating policies entitle the policyholders to receive dividends based on actual interest, mortality, morbidity and expense experience for the year. Dividends are distributed to the policyholders through annual or terminal dividends which the board of directors of the applicable insurance subsidiary approves. As of December 31, 2018 and 2017, 10% of life policies, inclusive of ceded policies, were participating. Premiums related to policies participating policies represented 26%, 28% and 19% of total life insurance direct premiums and deposits for the years ended December 31, 2018, 2017 and 2016, respectively.

Policyholder dividend liabilities are recorded in dividends payable to policyholders on the consolidated balance sheets and policyholder dividends are recorded in dividends to policyholders on the consolidated statements of income.

Foreign Currency—The accounts of foreign-based subsidiaries and equity method investments are measured using their functional currency. Revenue and expenses of these subsidiaries are translated into U.S. dollars at the average exchange rate for the period. Assets and liabilities are translated at the exchange rate as of the end of the reporting period. For the equity method investments, our proportionate share of the investee's income is translated into U.S. dollars at the average exchange rate for the period and our investment is translated using the exchange rate as of the end of the reporting period. The resulting translation adjustments are included in equity as a component of AOCI. Gains or losses arising from transactions denominated in a currency other than the functional currency of the entity that is party to the transaction are included in net income. The impacts of any non-U.S. dollar denominated AFS securities are included in AOCI along with the change in its fair value unless in a fair value hedging relationship as discussed in *–Derivative Instruments* above.

Recognition of Revenues and Related Expenses—Revenues for universal life-type policies and investment contracts, including surrender and market value adjustments, costs of insurance, policy administration, GMDB, GLWB and no-lapse guarantee charges, are earned when assessed against policyholder account balances during the period. Interest credited to policyholder account balances and the change in fair value of embedded derivatives within fixed indexed annuity contracts is included in interest sensitive contract benefits on the consolidated statements of income.

Premiums for long-duration contracts, including products with fixed and guaranteed premiums and benefits, are recognized as revenue when due from policyholders. When premiums are due over a significantly shorter period than the period over which benefits are provided, such as immediate annuities with life contingencies (which includes PRT annuities), any gross premium in excess of the net premium (i.e., the portion of the gross premium required to provide for all expected future benefits and expenses) is generally deferred and recognized into revenue in a constant relationship to the benefit reserves.

All insurance related revenue is reported net of reinsurance ceded.

Income Taxes—We compute income taxes using the asset and liability method, under which deferred income taxes are provided for the temporary differences between the financial statement carrying amounts and the tax basis of our assets and liabilities using estimated tax rates expected to be in effect for the year in which the differences are expected to reverse. Such temporary differences are primarily due to the tax basis of reserves, DAC, unrealized investment gains/losses, reinsurance related differences, embedded derivatives and net operating loss carryforwards. Changes in deferred income tax assets and liabilities associated with components of OCI are recorded directly to OCI. We evaluate the likelihood of realizing the benefit of our deferred tax assets and may record a valuation allowance if, based on all available evidence, we determine that it is more likely than not that some portion of the tax benefit will not be realized. We adjust the valuation allowance if, based on our evaluation, there is a change in the amount of deferred income tax assets that are deemed more-likely-than-not to be realized. Changes in deferred tax assets and liabilities attributable to changes in enacted income tax rates are recorded through net income in the period of enactment. We recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the relevant taxing authorities, based on the technical merits of our position. For those tax positions that meet the more-likely-than-not recognition threshold, we recognize the largest amount of tax benefit that is more than 50 percent likely to be realized upon ultimate settlement with the related tax authority. We recognize any income tax interest and penalties in income tax expense.

See *Note 11 – Income Taxes* for discussion on withholding taxes for undistributed earnings of subsidiaries.

Adopted Accounting Pronouncements

Revenue Recognition (ASU 2017-13, ASU 2016-20, ASU 2016-12, ASU 2016-11, ASU 2016-10, ASU 2016-08, ASU 2015-14 and ASU 2014-09)
These updates are based on the core principle that an entity should recognize revenue to depict 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. These updates replace all general and most industry-specific revenue recognition guidance, excluding insurance contracts, leases, financial instruments and guarantees, which have been scoped out of these updates. Since the guidance does not apply to revenue on contracts accounted for under the financial instruments or insurance contracts standards, only a portion of our revenues are impacted by this guidance. We adopted these updates on a modified retrospective basis effective January 1, 2018. The adoptions did not have a material effect on our consolidated financial statements.

Derivatives and Hedging – Targeted Improvements (ASU 2017-12)
The amendments in this update contain improvements to the financial reporting of hedging relationships that more closely reflect the economic results of an entity's risk management activities in its financial statements. Additionally, the amendments in this update make certain targeted improvements to simplify the application of hedge accounting. We early adopted this update effective January 1, 2018, and the adoption did not have a material effect on our consolidated financial statements.

Gains and Losses from the Derecognition of Nonfinancial Assets (ASU 2017-05)
The amendments in this update clarify the scope of asset derecognition guidance and accounting for partial sales of nonfinancial assets. We adopted this update on a modified retrospective basis effective January 1, 2018. The adoption did not have a material effect on our consolidated financial statements.

Statement of Cash Flows – Restricted Cash (ASU 2016-18)
This update requires amounts generally described as restricted cash or restricted cash equivalents be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period amounts shown on the consolidated statements of cash flows. We adopted this update effective January 1, 2018, and have changed the presentation on the consolidated statements of cash flows as required by this update.

Income Taxes – Intra-Entity Transfers (ASU 2016-16)
This update requires the immediate recognition of current and deferred income tax effects of intra-entity transfers of assets, other than inventory. Prior to adoption, recognition of the income tax consequence was not recognized until the asset was sold to an outside party. We adopted this update effective January 1, 2018, and the adoption did not have a material effect on our consolidated financial statements.

Statement of Cash Flows (ASU 2016-15)
This update provides specific guidance to clarify how entities should classify certain cash receipts and cash payments on the statement of cash flows. The update also clarifies the application of the predominance principle when cash receipts and cash payments have aspects of more than one class of cash flows. We adopted this update effective January 1, 2018, and the adoption did not have a material effect on our consolidated financial statements.

Financial Instruments – Recognition and Measurement (ASU 2016-01)
This update changes the accounting for certain equity investments, the presentation of changes in the fair value of liabilities measured under the fair value option due to instrument-specific credit risk, and certain disclosures. For liabilities measured under the fair value option, changes in fair value attributable to instrument-specific credit risk will no longer affect net income, but will be recognized separately in OCI. Additionally, this update requires equity investments to be measured at fair value with subsequent changes recognized in net income, except for those accounted for under the equity method or requiring consolidation. Prior to the effective date of this update, changes in fair value related to AFS equity securities were recognized in OCI. We adopted this update effective January 1, 2018. Upon adoption, we recognized a cumulative-effect increase to beginning retained earnings of $42 million and a corresponding decrease to AOCI. Additionally, we combined the presentation of AFS and trading equity securities on the consolidated balance sheets for all periods presented.

Recently Issued Accounting Pronouncements

Leases (ASU 2018-20, ASU 2018-11, ASU 2018-10, ASU 2018-01, ASU 2017-13 and ASU 2016-02)
These updates are intended to increase transparency and comparability for lease transactions. ASU 2016-02 requires a lessee to recognize a right-of-use asset and lease liability on the balance sheet for all leases with an original term longer than twelve months and disclose key information about leasing arrangements. Lessor accounting is largely unchanged.

The updates are effective January 1, 2019. ASU 2016-02 required the adoption on a modified retrospective basis. However, with the issuance of ASU 2018-11, we have the option to recognize the cumulative effect as an adjustment to the opening balance of retained earnings in the year of adoption, while continuing to present all prior periods under the previous lease guidance. These updates provide optional practical expedients in transition.

We have reviewed our existing lease contracts and determined that on January 1, 2019, we will record a lease liability and right-of-use asset related to office space, copiers, reserved areas and equipment at data centers, and other agreements. We will continue to present all prior periods under the previous lease guidance. We will elect the “package of practical expedients,” which permits us to maintain our prior conclusions about lease identification, classification and initial direct costs. We will also elect the short-term lease exception, which allows us to exclude contracts with a lease term of 12 months or less, including any reasonably certain renewal options, from consideration under the new guidance. This update will not have a material effect on our consolidated financial statements.

Financial Instruments – Credit Losses (ASU 2018-19 and ASU 2016-13)
This update is designed to reduce complexity by limiting the number of credit impairment models used for different assets. The model will result in accelerated credit loss recognition on assets held at amortized cost, which includes our commercial and residential mortgage investments. The identification of credit-deteriorated securities will include all assets that have experienced a more-than-insignificant deterioration in credit since origination. Additionally, any changes in the expected cash flows of credit-deteriorated securities will be recognized immediately in the income statement. AFS fixed maturity securities are not in scope of the new credit loss model, but will undergo targeted improvements to the current reporting model including the establishment of a valuation allowance for credit losses versus the current direct write down approach. We will adopt this update effective January 1, 2020. We are currently evaluating the impact of this guidance on our consolidated financial statements.

Collaborative Arrangements (ASU 2018-18)
The amendments in this update provide guidance on whether certain transactions between collaborative arrangement participants should be accounted for as revenue under Topic 606, providing comparability in the presentation of revenue for certain transactions. The update is effective January 1, 2020. Early adoption is permitted. We are currently evaluating the impact of this guidance on our consolidated financial statements.

Consolidation (ASU 2018-17)
The amendments in this update expand certain discussions in the VIE guidance, including considerations necessary for determining when a decision-making fee is a variable interest. We will be required to adopt this update retrospectively with a cumulative-effect adjustment to retained earnings at the beginning of the earliest period presented. The update is effective January 1, 2020. Early adoption is permitted. We are currently evaluating the impact of this guidance on our consolidated financial statements.

Derivatives and Hedging (ASU 2018-16)
The amendments in this update allow entities to use the Overnight Index Swap rate based on the Secured Overnight Financing Rate as a U.S. benchmark interest rate for hedge accounting purposes, in addition to the previously acceptable rates. We will be required to adopt this update prospectively for qualifying new or redesignated hedging relationships entered into on or after the date of adoption. This update is effective January 1, 2019. We do not expect the adoption of this update will have a material effect on our consolidated financial statements.

Cloud Computing Arrangements (ASU 2018-15)
The amendments in this update align the requirements for capitalizing implementation costs incurred in a cloud computing service arrangement with the requirements for capitalizing implementation costs incurred for internal-use software. We will adopt this update on January 1, 2020, and we can elect to adopt this update either prospectively or retrospectively. Early adoption is permitted. We are currently evaluating the impact of this guidance on our consolidated financial statements.

Fair Value Measurement – Disclosure Requirements (ASU 2018-13)
The amendments in this update modify the disclosure requirements for fair value measurements by removing, modifying or adding certain disclosures. We will adopt this update on January 1, 2020, and depending on the specific amendment will be required to adopt prospectively or retrospectively. We early adopted the removal and modification of certain disclosures as permitted. We are currently evaluating the impact of the remaining guidance on our consolidated financial statements.

Insurance – Targeted Improvements to the Accounting for Long-Duration Contracts (ASU 2018-12)
This update amends four key areas pertaining to the accounting and disclosures for long-duration insurance and investment contracts.

- The update requires cash flow assumptions used to measure the liability for future policy benefits to be updated at least annually and no longer allows a provision for adverse deviation. The remeasurement of the liability associated with the update of assumptions is required to be recognized in net income. Loss recognition testing is eliminated for traditional and limited-payment contracts. The update also requires the discount rate utilized in measuring the liability to be an upper-medium grade fixed-income instrument yield, which is to be updated at each reporting date. The change in liability due to changes in the discount rate is to be recognized in other comprehensive income.
- The update simplifies the amortization of deferred acquisition costs and other balances amortized in proportion to premiums, gross profits, or gross margins, requiring such balances to be amortized on a constant level basis over the expected term of the contracts. Deferred costs are required to be written off for unexpected contract terminations but are not subject to impairment testing.
- The update requires certain contract features meeting the definition of market risk benefits to be measured at fair value. Among the features included in this definition are the guaranteed lifetime withdrawal benefits (GLWB) and guaranteed minimum death benefit (GMDB) riders attached to the Company's annuity products. The change in fair value of the market risk benefits is to be recognized in net income, excluding the portion attributable to changes in instrument-specific credit risk which is recognized in other comprehensive income.
- The update also introduces disclosure requirements around the liability for future policy benefits, policyholder account balances, market risk benefits, separate account liabilities, and deferred acquisition costs. This includes disaggregated rollforwards of these balances and information about significant inputs, judgments, assumptions and methods used in their measurement.

We will adopt this update effective January 1, 2021. Certain provisions of the update are required to be adopted on a fully retrospective basis, while others may be adopted on a modified retrospective basis. Early adoption is permitted effective January 1, 2019. We are currently evaluating the impact of this guidance on our consolidated financial statements.

Stock Compensation – Nonemployee Share-Based Payments (ASU 2018-07)
The amendments in this update simplify the accounting for share-based payments to nonemployees by aligning with the accounting for share-based payments to employees, with certain exceptions. We will adopt this update on a modified retrospective basis effective January 1, 2019. This update will not have a material effect on our consolidated financial statements.

Intangibles – Simplifying the Test for Goodwill Impairment (ASU 2017-04)
The amendments in this update simplify the subsequent measurement of goodwill by eliminating the comparison of the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill to determine the goodwill impairment loss. With the adoption of this guidance, a goodwill impairment will be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of the goodwill allocated to that reporting unit. Entities will continue to have the option to perform a qualitative assessment to determine if a quantitative impairment test is necessary. We will adopt this update prospectively effective January 1, 2020. Early adoption is permitted. We do not expect the adoption of this update will have a material effect on our consolidated financial statements.

2. Investments

AFS Securities—The following table represents the amortized cost, gross unrealized gains and losses, fair value and OTTI in AOCI of our AFS investments by asset type:

	December 31, 2018				
(In millions)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	OTTI in AOCI
AFS securities					
U.S. government and agencies	$ 57	$ —	$ —	$ 57	$ —
U.S. state, municipal and political subdivisions	1,183	117	(7)	1,293	—
Foreign governments	162	2	(3)	161	—
Corporate	37,972	394	(1,314)	37,052	1
CLO	5,658	2	(299)	5,361	—
ABS	4,915	53	(48)	4,920	—
CMBS	2,390	27	(60)	2,357	7
RMBS	7,642	413	(36)	8,019	11
Total AFS securities	59,979	1,008	(1,767)	59,220	19
AFS securities – related party					
CLO	587	—	(25)	562	—
ABS	875	4	(4)	875	—
Total AFS securities – related party	1,462	4	(29)	1,437	—
Total AFS securities including related party	$ 61,441	$ 1,012	$ (1,796)	$ 60,657	$ 19

	December 31, 2017				
(In millions)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	OTTI in AOCI
AFS securities					
U.S. government and agencies	$ 28	$ 1	$ —	$ 29	$ —
U.S. state, municipal and political subdivisions	996	171	(2)	1,165	—
Foreign governments	164	4	(1)	167	—
Corporate	33,602	1,592	(147)	35,047	—
CLO	5,039	53	(8)	5,084	—
ABS	3,941	53	(27)	3,967	1
CMBS	1,994	48	(21)	2,021	1
RMBS	8,721	652	(7)	9,366	11
Total AFS securities	54,485	2,574	(213)	56,846	13
AFS securities – related party					
CLO	353	7	—	360	—
ABS	50	—	—	50	—
Total AFS securities – related party	403	7	—	410	—
Total AFS securities including related party	$ 54,888	$ 2,581	$ (213)	$ 57,256	$ 13

The amortized cost and fair value of AFS securities, including related party, are shown by contractual maturity below:

	December 31, 2018	
(In millions)	Amortized Cost	Fair Value
Due in one year or less	$ 1,097	$ 1,095
Due after one year through five years	8,247	8,223
Due after five years through ten years	10,844	10,540
Due after ten years	19,186	18,705
CLO, ABS, CMBS and RMBS	20,605	20,657
Total AFS securities	59,979	59,220
AFS securities – related party, CLO and ABS	1,462	1,437
Total AFS securities including related party	$ 61,441	$ 60,657

Actual maturities can differ from contractual maturities as borrowers may have the right to call or prepay obligations with or without call or prepayment penalties.

Unrealized Losses on AFS Securities—The following summarizes the fair value and gross unrealized losses for AFS securities, including related party, aggregated by class of security and length of time the fair value has remained below amortized cost:

	December 31, 2018					
	Less than 12 months		12 months or more		Total	
(In millions)	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
AFS securities						
U.S. government and agencies	$ 32	$ —	$ 2	$ —	$ 34	$ —
U.S. state, municipal and political subdivisions	139	(2)	82	(5)	221	(7)
Foreign governments	97	(2)	15	(1)	112	(3)
Corporate	20,183	(941)	4,118	(373)	24,301	(1,314)
CLO	5,054	(297)	90	(2)	5,144	(299)
ABS	1,336	(23)	506	(25)	1,842	(48)
CMBS	932	(27)	497	(33)	1,429	(60)
RMBS	1,417	(31)	140	(5)	1,557	(36)
Total AFS securities	29,190	(1,323)	5,450	(444)	34,640	(1,767)
AFS securities – related party						
CLO	534	(25)	—	—	534	(25)
ABS	306	(2)	116	(2)	422	(4)
Total AFS securities – related party	840	(27)	116	(2)	956	(29)
Total AFS securities including related party	$ 30,030	$ (1,350)	$ 5,566	$ (446)	$ 35,596	$ (1,796)

	December 31, 2017					
	Less than 12 months		12 months or more		Total	
(In millions)	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
AFS securities						
U.S. government and agencies	$ 10	$ —	$ —	$ —	$ 10	$ —
U.S. state, municipal and political subdivisions	50	(1)	39	(1)	89	(2)
Foreign governments	23	—	15	(1)	38	(1)
Corporate	3,643	(36)	2,299	(111)	5,942	(147)
CLO	414	(2)	340	(6)	754	(8)
ABS	515	(5)	549	(22)	1,064	(27)
CMBS	460	(8)	179	(13)	639	(21)
RMBS	506	(3)	210	(4)	716	(7)
Total AFS securities	5,621	(55)	3,631	(158)	9,252	(213)
AFS securities – related party						
CLO	29	—	—	—	29	—
ABS	42	—	—	—	42	—
Total AFS securities – related party	71	—	—	—	71	—
Total AFS securities including related party	$ 5,692	$ (55)	$ 3,631	$ (158)	$ 9,323	$ (213)

As of December 31, 2018, we held 4,308 AFS securities that were in an unrealized loss position. Of this total, 848 were in an unrealized loss position 12 months or more. As of December 31, 2018, we held 40 related party AFS securities that were in an unrealized loss position. Of this total, seven were in an unrealized loss position 12 months or more. The unrealized losses on AFS securities can primarily be attributed to changes in market interest rates since acquisition. We did not recognize the unrealized losses in income as we intend to hold these securities and it is not more likely than not we will be required to sell a security before the recovery of its amortized cost.

Other-Than-Temporary Impairments—For the year ended December 31, 2018, we incurred $18 million of net OTTI, of which $13 million related to intent-to-sell impairments. These securities were impaired to fair value as of the impairment date. The remaining net OTTI of $5 million related to credit impairments where a portion was bifurcated in AOCI. Any credit loss impairments not bifurcated in AOCI are excluded from the rollforward below.

The following table represents a rollforward of the cumulative amounts recognized on the consolidated statements of income for OTTI related to pre-tax credit loss impairments on AFS securities, for which a portion of the securities' total OTTI was recognized in AOCI:

	Years ended December 31,		
(In millions)	2018	2017	2016
Beginning balance	$ 7	$ 16	$ 20
Initial impairments – credit loss OTTI recognized on securities not previously impaired	3	8	8
Additional impairments – credit loss OTTI recognized on securities previously impaired	2	—	3
Reduction in impairments from securities sold, matured or repaid	(2)	(11)	(7)
Reduction for credit loss that no longer has a portion of the OTTI loss recognized in AOCI	—	(6)	(8)
Ending balance	$ 10	$ 7	$ 16

Net Investment Income—Net investment income by asset class consists of the following:

	Years ended December 31,		
(In millions)	2018	2017	2016
AFS securities	$ 2,840	$ 2,497	$ 2,214
Trading securities	200	200	236
Equity securities	12	9	8
Mortgage loans	457	369	352
Investment funds	234	206	175
Funds withheld at interest	492	148	82
Other	109	62	43
Investment revenue	4,344	3,491	3,110
Investment expenses	(356)	(320)	(298)
Net investment income	$ 3,988	$ 3,171	$ 2,812

Investment Related Gains (Losses)—Investment related gains (losses) by asset class consists of the following:

	Years ended December 31,		
(In millions)	2018	2017	2016
AFS securities			
Gross realized gains on investment activity	$ 156	$ 99	$ 93
Gross realized losses on investment activity	(123)	(67)	(54)
Net realized investment gains on AFS securities	33	32	39
Net recognized investment gains (losses) on trading securities	(255)	29	(50)
Net recognized investment gains (losses) on equity securities	(19)	57	1
Derivative gains (losses)	(1,099)	2,338	620
Other gains (losses)	2	(14)	—
Investment related gains (losses)	$ (1,338)	$ 2,442	$ 610

Proceeds from sales of AFS securities were $6,966 million, $4,300 million and $3,577 million for the years ended December 31, 2018, 2017 and 2016, respectively.

The following table summarizes the change in unrealized gains (losses) on trading and equity securities, including related party and consolidated VIEs, we still held as of the respective period end:

	Years ended December 31,		
(In millions)	2018	2017	2016
Trading securities	$ (143)	$ 107	$ 19
Trading securities – related party	(25)	(3)	(10)
VIE trading securities – related party	—	4	—
Equity securities	(18)	3	1
VIE equity securities – related party	24	25	(78)

Purchased Credit Impaired (PCI) Investments—The following table summarizes our PCI investments:

	December 31,			
	2018	2017	2018	2017
(In millions)	Fixed maturity securities		Mortgage loans	
Contractually required payments receivable	$ 8,179	$ 9,690	$ 2,675	$ 1,140
Less: Cash flows expected to be collected[1]	(7,195)	(8,188)	(2,628)	(1,090)
Non-accretable difference	$ 984	$ 1,502	$ 47	$ 50
Cash flows expected to be collected[1]	$ 7,195	$ 8,188	$ 2,628	$ 1,090
Less: Amortized cost	(5,518)	(6,168)	(1,931)	(817)
Accretable difference	$ 1,677	$ 2,020	$ 697	$ 273
Fair value	$ 5,828	$ 6,703	$ 1,933	$ 844
Outstanding balance	6,773	8,026	2,210	946

[1] *Represents the undiscounted principal and interest cash flows expected.*

During the respective years ended December 31, we acquired PCI investments with the following amounts at the time of purchase:

	Fixed maturity securities		Mortgage loans	
(In millions)	2018	2017	2018	2017
Contractually required payments receivable	$ 623	$ 2,161	$ 1,625	$ 894
Cash flows expected to be collected	562	1,790	1,601	857
Fair value	454	1,428	1,178	633

The following table summarizes the activity for the accretable yield on PCI investments:

	Fixed maturity securities		Mortgage loans	
(In millions)	2018	2017	2018	2017
Beginning balance at January 1	$ 2,020	$ 2,080	$ 273	$ 70
Purchases of PCI investments, net of sales	65	264	407	216
Accretion	(405)	(400)	(48)	(24)
Net reclassification from (to) non-accretable difference	(3)	76	65	11
Ending balance at December 31	$ 1,677	$ 2,020	$ 697	$ 273

Mortgage Loans, including related party—Mortgage loans, net of allowances, consists of the following:

	December 31,	
(In millions)	2018	2017
Commercial mortgage loans	$ 7,217	$ 5,078
Commercial mortgage loans under development	80	24
Total commercial mortgage loans	7,297	5,102
Residential mortgage loans	3,334	967
Mortgage loans, net of allowances	$ 10,631	$ 6,069

We primarily invest in commercial mortgage loans on income producing properties including office and retail buildings, hotels, industrial properties and apartments. We diversify the commercial mortgage loan portfolio by geographic region and property type to reduce concentration risk. We evaluate mortgage loans based on relevant current information to confirm if properties are performing at a consistent and acceptable level to secure the related debt.

The distribution of commercial mortgage loans, including those under development, net of valuation allowances, by property type and geographic region, is as follows:

	December 31,			
	2018		2017	
(In millions, except for percentages)	Net Carrying Value	Percentage of Total	Net Carrying Value	Percentage of Total
Property type				
Office building	$ 2,221	30.5%	$ 1,187	23.3%
Retail	1,660	22.7%	1,207	23.6%
Hotels	1,040	14.3%	928	18.2%
Industrial	1,196	16.4%	886	17.4%
Apartment	791	10.8%	454	8.9%
Other commercial	389	5.3%	440	8.6%
Total commercial mortgage loans	$ 7,297	100.0%	$ 5,102	100.0%
U.S. Region				
East North Central	$ 855	11.7%	$ 643	12.6%
East South Central	295	4.0%	144	2.8%
Middle Atlantic	1,131	15.5%	909	17.8%
Mountain	616	8.4%	492	9.6%
New England	374	5.1%	162	3.2%
Pacific	1,540	21.1%	991	19.4%
South Atlantic	1,468	20.2%	873	17.2%
West North Central	173	2.4%	233	4.6%
West South Central	845	11.6%	655	12.8%
Total commercial mortgage loans	$ 7,297	100.0%	$ 5,102	100.0%

Our residential mortgage loan portfolio includes first lien residential mortgage loans collateralized by properties located in the U.S. As of December 31, 2018, California, Florida and New York represented 30.3%, 16.3% and 7.7%, respectively, of the portfolio, and the remaining 45.7% represented all other states, with each individual state comprising less than 5% of the portfolio. As of December 31, 2017, California, Florida and New York represented 34.3%, 15.6% and 6.0%, respectively, of the portfolio, and the remaining 44.1% represented all other states, with each individual state comprising less than 5% of the portfolio.

Mortgage Loan Valuation Allowance—The assessment of mortgage loan impairments and valuation allowances is substantially the same for residential and commercial mortgage loans. The valuation allowance was $2 million as of December 31, 2018 and 2017. We did not record any material activity in the valuation allowance during the years ended December 31, 2018, 2017 or 2016.

Residential mortgage loans – The primary credit quality indicator of residential mortgage loans is loan performance. Nonperforming residential mortgage loans are 90 days or more past due and/or are in non-accrual status. As of December 31, 2018 and 2017, $48 million and $28 million, respectively, of our residential mortgage loans were nonperforming.

Commercial mortgage loans – As of December 31, 2018 and 2017, none of our commercial loans were 30 days or more past due.

Loan-to-value and debt service coverage ratios are measures we use to assess the risk and quality of commercial mortgage loans other than those under development. Loans under development are not evaluated using these ratios as the properties underlying these loans are generally not yet income-producing and the value of the underlying property significantly fluctuates based on the progress of construction. Therefore, the risk and quality of loans under development are evaluated based on the aging and geographical distribution of such loans as shown above.

The loan-to-value ratio is expressed as a percentage of the amount of the loan relative to the value of the underlying property. A loan-to-value ratio in excess of 100% indicates the unpaid loan amount exceeds the underlying collateral. The following represents the loan-to-value ratio of the commercial mortgage loan portfolio, excluding those under development, net of valuation allowances:

	December 31,	
(In millions)	2018	2017
Less than 50%	$ 1,883	$ 1,675
50% to 60%	1,988	1,369
61% to 70%	2,394	1,690
71% to 80%	898	282
81% to 100%	54	62
Commercial mortgage loans	$ 7,217	$ 5,078

The debt service coverage ratio, based upon the most recent financial statements, is expressed as a percentage of a property's net operating income to its debt service payments. A debt service ratio of less than 1.0 indicates a property's operations do not generate enough income to cover debt payments. The following represents the debt service coverage ratio of the commercial mortgage loan portfolio, excluding those under development, net of valuation allowances:

	December 31,	
(In millions)	2018	2017
Greater than 1.20x	$ 6,576	$ 4,610
1.00x – 1.20x	474	290
Less than 1.00x	167	178
Commercial mortgage loans	$ 7,217	$ 5,078

Investment Funds—Our investment fund portfolio consists of funds that employ various strategies and include investments in real estate and other real assets, credit, equity, natural resources and hedge funds. Investment funds can meet the definition of VIEs, which are discussed further in *Note 4 – Variable Interest Entities*. Our investment funds do not specify timing of distributions on the funds' underlying assets.

The following summarizes our investment funds, including related party and those owned by consolidated VIEs:

	December 31,			
	2018		2017	
(In millions, except for percentages and years)	Carrying value	Percent of total	Carrying value	Percent of total
Investment funds				
Private equity	$ 253	36.0%	$ 232	35.2%
Real estate and other real assets	231	32.8%	161	24.4%
Natural resources	4	0.6%	4	0.6%
Hedge funds	43	6.1%	61	9.2%
Credit funds	172	24.5%	202	30.6%
Total investment funds	703	100.0%	660	100.0%
Investment funds – related parties				
Public equities	63	3.0%	—	—%
Private equity – A-A Mortgage[1]	463	21.8%	403	33.2%
Private equity – other	449	21.0%	83	6.8%
Real estate and other real assets	651	30.6%	297	24.5%
Natural resources	104	4.9%	74	6.1%
Hedge funds	98	4.6%	93	7.7%
Credit funds	299	14.1%	263	21.7%
Total investment funds – related parties	2,127	100.0%	1,213	100.0%
Investment funds owned by consolidated VIEs				
Private equity – MidCap[2]	552	88.4%	528	92.5%
Credit funds	1	0.2%	21	3.7%
Real estate and other real assets	71	11.4%	22	3.8%
Total investment funds owned by consolidated VIEs	624	100.0%	571	100.0%
Total investment funds including related parties and funds owned by consolidated VIEs	$ 3,454		$ 2,444	

[1] *A-A Mortgage Opportunities, L.P. (A-A Mortgage) is a platform to originate residential mortgage loans and mortgage servicing rights. See further discussion on A-A Mortgage in Note 13 – Related Parties.*

[2] *MidCap FinCo Limited (MidCap) is a commercial finance company investment held by our consolidated VIE. See further discussion on MidCap in Note 13 – Related Parties.*

Summarized Ownership of Investment Funds—The following is the aggregated summarized financial information of equity method investees, including those for which we elected the fair value option and would otherwise be accounted for as an equity method investment, and may be presented on a lag due to the availability of financial information from the investee:

	December 31,	
(In millions)	2018	2017
Assets	$ 27,335	$ 21,939
Liabilities	11,330	7,407
Equity	16,005	14,532

	Years ended December 31,		
(In millions)	2018	2017	2016
Net income	$ 1,094	$ 1,536	$ 1,414

The following table presents the carrying value by ownership percentage of equity method investment funds, including related party investment funds and investment funds owned by consolidated VIEs:

(In millions)	December 31, 2018	December 31, 2017
Ownership Percentage		
100%	$ 17	$ 35
50% – 99%	1,044	520
3% – 49%	1,617	1,165
Equity method investment funds	$ 2,678	$ 1,720

The following table presents the carrying value by ownership percentage of investment funds where we elected the fair value option, including related party investment funds and investment funds owned by consolidated VIEs:

(In millions)	December 31, 2018	December 31, 2017
Ownership Percentage		
3% – 49%	$ 582	$ 590
Less than 3%	194	134
Fair value option investment funds	$ 776	$ 724

Non-Consolidated Securities and Investment Funds

Fixed maturity securities – We invest in securitization entities as a debt holder or an investor in the residual interest of the securitization vehicle. These entities are deemed VIEs due to insufficient equity within the structure and lack of control by the equity investors over the activities that significantly impact the economics of the entity. In general, we are a debt investor within these entities and, as such, hold a variable interest; however, due to the debt holders' lack of ability to control the decisions within the trust that significantly impact the entity, and the fact the debt holders are protected from losses due to the subordination by the equity tranche, the debt holders are not deemed the primary beneficiary. Securitization vehicles in which we hold the residual tranche are not consolidated because we do not unilaterally have substantive rights to remove the general partner, or when assessing related party interests, we are not under common control, as defined by GAAP, with the related party, nor are substantially all of the activities conducted on our behalf; therefore, we are not deemed the primary beneficiary. Debt investments and investments in the residual tranche of securitization entities are considered debt instruments and are held at fair value on the balance sheet and classified as AFS or trading.

Investment funds – Investment funds include non-fixed income, alternative investments in the form of limited partnerships or similar legal structures.

Equity securities – We invest in preferred equity securities issued by entities deemed to be VIEs due to insufficient equity within the structure.

Our risk of loss associated with our non-consolidated investments depends on the investment. Investment funds, equity securities and trading securities are limited to the carrying value plus unfunded commitments. AFS securities are limited to amortized cost plus unfunded commitments.

The following summarizes the carrying value and maximum loss exposure of these non-consolidated investments:

	December 31,			
	2018		2017	
(In millions)	Carrying Value	Maximum Loss Exposure	Carrying Value	Maximum Loss Exposure
Investment funds	$ 703	$ 1,329	$ 660	$ 1,070
Investment in related parties – investment funds	2,127	3,919	1,213	2,688
Assets of consolidated VIEs – investment funds	624	727	571	594
Investment in fixed maturity securities	21,188	21,139	21,018	20,274
Investment in related parties – fixed maturity securities	1,686	1,788	717	796
Investment in related parties – equity securities	120	120	—	—
Total non-consolidated investments	$ 26,448	$ 29,022	$ 24,179	$ 25,422

Funds Withheld at Interest—Funds withheld at interest represents a receivable for amounts contractually withheld by ceding companies in accordance with modco and funds withheld reinsurance agreements in which we act as the reinsurer. Generally, assets equal to statutory reserves are withheld and legally owned by the ceding company.

The funds withheld at interest is comprised of the host contract and an embedded derivative. We are subject to the investment performance on the withheld assets with the total return directly impacting the host contract and the embedded derivative. Interest accrues at a risk free rate on the host receivable and is recorded as net investment income in the consolidated statements of income. The change in the embedded derivative in our reinsurance agreements, which is similar to a total return swap on the income generated by the underlying assets held by the ceding companies, is recorded in investment related gains (losses). Although we do not directly control the underlying investments in the funds withheld at interest, in each instance the ceding company has hired Athene Asset Management, L.P. (AAM) to manage the withheld assets in accordance with our investment guidelines.

The following summarizes the underlying investment composition of the funds withheld at interest, including related party:

	December 31, 2018		December 31, 2017	
(In millions, except percentages)	Carrying Value	Percent of Total	Carrying Value	Percent of Total
Fixed maturity securities				
U.S. government and agencies	$ 77	0.3 %	$ —	—%
U.S. state, municipal and political subdivisions	563	2.0 %	117	1.6%
Foreign governments	145	0.5 %	—	—%
Corporate	16,267	56.9 %	2,095	29.6%
CLO	1,990	7.0 %	669	9.4%
ABS	1,601	5.6 %	886	12.5%
CMBS	575	2.0 %	290	4.1%
RMBS	1,876	6.6 %	1,551	21.9%
Equity securities	66	0.2 %	28	0.4%
Mortgage loans	3,815	13.3 %	792	11.2%
Investment funds	660	2.3 %	376	5.3%
Derivative assets	77	0.3 %	78	1.1%
Short-term investments	641	2.2 %	16	0.2%
Cash and cash equivalents	455	1.6 %	132	1.9%
Other assets and liabilities	(208)	(0.8)%	55	0.8%
Total funds withheld at interest including related party	$ 28,600	100.0 %	$ 7,085	100.0%

3. Derivative Instruments

We use a variety of derivative instruments to manage risks, primarily equity, interest rate, credit, foreign currency and market volatility. See *Note 1 – Business, Basis of Presentation and Significant Accounting Policies* for a description of our accounting policies for derivatives and *Note 5 – Fair Value* for information about the fair value hierarchy for derivatives.

The following table presents the notional amount and fair value of derivative instruments:

	December 31,					
	2018			2017		
		Fair Value			Fair Value	
(In millions)	Notional Amount	Assets	Liabilities	Notional Amount	Assets	Liabilities
Derivatives designated as hedges						
Foreign currency swaps	2,041	$ 83	$ 55	928	$ 1	$ 99
Interest rate swaps	—	—	—	302	—	—
Foreign currency forwards	85	—	1	—	—	—
Total derivatives designated as hedges		83	56		1	99
Derivatives not designated as hedges						
Equity options	49,821	942	11	31,460	2,500	19
Futures	4	9	3	4	7	—
Total return swaps	62	—	3	114	5	—
Foreign currency swaps	38	3	2	41	2	3
Interest rate swaps	326	—	1	385	—	2
Credit default swaps	10	—	4	10	—	5
Foreign currency forwards	646	6	5	520	2	2
Embedded derivatives						
Funds withheld including related party		(53)	(1)		312	22
Interest sensitive contract liabilities		—	7,969		—	7,411
Total derivatives not designated as hedges		907	7,997		2,828	7,464
Total derivatives		$ 990	$ 8,053		$ 2,829	$ 7,563

Derivatives Designated as Hedges

Foreign currency swaps – We use foreign currency swaps to convert foreign currency denominated cash flows of an investment to U.S. dollars to reduce cash flow fluctuations due to changes in currency exchange rates. Certain of these swaps are designated and accounted for as cash flow hedges, which will expire by December 2045. During the years ended December 31, 2018, 2017 and 2016, we had foreign currency swap gains of $146 million and losses of $105 million and $5 million, respectively, recorded in AOCI. There were no amounts reclassified to income and no amounts deemed ineffective for the years ended December 31, 2018, 2017 or 2016. As of December 31, 2018, no amounts are expected to be reclassified to income within the next 12 months.

Foreign currency forwards – We use foreign currency forward contracts to hedge certain exposures to foreign currency risk. The price is agreed upon at the time of the contract and payment is made at a specified future date. Certain of these forwards entered into during 2018 are designated and accounted for as fair value hedges. As of December 31, 2018, the carrying amount of the hedged AFS securities – CLOs was $88 million, and the cumulative amount of fair value hedging adjustments included in the hedged AFS securities – CLOs included gains of $1 million. The gains and losses on derivatives and the related hedged items in fair value hedge relationships are recorded in investment related gains (losses) on the consolidated statements of income. The derivatives had losses of $1 million during the year ended December 31, 2018, and the related hedged items had gains of $1 million during the year ended December 31, 2018.

Derivatives Not Designated as Hedges

Equity options – We use equity indexed options to economically hedge fixed indexed 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, primarily the S&P 500. To hedge against adverse changes in equity indices, we enter into contracts to buy equity indexed options. The contracts are net settled in cash based on differentials in the indices at the time of exercise and the strike price.

Futures – Futures contracts are purchased to hedge the growth in interest credited to the customer as a direct result of increases in the related indices. We enter into exchange-traded futures with regulated futures commission clearing brokers who are members of a trading exchange. Under exchange-traded futures contracts, we agree to purchase a specified number of contracts with other parties and to post variation margin on a daily basis in an amount equal to the difference in the daily fair values of those contracts.

Total return swaps – We purchase total rate of return swaps to gain exposure and benefit from a reference asset or index without ownership. Total rate of return swaps are contracts in which one party makes payments based on a set rate, either fixed or variable, while the other party makes payments based on the return of the underlying asset or index, which includes both the income it generates and any capital gains.

Interest rate swaps – We use interest rate swaps to reduce market risks from interest rate changes and to alter interest rate exposure arising from duration mismatches between assets and liabilities. With an interest rate swap, we agree with another party to exchange the difference between fixed-rate and floating-rate interest amounts tied to an agreed-upon notional principal amount at specified intervals. Certain of these swaps entered into during the fourth quarter of 2016 were designated as fair value hedges. These fair value hedges were dedesignated during the second quarter of 2018 and there was no material impact as a result.

Credit default swaps – Credit default swaps provide a measure of protection against the default of an issuer or allow us to gain credit exposure to an issuer or traded index. We use credit default swaps coupled with a bond to synthetically create the characteristics of a reference bond. These transactions have a lower cost and are generally more liquid relative to the cash market. We receive a periodic premium for these transactions as compensation for accepting credit risk.

Hedging credit risk involves buying protection for existing credit risk. The exposure resulting from the agreements, which is usually the notional amount, is equal to the maximum proceeds that must be paid by a counterparty for a defaulted security. If a credit event occurs on a reference entity, then a counterparty who sold protection is required to pay the buyer the trade notional amount less any recovery value of the security.

Embedded derivatives – We have embedded derivatives which are required to be separated from their host contracts and reported as derivatives. Host contracts include reinsurance agreements structured on modco or funds withheld basis and indexed annuity products.

The following is a summary of the gains (losses) related to derivatives not designated as hedges:

	Years ended December 31,		
(In millions)	2018	2017	2016
Equity options	$ (877)	$ 1,939	$ 325
Futures	2	(24)	(19)
Swaps	(8)	27	18
Foreign currency forwards	16	(11)	22
Embedded derivatives on funds withheld	(232)	407	274
Amounts recognized in investment related gains (losses)	(1,099)	2,338	620
Embedded derivatives in indexed annuity products[1]	923	(1,744)	(308)
Total gains (losses) on derivatives not designated as hedges	$ (176)	$ 594	$ 312

[1] *Included in interest sensitive contract benefits.*

Credit Risk—We may be exposed to credit-related losses in the event of counterparty nonperformance on derivative financial instruments. Generally, the current credit exposure of our derivative contracts is the fair value at the reporting date less any collateral received from the counterparty.

We manage credit risk related to over-the-counter derivatives by entering into transactions with creditworthy counterparties. Where possible, we maintain collateral arrangements and use master netting agreements that provide for a single net payment from one counterparty to another at each due date and upon termination. We have also established counterparty exposure limits, where possible, in order to evaluate if there is sufficient collateral to support the net exposure.

Collateral arrangements typically require the posting of collateral in connection with its derivative instruments. Collateral agreements often contain posting thresholds, some of which may vary depending on the posting party's financial strength ratings. Additionally, a decrease in our financial strength rating to a specified level can result in settlement of the derivative position.

The estimated fair value of our net derivative and other financial assets and liabilities after the application of master netting agreements and collateral were as follows:

		Gross amounts not offset on the consolidated balance sheets				
(In millions)	Gross amount recognized[1]	Financial instruments[2]	Collateral received/pledged	Net amount	Off-balance sheet securities collateral[3]	Net amount after securities collateral
December 31, 2018						
Derivative assets	$ 1,043	$ (52)	$ (969)	$ 22	$ (4)	$ 18
Derivative liabilities	(85)	52	24	(9)	—	(9)
December 31, 2017						
Derivative assets	$ 2,517	$ (59)	$ (2,323)	$ 135	$ (221)	$ (86)
Derivative liabilities	(130)	59	63	(8)	—	(8)

[1] *The gross amounts of recognized derivative assets and derivative liabilities are reported on the consolidated balance sheets. As of December 31, 2018 and 2017, amounts not subject to master netting or similar agreements were immaterial.*

[2] *Represents amounts offsetting derivative assets and derivative liabilities that are subject to an enforceable master netting agreement or similar agreement that are not netted against the gross derivative assets or gross derivative liabilities for presentation on the consolidated balance sheets.*

[3] *For non-cash collateral received, we do not recognize the collateral on our balance sheet unless the obligor (transferor) has defaulted under the terms of the secured contract and is no longer entitled to redeem the pledged asset. Amounts do not include any excess of collateral pledged or received.*

Certain derivative instruments contain provisions for credit-related events, such as downgrades in our credit ratings or for a negative credit event of a credit default swap's reference entity. If a credit event were to occur, we may be required to settle an outstanding liability. The following is a summary of our exposure to credit-related events:

	December 31,	
(In millions)	2018	2017
Fair value of derivative liabilities with credit related provisions	$ 4	$ 5
Maximum exposure for credit default swaps	10	10

As of December 31, 2018 and 2017, no additional collateral would be required if a default or termination event were to occur.

4. Variable Interest Entities

We consolidate the following investment funds as VIEs:

- AAA Investments (Co-Invest VI), L.P. (CoInvest VI);
- AAA Investments (Co-Invest VII), L.P. (CoInvest VII);
- AAA Investments (Other), L.P. (CoInvest Other);
- ALR Aircraft Investment Ireland Limited (ALR); and
- Entities included under our agreement to purchase funds managed by Apollo entities (Strategic Partnership). See *Note 13 – Related Parties* for further discussion on the Strategic Partnership.

We are the only limited partner or holder of profit participating notes in these investment funds and receive all of the economic benefits and losses, other than management fees and carried interest, as applicable, paid to the general partner in each entity, or a related entity, which are related parties. We do not have any voting rights as limited partner and, as the limited partner or holder of profit participating notes, do not solely satisfy the power criteria to direct the activities that significantly impact the economics of the VIE. However, the criteria for the primary beneficiary are satisfied by our related party group and, because substantially all of the activities are conducted on our behalf, we consolidate the investment funds.

No arrangement exists requiring us to provide additional funding in excess of our committed capital investment, liquidity, or the funding of losses or an increase to our loss exposure in excess of our investment in the VIEs. We elected the fair value option for certain fixed maturity and equity securities, and investment funds, which are reported in the consolidated variable interest entity sections on the consolidated balance sheets.

CoInvest VI, CoInvest VII and CoInvest Other were formed to make investments, including co-investments alongside private equity funds sponsored by Apollo. Investments held by CoInvest VI, CoInvest VII and CoInvest Other are related party investments because Apollo affiliates exercise significant influence over the management or operations of the investees. We received our interests in CoInvest VI, CoInvest VII and CoInvest Other as part of a contribution agreement in 2012 with AAA Guarantor – Athene, L.P. and its subsidiary, Apollo Life Re Ltd., in order to provide a capital base to support future acquisitions.

During the first quarter of 2018, we invested in profit participating notes of ALR. ALR was formed to invest in a joint venture that provides airplane lease financing to a major commercial airline. We are the only investor in the profit participating notes and, as substantially all of the activities of ALR are conducted on our behalf, we are the primary beneficiary and consolidate ALR.

During the fourth quarter of 2018, we dissolved NCL Athene LLC (NCL LLC) as we sold the investments held by NCL LLC. Previously a consolidated VIE, NCL LLC was formed to hold the investment in Norwegian Cruise Line Holdings Ltd. (NCLH) shares, which were originally held by CoInvest VI. NCL LLC was subject to the same management fees, selling restrictions with respect to shares of NCLH, and carried interest calculation as CoInvest VI. NCL LLC classified its NCLH shares as related party equity securities.

5. Fair Value

Fair value is the price we would receive to sell an asset or pay to transfer a liability (exit price) in an orderly transaction between market participants. We determine fair value based on the following fair value hierarchy:

Level 1 – Unadjusted quoted prices for identical assets or liabilities in an active market.

Level 2 – Quoted prices for inactive markets or valuation techniques that require observable direct or indirect inputs for substantially the full term of the asset or liability. Level 2 inputs include the following:

- Quoted prices for similar assets or liabilities in active markets,
- Observable inputs other than quoted market prices, and
- Observable inputs derived principally from market data through correlation or other means.

Level 3 – Prices or valuation techniques with unobservable inputs significant to the overall fair value estimate. These valuations use critical assumptions not readily available to market participants. Level 3 valuations are based on market standard valuation methodologies, including discounted cash flows, matrix pricing or other similar techniques.

NAV – Investment funds are typically measured using NAV as a practical expedient in determining fair value and are not classified in the fair value hierarchy. The underlying investments of the investment funds may have significant unobservable inputs, which may include but are not limited to, comparable multiples and weighted average cost of capital rates applied in valuation models or a discounted cash flow model.

The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). If the inputs used to measure fair value fall within different levels of the hierarchy, the category level is based on the lowest priority level input that is significant to the instrument's fair value measurement.

We use a number of valuation sources to determine fair values. Valuation sources can include quoted market prices; third-party commercial pricing services; third-party brokers; industry-standard, vendor modeling software that uses market observable inputs; and other internal modeling techniques based on projected cash flows. We periodically review the assumptions and inputs of third-party commercial pricing services through internal valuation price variance reviews, comparisons to internal pricing models, back testing to recent trades, or monitoring trading volumes.

The following represents the hierarchy for our assets and liabilities measured at fair value on a recurring basis:

	December 31, 2018				
(In millions)	Total	NAV	Level 1	Level 2	Level 3
Assets					
AFS securities					
U.S. government and agencies	$ 57	$ —	$ 54	$ 3	$ —
U.S. state, municipal and political subdivisions	1,293	—	—	1,293	—
Foreign governments	161	—	—	161	—
Corporate	37,052	—	—	36,154	898
CLO	5,361	—	—	5,254	107
ABS	4,920	—	—	3,305	1,615
CMBS	2,357	—	—	2,170	187
RMBS	8,019	—	—	7,963	56
Total AFS securities	59,220	—	54	56,303	2,863
Trading securities					
U.S. government and agencies	5	—	3	2	—
U.S. state, municipal and political subdivisions	126	—	—	126	—
Corporate	1,287	—	—	1,287	—
CLO	9	—	—	8	1
ABS	87	—	—	87	—
CMBS	49	—	—	49	—
RMBS	386	—	—	252	134
Total trading securities	1,949	—	3	1,811	135
Equity securities	216	—	40	173	3
Mortgage loans	32	—	—	—	32
Investment funds	182	153	—	—	29
Funds withheld at interest – embedded derivative	57	—	—	—	57
Derivative assets	1,043	—	9	1,034	—
Short-term investments	191	—	66	125	—
Other investments	52	—	—	52	—
Cash and cash equivalents	2,797	—	2,797	—	—
Restricted cash	492	—	492	—	—
Investments in related parties					
AFS securities					
CLO	562	—	—	562	—
ABS	875	—	—	547	328
Total AFS securities – related party	1,437	—	—	1,109	328
Trading securities					
CLO	100	—	—	22	78
ABS	149	—	—	—	149
Total trading securities – related party	249	—	—	22	227
Equity securities	120	—	—	—	120
Investment funds	96	96	—	—	—
Funds withheld at interest – embedded derivative	(110)	—	—	—	(110)
Reinsurance recoverable	1,676	—	—	—	1,676
Assets of consolidated VIEs					
Trading securities	35	—	—	—	35
Equity securities	50	—	37	—	13
Investment funds	567	552	—	—	15
Cash and cash equivalents	2	—	2	—	—
Total assets measured at fair value	$ 70,353	$ 801	$ 3,500	$ 60,629	$ 5,423

(Continued)

	December 31, 2018				
(In millions)	Total	NAV	Level 1	Level 2	Level 3
Liabilities					
Interest sensitive contract liabilities					
Embedded derivative	$ 7,969	$ —	$ —	$ —	$ 7,969
Universal life benefits	932	—	—	—	932
Future policy benefits					
AmerUs Closed Block	1,443	—	—	—	1,443
ILICO Closed Block and life benefits	730	—	—	—	730
Derivative liabilities	85	—	3	78	4
Funds withheld liability – embedded derivative	(1)	—	—	(1)	—
Total liabilities measured at fair value	$ 11,158	$ —	$ 3	$ 77	$ 11,078

(Concluded)

	December 31, 2017				
(In millions)	Total	NAV	Level 1	Level 2	Level 3
Assets					
AFS securities					
U.S. government and agencies	$ 29	$ —	$ 26	$ 3	$ —
U.S. state, municipal and political subdivisions	1,165	—	—	1,165	—
Foreign governments	167	—	—	167	—
Corporate	35,047	—	—	34,469	578
CLO	5,084	—	—	5,020	64
ABS	3,967	—	—	2,510	1,457
CMBS	2,021	—	—	1,884	137
RMBS	9,366	—	—	9,065	301
Total AFS securities	56,846	—	26	54,283	2,537
Trading securities					
U.S. government and agencies	3	—	3	—	—
U.S. state, municipal and political subdivisions	138	—	—	121	17
Corporate	1,462	—	—	1,462	—
CLO	27	—	—	10	17
ABS	94	—	—	17	77
CMBS	51	—	—	51	—
RMBS	408	—	—	66	342
Total trading securities	2,183	—	3	1,727	453
Equity securities	189	—	2	187	—

(Continued)

	December 31, 2017				
(In millions)	Total	NAV	Level 1	Level 2	Level 3
Mortgage loans	41	—	—	—	41
Investment funds	145	104	—	—	41
Funds withheld at interest – embedded derivative	312	—	—	—	312
Derivative assets	2,517	—	7	2,510	—
Short-term investments	201	—	40	161	—
Cash and cash equivalents	4,450	—	4,450	—	—
Restricted cash	105	—	105	—	—
Investments in related parties					
AFS securities					
CLO	360	—	—	360	—
ABS	50	—	—	46	4
Total AFS securities – related party	410	—	—	406	4
Trading securities					
CLO	132	—	—	27	105
ABS	175	—	—	175	—
Total trading securities – related party	307	—	—	202	105
Investment funds	30	30	—	—	—
Short-term investments	52	—	—	52	—
Reinsurance recoverable	1,824	—	—	—	1,824
Assets of consolidated VIEs					
Trading securities	48	—	—	—	48
Equity securities	240	—	212	—	28
Investment funds	549	528	—	—	21
Cash and cash equivalents	4	—	4	—	—
Total assets measured at fair value	$ 70,453	$ 662	$ 4,849	$ 59,528	$ 5,414
Liabilities					
Interest sensitive contract liabilities					
Embedded derivative	$ 7,411	$ —	$ —	$ —	$ 7,411
Universal life benefits	1,005	—	—	—	1,005
Future policy benefits					
AmerUs Closed Block	1,625	—	—	—	1,625
ILICO Closed Block and life benefits	803	—	—	—	803
Derivative liabilities	130	—	—	125	5
Funds withheld liability – embedded derivative	22	—	—	22	—
Total liabilities measured at fair value	$ 10,996	$ —	$ —	$ 147	$ 10,849

(Concluded)

Fair Value Valuation Methods—We used the following valuation methods and assumptions to estimate fair value:

AFS and trading securities – We obtain the fair value for most marketable securities without an active market from several commercial pricing services. These are classified as Level 2 assets. The pricing services incorporate a variety of market observable information in their valuation techniques, including benchmark yields, trading activity, credit quality, issuer spreads, bids, offers and other reference data. This category typically includes U.S. and non-U.S. corporate bonds, U.S. agency and government guaranteed securities, CLO, ABS, CMBS and RMBS.

We also have fixed maturity securities priced based on indicative broker quotes or by employing market accepted valuation models. For certain fixed maturity securities, the valuation model uses significant unobservable inputs and are included in Level 3 in our fair value hierarchy. Significant unobservable inputs used include: issue specific credit adjustments, material non-public financial information, estimation of future earnings and cash flows, default rate assumptions, liquidity assumptions and indicative quotes from market makers. These inputs are usually considered unobservable, as not all market participants have access to this data.

We value privately placed fixed maturity securities based on the credit quality and duration of comparable marketable securities, which may be securities of another issuer with similar characteristics. In some instances, we use a matrix-based pricing model. These models consider the current level of risk-free interest rates, corporate spreads, credit quality of the issuer and cash flow characteristics of the security. We also consider additional factors such as net worth of the borrower, value of collateral, capital structure of the borrower, presence of guarantees and our evaluation of the borrower's ability to compete in its relevant market. Privately placed fixed maturity securities are classified as Level 2 or 3.

Equity securities – Fair values of publicly traded equity securities are based on quoted market prices and classified as Level 1. Other equity securities, typically private equities or equity securities not traded on an exchange, we value based on other sources, such as commercial pricing services or brokers and are classified as Level 2 or 3.

Mortgage loans – Mortgage loans for which we have elected the fair value option or those held for sale are carried at fair value. We estimate fair value on a monthly basis using discounted cash flow analysis and rates being offered for similar loans to borrowers with similar credit ratings. Loans with similar characteristics are aggregated for purposes of the calculations. The discounted cash flow model uses unobservable inputs, including estimates of discount rates and loan prepayments. Mortgage loans are classified as Level 3.

Investment funds – Certain investment funds for which we elected the fair value option are included in Level 3 and are priced based on market accepted valuation models. The valuation models use significant unobservable inputs, which include material non-public financial information, estimation of future distributable earnings and demographic assumptions. These inputs are usually considered unobservable, as not all market participants have access to this data.

Funds withheld (embedded derivative) – We estimate the fair value of the embedded derivative based on the change in the fair value of the assets supporting the funds withheld payable under the combined coinsurance, modco and coinsurance funds withheld reinsurance agreements. As a result, the fair value of the embedded derivative is classified as Level 2 or 3 based on the valuation methods used for the assets held in trust supporting the reinsurance agreements.

Derivatives – Derivative contracts can be exchange traded or over-the-counter. Exchange-traded derivatives typically fall within Level 1 of the fair value hierarchy depending on trading activity. Over-the-counter derivatives are valued using valuation models or an income approach using third-party broker valuations. Valuation models require a variety of inputs, including contractual terms, market prices, yield curves, credit curves, measures of volatility, prepayment rates and correlation of the inputs. We consider and incorporate counterparty credit risk in the valuation process through counterparty credit rating requirements and monitoring of overall exposure. We also evaluate and include our own nonperformance risk in valuing derivatives. The majority of our derivatives trade in liquid markets; therefore, we can verify model inputs and model selection does not involve significant management judgment. These are typically classified within Level 2 of the fair value hierarchy.

Cash and cash equivalents, including restricted cash – The carrying amount for cash equals fair value. We estimate the fair value for cash equivalents based on quoted market prices. These assets are classified as Level 1.

Interest sensitive contract liabilities (embedded derivative) – Embedded derivatives related to interest sensitive contract liabilities with fixed indexed annuity products are classified as Level 3. The valuations include significant unobservable inputs associated with economic assumptions and actuarial assumptions for policyholder behavior.

AmerUs Closed Block – We elected the fair value option for the future policy benefits liability in the AmerUs Closed Block. Our valuation technique is to set the fair value of policyholder liabilities equal to the fair value of assets. There is an additional component which captures the fair value of the open block's obligations to the closed block business. This component is the present value of the projected release of required capital and future earnings before income taxes on required capital supporting the AmerUs Closed Block, discounted at a rate which represents a market participant's required rate of return, less the initial required capital. Unobservable inputs include estimates for these items. The AmerUs Closed Block policyholder liabilities and any corresponding reinsurance recoverable are classified as Level 3.

ILICO Closed Block – We elected the fair value option for the ILICO Closed Block. Our valuation technique is to set the fair value of policyholder liabilities equal to the fair value of assets. There is an additional component which captures the fair value of the open block's obligations to the closed block business. This component uses the present value of future cash flows which include commissions, administrative expenses, reinsurance premiums and benefits, and an explicit cost of capital. The discount rate includes a margin to reflect the business and nonperformance risk. Unobservable inputs include estimates for these items. The ILICO Closed Block policyholder liabilities and corresponding reinsurance recoverable are classified as Level 3.

Universal life liabilities and other life benefits – We elected the fair value option for certain blocks of universal and other life business ceded to Global Atlantic. We use a present value of liability cash flows. Unobservable inputs include estimates of mortality, persistency, expenses, premium payments and a risk margin used in the discount rates that reflects the riskiness of the business. These universal life policyholder liabilities and corresponding reinsurance recoverable are classified as Level 3.

Fair Value Option—The following represents the gains (losses) recorded for instruments for which we have elected the fair value option, including related parties and consolidated VIEs:

	Years ended December 31,		
(In millions)	2018	2017	2016
Trading securities	$ (255)	$ 30	$ (51)
Mortgage loans	—	(1)	—
Investment funds	37	35	54
Future policy benefits	182	(19)	(25)
Total gains (losses)	$ (36)	$ 45	$ (22)

Gains and losses on trading securities are recorded in investment related gains (losses) on the consolidated statements of income. For fair value option mortgage loans, we record interest income in net investment income and subsequent changes in fair value in investment related gains (losses) on the consolidated statements of income. Gains and losses related to investment funds, including related party investment funds, are recorded in net investment income on the consolidated statements of income. We record the change in fair value of future policy benefits to future policy and other policy benefits on the consolidated statements of income.

The following summarizes information for fair value option mortgage loans:

	December 31,	
(In millions)	2018	2017
Unpaid principal balance	$ 30	$ 40
Mark to fair value	2	1
Fair value	$ 32	$ 41

There were no fair value option mortgage loans 90 days or more past due as of December 31, 2018 and 2017.

Level 3 Financial Instruments—The following is a reconciliation for all Level 3 assets and liabilities measured at fair value on a recurring basis:

	Year ended December 31, 2018							
		Total realized and unrealized gains (losses)			Transfers			
(In millions)	Beginning Balance	Included in income	Included in OCI	Net purchases, issuances, sales and settlements	In	(Out)	Ending Balance	Total gains (losses) included in earnings[1]
Assets								
AFS securities								
Corporate	$ 578	$ (16)	$ (6)	$ 249	$ 97	$ (4)	$ 898	$ —
CLO	64	2	(2)	36	7	—	107	—
ABS	1,457	8	(11)	252	—	(91)	1,615	—
CMBS	137	1	—	132	15	(98)	187	—
RMBS	301	4	(11)	21	—	(259)	56	—
Trading securities								
U.S. state, municipal and political subdivisions	17	1	—	—	—	(18)	—	1
CLO	17	(9)	—	—	—	(7)	1	(6)
ABS	77	(6)	—	—	—	(71)	—	(2)
RMBS	342	(65)	—	—	—	(143)	134	5
Equity securities	—	2	—	1	—	—	3	2
Mortgage loans	41	—	—	(9)	—	—	32	—
Investment funds	41	(3)	—	(9)	—	—	29	(3)
Funds withheld at interest – embedded derivative	312	(255)	—	—	—	—	57	—
Investments in related parties								
AFS securities, ABS	4	—	(2)	326	—	—	328	—
Trading securities								
CLO	105	(13)	—	(18)	25	(21)	78	(5)
ABS	—	—	—	—	149	—	149	—
Equity securities	—	—	—	120	—	—	120	—
Funds withheld at interest – embedded derivative	—	(110)	—	—	—	—	(110)	—
Reinsurance recoverable	1,824	(148)	—	—	—	—	1,676	—
Investments of consolidated VIEs								
Trading securities	48	—	—	(13)	—	—	35	—
Equity securities	28	(12)	—	(3)	—	—	13	—
Investment funds	21	(3)	—	(3)	—	—	15	—
Total Level 3 assets	$ 5,414	$ (622)	$ (32)	$ 1,082	$ 293	$ (712)	$ 5,423	$ (8)
Liabilities								
Interest sensitive contract liabilities								
Embedded derivative	$ (7,411)	$ 923	$ —	$ (1,481)	$ —	$ —	$ (7,969)	$ —
Universal life benefits	(1,005)	73	—	—	—	—	(932)	—
Future policy benefits								
AmerUs Closed Block	(1,625)	182	—	—	—	—	(1,443)	—
ILICO Closed Block and life benefits	(803)	73	—	—	—	—	(730)	—
Derivative liabilities	(5)	1	—	—	—	—	(4)	1
Total Level 3 liabilities	$ (10,849)	$ 1,252	$ —	$ (1,481)	$ —	$ —	$ (11,078)	$ 1

[1] *Related to instruments held at end of period.*

	Year ended December 31, 2017							
		Total realized and unrealized gains (losses)			Transfers			
(In millions)	Beginning balance	Included in income	Included in OCI	Net purchases, issuances, sales and settlements	In	Out	Ending balance	Total gains (losses) included in earnings[1]
Assets								
AFS securities								
U.S. state, municipal and political subdivisions	$ 5	$ 16	$ (1)	$ (20)	$ —	$ —	$ —	$ —
Foreign governments	14	—	—	—	—	(14)	—	—
Corporate	370	13	15	177	29	(26)	578	—
CLO	158	1	10	(31)	28	(102)	64	—
ABS	1,156	26	29	163	93	(10)	1,457	—
CMBS	152	1	(4)	28	51	(91)	137	—
RMBS	17	1	1	2	289	(9)	301	—
Trading securities								
U.S. state, municipal and political subdivisions	17	—	—	—	—	—	17	—
CLO	43	(4)	—	(12)	—	(10)	17	1
ABS	—	—	—	—	77	—	77	—
RMBS	96	(19)	—	70	195	—	342	7
Mortgage loans	44	(1)	—	(2)	—	—	41	(1)
Investment funds	—	—	—	—	41	—	41	—
Funds withheld at interest – embedded derivative	140	172	—	—	—	—	312	—
Investments in related parties								
AFS securities, ABS	60	—	1	(10)	—	(47)	4	—
Trading securities, CLO	195	(8)	—	(55)	—	(27)	105	(5)
Reinsurance recoverable	1,692	132	—	—	—	—	1,824	—
Investments of consolidated VIEs								
Trading securities	50	1	—	(3)	—	—	48	1
Equity securities	43	(16)	—	1	—	—	28	(16)
Investment funds	38	1	—	(18)	—	—	21	1
Total Level 3 assets	$ 4,290	$ 316	$ 51	$ 290	$ 803	$ (336)	$ 5,414	$ (12)
Liabilities								
Interest sensitive contract liabilities								
Embedded derivative	$ (5,272)	$ (1,744)	$ —	$ (395)	$ —	$ —	$ (7,411)	$ —
Universal life benefits	(883)	(122)	—	—	—	—	(1,005)	—
Future policy benefits								
AmerUs Closed Block	(1,606)	(19)	—	—	—	—	(1,625)	—
ILICO Closed Block and life benefits	(794)	(9)	—	—	—	—	(803)	—
Derivative liabilities	(7)	2	—	—	—	—	(5)	2
Total Level 3 liabilities	$ (8,562)	$ (1,892)	$ —	$ (395)	$ —	$ —	$ (10,849)	$ 2

[1] *Related to instruments held at end of period.*

The following represents the gross components of purchases, issuances, sales and settlements, net, shown above:

	Year ended December 31, 2018				
(In millions)	Purchases	Issuances	Sales	Settlements	Net purchases, issuances, sales and settlements
Assets					
AFS securities					
Corporate	$ 351	$ —	$ (29)	$ (73)	$ 249
CLO	67	—	—	(31)	36
ABS	599	—	(35)	(312)	252
CMBS	151	—	(3)	(16)	132
RMBS	56	—	—	(35)	21
Trading securities					
CLO	7	—	(7)	—	—
Equity securities	1	—	—	—	1
Mortgage loans	—	—	—	(9)	(9)
Investment funds	—	—	—	(9)	(9)
Investments in related parties					
AFS securities, ABS	326	—	—	—	326
Trading securities, CLO	30	—	(48)	—	(18)
Equity securities	120	—	—	—	120
Investments of consolidated VIEs					
Trading securities	—	—	(13)	—	(13)
Equity securities	1	—	(4)	—	(3)
Investment funds	14	—	(17)	—	(3)
Total Level 3 assets	$ 1,723	$ —	$ (156)	$ (485)	$ 1,082
Liabilities					
Interest sensitive contract liabilities – embedded derivative	$ —	$ (1,888)	$ —	$ 407	$ (1,481)
Total Level 3 liabilities	$ —	$ (1,888)	$ —	$ 407	$ (1,481)

	Year ended December 31, 2017				
(In millions)	Purchases	Issuances	Sales	Settlements	Net purchases, issuances, sales and settlements
Assets					
AFS securities					
U.S. state, municipal and political subdivisions	$ —	$ —	$ —	$ (20)	$ (20)
Corporate	228	—	(36)	(15)	177
CLO	15	—	(2)	(44)	(31)
ABS	577	—	—	(414)	163
CMBS	29	—	—	(1)	28
RMBS	4	—	—	(2)	2
Trading securities					
CLO	4	—	(16)	—	(12)
RMBS	70	—	—	—	70
Mortgage loans	—	—	—	(2)	(2)
Investments in related parties					
AFS securities, ABS	5	—	—	(15)	(10)
Trading securities, CLO	—	—	(55)	—	(55)
Investments of consolidated VIEs					
Trading securities	—	—	(3)	—	(3)
Equity securities	1	—	—	—	1
Investment funds	1	—	(19)	—	(18)
Total Level 3 assets	$ 934	$ —	$ (131)	$ (513)	$ 290
Liabilities					
Interest sensitive contract liabilities – embedded derivative	$ —	$ (600)	$ —	$ 205	$ (395)
Total Level 3 liabilities	$ —	$ (600)	$ —	$ 205	$ (395)

Significant Unobservable Inputs—Significant unobservable inputs occur when we could not obtain or corroborate the quantitative detail of the inputs. This applies to fixed maturity securities, equity securities, mortgage loans and certain derivatives, as well as embedded derivatives in liabilities. Additional significant unobservable inputs are described below.

AFS and trading securities – For certain fixed maturity securities, internal models are used to calculate the fair value. We use a discounted cash flow approach. The discount rate is the significant unobservable input due to the determined credit spread being internally developed, illiquid, or as a result of other adjustments made to the base rate. The base rate represents a market comparable rate for securities with similar characteristics. As of December 31, 2018, discounts ranged from 5% to 9%, and as of December 31, 2017, discounts ranged from 2% to 6%. This excludes assets for which significant unobservable inputs are not developed internally, primarily consisting of broker quotes.

Interest sensitive contract liabilities – embedded derivative – Significant unobservable inputs we use in the fixed indexed annuities embedded derivative of the interest sensitive contract liabilities valuation include:

1. Nonperformance risk – For contracts we issue, we use the credit spread, relative to the U.S. treasury curve based on our public credit rating as of the valuation date. This represents our credit risk for use in the estimate of the fair value of embedded derivatives.
2. Option budget – We assume future hedge costs in the derivative's fair value estimate. The level of option budgets determines the future costs of the options and impacts future policyholder account value growth.
3. Policyholder behavior – We regularly review the lapse and withdrawal assumptions (surrender rate). These are based on our initial pricing assumptions updated for actual experience. Actual experience may be limited for recently issued products.

The following summarizes the unobservable inputs for the embedded derivatives of fixed indexed annuities:

	December 31, 2018				
(In millions, except for percentages)	Fair value	Valuation technique	Unobservable inputs	Input/range of inputs	Impact of an increase in the input on fair value
Interest sensitive contract liabilities – fixed indexed annuities embedded derivatives	$ 7,969	Option budget method	Nonperformance risk	0.3% – 1.5%	Decrease
			Option budget	0.7% – 3.7%	Increase
			Surrender rate	3.6% – 7.3%	Decrease

	December 31, 2017				
(In millions, except for percentages)	Fair value	Valuation technique	Unobservable inputs	Input/range of inputs	Impact of an increase in the input on fair value
Interest sensitive contract liabilities – fixed indexed annuities embedded derivatives	$ 7,411	Option budget method	Nonperformance risk	0.2% – 1.2%	Decrease
			Option budget	0.7% – 3.7%	Increase
			Surrender rate	1.5% – 19.4%	Decrease

Fair Value of Financial Instruments Not Carried at Fair Value—The following represents our financial instruments not carried at fair value on the consolidated balance sheets:

	December 31, 2018					
(In millions)	Carrying Value	Fair Value	NAV	Level 1	Level 2	Level 3
Financial assets						
Mortgage loans	$ 10,308	$ 10,424	$ —	$ —	$ —	$ 10,424
Investment funds	521	521	521	—	—	—
Policy loans	488	488	—	—	488	—
Funds withheld at interest	14,966	14,966	—	—	—	14,966
Other investments	70	70	—	—	—	70
Investments in related parties						
Mortgage loans	291	290	—	—	—	290
Investment funds	2,031	2,031	2,031	—	—	—
Funds withheld at interest	13,687	13,687	—	—	—	13,687
Other investments	386	361	—	—	—	361
Assets of consolidated VIEs						
Investment funds	57	57	57	—	—	—
Total financial assets not carried at fair value	$ 42,805	$ 42,895	$ 2,609	$ —	$ 488	$ 39,798
Financial liabilities						
Interest sensitive contract liabilities	$ 54,655	$ 51,655	$ —	$ —	$ —	$ 51,655
Funds withheld liability	722	722	—	—	722	—
Total financial liabilities not carried at fair value	$ 55,377	$ 52,377	$ —	$ —	$ 722	$ 51,655

	December 31, 2017					
(In millions)	Carrying Value	Fair Value	NAV	Level 1	Level 2	Level 3
Financial assets						
Mortgage loans	$ 6,028	$ 6,176	$ —	$ —	$ —	$ 6,176
Investment funds	515	515	515	—	—	—
Policy loans	537	537	—	—	537	—
Funds withheld at interest	6,773	6,773	—	—	—	6,773
Other investments	75	75	—	—	—	75
Investments in related parties						
Investment funds	1,183	1,183	1,183	—	—	—
Other investments	238	259	—	—	—	259
Assets of consolidated VIEs						
Investment funds	22	22	22	—	—	—
Total financial assets not carried at fair value	$ 15,371	$ 15,540	$ 1,720	$ —	$ 537	$ 13,283
Financial liabilities						
Interest sensitive contract liabilities	$ 31,878	$ 31,656	$ —	$ —	$ —	$ 31,656
Funds withheld liability	385	385	—	—	385	—
Total financial liabilities not carried at fair value	$ 32,263	$ 32,041	$ —	$ —	$ 385	$ 31,656

We estimate the fair value for financial instruments not carried at fair value using the same methods and assumptions as those we carry at fair value. The financial instruments presented above are reported at carrying value on the consolidated balance sheets; however, in the case of policy loans and funds withheld at interest and liability, the carrying amount approximates fair value.

Investment in related parties – Other investments – The fair value of related party other investments is determined using a discounted cash flow model using discount rates for similar investments.

Interest sensitive contract liabilities – The carrying and fair value of interest sensitive contract liabilities above includes fixed indexed and traditional fixed annuities without mortality or morbidity risks, funding agreements and payout annuities without life contingencies. The embedded derivatives within fixed indexed annuities without mortality or morbidity risks are excluded, as they are carried at fair value. The valuation of these investment contracts is based on discounted cash flow methodologies using significant unobservable inputs. The estimated fair value is determined using current market risk-free interest rates, adding a spread to reflect our nonperformance risk and subtracting a risk margin to reflect uncertainty inherent in the projected cash flows.

6. Reinsurance

The following summarizes the effect of reinsurance on premiums and future policy and other policy benefits on the consolidated statements of income:

	Years ended December 31,		
(In millions)	2018	2017	2016
Premiums			
Direct	$ 2,772	$ 2,441	$ 241
Reinsurance assumed	1,001	21	20
Reinsurance ceded	(405)	(176)	(207)
Total premiums	$ 3,368	$ 2,286	$ 54
Future policy and other policy benefits			
Direct	$ 3,698	$ 3,214	$ 1,148
Reinsurance assumed	1,028	37	82
Reinsurance ceded	(539)	(298)	(457)
Total future policy and other policy benefits	$ 4,187	$ 2,953	$ 773

Reinsurance typically provides for recapture rights on the part of the ceding company for certain events of default. Additionally, some agreements require us to place assets in trust accounts for the benefit of the ceding entity. The required minimum assets are equal to or greater than statutory reserves, as defined by the agreement and were $5,719 million and $1,123 million as of December 31, 2018 and 2017, respectively. Although we own the assets placed in trust, their use is restricted based on the trust agreement terms. If the statutory book value of the assets, or in certain cases fair value, in a trust declines because of impairments or other reasons, we may be required to contribute additional assets to the trust. In addition, the assets within a trust may be subject to a pledge in favor of the applicable reinsurance company.

Reinsurance transactions

Voya Financial, Inc. (Voya) – On June 1, 2018, we entered into coinsurance and modco agreements with Voya Insurance and Annuity Company (VIAC) to reinsure a block of fixed and fixed indexed annuities. VIAC is a related party pursuant to GAAP due to our minority equity investment in its holding company's parent, VA Capital Company LLC (VA Capital), as discussed further in *Note 13 – Related Parties*. Additionally, we entered into modco agreements with ReliaStar Life Insurance Company (RLI), a subsidiary of Voya, to reinsure a block of fixed and fixed indexed annuities. The following summarizes these reinsurance transactions (collectively, Voya reinsurance transactions):

	VIAC		RLI	
(In millions)	Coinsurance	Modco	Modco	Total
Liabilities assumed	$ 3,667	$ 14,911	$ 457	$ 19,035
Less: Assets received	3,478	14,332	445	18,255
Ceding commission (paid) received	(86)	(320)	12	(394)
Net cost of reinsurance	$ 275	$ 899	$ —	$ 1,174
DAC	$ 293	$ 999	$ 4	$ 1,296
Unearned revenue reserve[1]	(8)	(57)	(4)	(69)
Deferred profit liability[2]	(10)	(43)	—	(53)
Net cost of reinsurance	$ 275	$ 899	$ —	$ 1,174

[1] *Included within interest sensitive contract liabilities on the consolidated balance sheets.*

[2] *Included within future policy benefits on the consolidated balance sheets.*

DAC and unearned revenue reserve balances are amortized over the life of the reinsurance agreements on a basis consistent with our DAC amortization policy. The deferred profit liability balance is amortized over the life of the reinsurance agreement on a constant relationship to the benefit reserves.

The Lincoln National Life Insurance Company (*Lincoln)* – On December 7, 2018, we entered into a modco agreement with Lincoln, effective as of October 1, 2018, to reinsure an 80% quota share block of fixed deferred and fixed indexed annuities. The following summarizes this reinsurance transaction:

(In millions)	Modco
Liabilities assumed	$ 7,878
Less: Assets received	7,663
Ceding commission (paid) received	(266)
Net cost of reinsurance	$ 481
Net cost of reinsurance – DAC	$ 481

Athora – During the fourth quarter of 2018, we entered into a coinsurance agreement with Athora Lebensversicherung AG (ALV) to reinsure endowment contracts and annuities. We then retroceded these endowment contracts and annuities through a modco agreement to Athora Life Re Ltd. (ARE). These transactions will serve as a model for future transactions for Athora within the European market. We will earn a commission of 0.2% of reserves on the retrocession to ARE. See *Note 13 – Related Parties* for further information on other Athora transactions. The following summarizes these reinsurance transactions:

(In millions)	ALV Coinsurance	ARE Modco	Total
Liabilities assumed/funds withheld liability recorded	$ 325	$ 337	$ 662
Less: Assets recorded[1]	337	337	674
Deferred profit liability[2]	$ (12)	$ —	$ (12)

[1] *ALV coinsurance assets recorded as receivable in other assets on the consolidated balance sheets, as the assets were not received prior to December 31, 2018. ARE modco assets recorded as reinsurance recoverable on the consolidated balance sheets.*

[2] *Included within future policy benefits on the consolidated balance sheets.*

Global Atlantic – We have a 100% coinsurance and assumption agreement with Global Atlantic. The agreement ceded all existing open block life insurance business issued by Athene Annuity and Life Company (AAIA), with the exception of enhanced guarantee universal life insurance products. We also entered into a 100% coinsurance agreement with Global Atlantic to cede all policy liabilities of the ILICO Closed Block. The ILICO Closed Block consists primarily of participating whole life insurance policies. We also have an excess of loss arrangement with Global Atlantic to reimburse us for any payments required from our general assets to meet the contractual obligations of the AmerUs Closed Block not covered by existing reinsurance through Athene Re USA IV. The AmerUs Closed Block consists primarily of participating whole life insurance policies. Since all liabilities were covered by the existing reinsurance at close, no reinsurance premiums were ceded. The assets backing the AmerUs Closed Block are managed, on AAIA's behalf, by Goldman Sachs Asset Management, an affiliate of Global Atlantic.

We have novated certain open blocks of business ceded to Global Atlantic, in accordance with the terms of the coinsurance and assumption agreement. The below table summarizes the decreases in amounts on the consolidated balance sheets as a result of the novations. Novations during the year ended December 31, 2018 did not have a material effect on the consolidated balance sheets.

(In millions)	Year ended December 31, 2017
Interest sensitive contract liabilities	$ 653
Future policy benefits	116
Policy loans	22
Reinsurance recoverable	747

As of December 31, 2018 and 2017, Global Atlantic maintained a series of trust and custody accounts under the terms of these agreements with assets equal to or greater than a required aggregate statutory balance of $3,967 million and $3,350 million, respectively.

Protective Life Insurance Company (Protective) – We reinsured substantially all of the existing life and health business of Athene Annuity & Life Assurance Company (AADE) to Protective under a coinsurance agreement in 2011. As of December 31, 2018 and 2017, Protective maintained a trust for our benefit with assets having a fair value of $1,525 million and $1,688 million, respectively.

Reinsurance Recoverables—The following summarizes our reinsurance recoverable from the following:

	December 31,	
(In millions)	2018	2017
Global Atlantic	$ 3,166	$ 3,482
Protective	1,652	1,699
ARE	337	—
Other[1]	379	139
Reinsurance recoverable	$ 5,534	$ 5,320

[1]*Represents all other reinsurers, with no single reinsurer having a carrying value in excess of 5% of total recoverable.*

7. Deferred Acquisition Costs, Deferred Sales Inducements and Value of Business Acquired

The following represents a rollforward of DAC, DSI and VOBA:

(In millions)	DAC	DSI	VOBA	Total
Balance at December 31, 2015	$ 706	$ 320	$ 1,630	$ 2,656
Additions	601	200	—	801
Unlocking	(12)	(3)	(23)	(38)
Amortization	(113)	(36)	(156)	(305)
Impact of unrealized investment (gains) losses	(37)	(19)	(99)	(155)
Balance at December 31, 2016	1,145	462	1,352	2,959
Additions	493	161	—	654
Unlocking	13	4	(1)	16
Amortization	(194)	(67)	(162)	(423)
Impact of unrealized investment (gains) losses	(82)	(40)	(112)	(234)
Balance at December 31, 2017	1,375	520	1,077	2,972
Additions	2,481	264	—	2,745
Unlocking	21	7	54	82
Amortization	(108)	(61)	(141)	(310)
Impact of unrealized investment (gains) losses	152	69	197	418
Balance at December 31, 2018	$ 3,921	$ 799	$ 1,187	$ 5,907

The expected amortization of VOBA for the next five years is as follows:

(In millions)	Expected Amortization
2019	$ 73
2020	77
2021	72
2022	68
2023	68

8. Closed Block

We pay guaranteed benefits under all policies included in the Closed Blocks. In the event the performance of the Closed Blocks' assets is insufficient to maintain dividend scales and interest credits, we may reduce the policyholder dividend scales. In the event dividends have been reduced to zero and the Closed Blocks' assets remain insufficient to fund the Closed Blocks' guaranteed benefits, we would use assets supporting open block policies or surplus to meet the contractual benefits of the Closed Blocks' policyholders. The ILICO Closed Block has been ceded to Global Atlantic. Therefore, Global Atlantic would be required to provide funding for any asset insufficiency related to the ILICO Closed Block. Additionally, the AmerUs Closed Block has a letter of credit and tail risk reinsurance agreement in place that limits our exposure to potential asset insufficiency.

We elected the fair value option for the AmerUs Closed Block. The fair value of liabilities of the AmerUs Closed Block was derived at election as the sum of the fair value of the AmerUs Closed Block assets plus our cost of capital in the AmerUs Closed Block. The cost of capital was then determined to be the present value of the projected release of required capital and future after tax earnings on required capital supporting the AmerUs Closed Block, discounted at a rate which represents a market participant's required rate of return, less the initial required capital. At each reporting period, we record the fair value of the AmerUs Closed Block by adjusting the change in liabilities, exclusive of the cost of capital, to equal the change in assets. We do not record additional policyholder dividend obligations, as there are no future GAAP earnings available to the policyholders.

The excess of the fair value of the liabilities over the fair value of the assets represents our cost of capital in the AmerUs Closed Block. The maximum amount of future earnings from the assets and liabilities of the AmerUs Closed Block is represented by the reduction in the cost of capital in future years based on the operations of the AmerUs Closed Block and recalculation of the cost of capital each reporting period.

Summarized financial information of the AmerUs Closed Block is presented below:

	December 31,	
(In millions)	2018	2017
Liabilities		
Future policy benefits	$ 1,443	$ 1,625
Other policy claims and benefits	14	19
Dividends payable to policyholders	89	92
Other liabilities	—	15
Total liabilities	1,546	1,751
Assets		
Trading securities	1,228	1,377
Mortgage loans, net of allowances	32	41
Policy loans	154	168
Total investments	1,414	1,586
Cash and cash equivalents	31	48
Accrued investment income	41	36
Reinsurance recoverable	22	25
Other assets	2	—
Total assets	1,510	1,695
Maximum future earnings to be recognized from AmerUs Closed Block	$ 36	$ 56

The following represents the contribution from AmerUs Closed Block:

	Years ended December 31,		
(In millions)	2018	2017	2016
Revenues			
Premiums	$ 48	$ 58	$ 24
Net investment income	77	79	84
Investment related gains (losses)	(118)	61	42
Total revenues	7	198	150
Benefits and Expenses			
Future policy and other policy benefits	(49)	144	107
Dividends to policyholders	36	51	40
Total benefits and expenses	(13)	195	147
Contribution from AmerUs Closed Block before income taxes	20	3	3
Income tax expense (benefit)	—	(5)	3
Contribution from AmerUs Closed Block, net of income taxes	$ 20	$ 8	$ —

9. Debt

Credit Facility—In 2016, we and AHL entered into a five-year revolving credit agreement (Credit Facility) with Citibank, N.A., as administrative agent. The borrowing capacity under the Credit Facility is $1 billion. In connection with the Credit Facility, AHL and Athene USA guaranteed all of the obligations of AHL, ALRe, Athene Annuity Re Ltd. (AARe), and Athene USA under this facility, and ALRe and AARe guaranteed certain of the obligations of AHL and Athene USA under this facility. The Credit Facility contains various standard covenants with which we must comply, including the following:

1. Consolidated debt to capitalization ratio of not greater than 35%;
2. Minimum consolidated net worth of no less than the sum of (a) $3.7 billion and (b) an amount equal to 50% of the net cash proceeds received in any equity issuances occurring after January 22, 2016; and
3. Restrictions on our ability to incur debt and liens and to declare or pay dividends, in each case with certain exceptions.

As of December 31, 2018 and 2017, we had no amounts outstanding under the Credit Facility and were in compliance with all covenants under this facility.

Interest accrues on outstanding borrowings at the London Interbank Offered Rate (LIBOR) plus a margin or a base rate plus a margin, with the applicable margin varying based on AHL’s issuer credit rating. The Credit Facility has a commitment fee that is determined by reference to AHL’s issuer credit rating, and ranges from 0.15% to 0.50% of the unused commitment. As of December 31, 2018 and 2017, the commitment fee was 0.225% of the unused commitment.

10. Equity

Common Stock—We have one class of common stock, which represents 100% of our total voting power, and is beneficially owned by AHL. We have authorized and issued 1,500,000 shares at $1.00 par value to AHL.

Accumulated Other Comprehensive Income (Loss)—The following is a detail of AOCI and changes in AOCI. Prior period balances include equity securities that were classified as AFS securities prior to the adoption of ASU 2016-01.

	December 31,	
(In millions)	2018	2017
AFS securities	$ (766)	$ 2,435
DAC, DSI, VOBA and future policy benefits adjustments on AFS securities	154	(584)
Noncredit component of OTTI losses on AFS securities	(19)	(13)
Hedging instruments	51	(95)
Pension adjustments	(2)	(1)
Foreign currency translation adjustments	(3)	(3)
Accumulated other comprehensive income, before taxes	(585)	1,739
Deferred income taxes	113	(318)
Accumulated other comprehensive income (loss)	$ (472)	$ 1,421

Changes in AOCI are presented below:

	Years ended December 31,		
(In millions)	2018	2017	2016
Unrealized investment gains (losses) on AFS securities			
Unrealized investment gains (losses) on AFS securities	$ (3,149)	$ 1,786	$ 1,164
Change in DAC, DSI, VOBA and future policy benefits adjustment	734	(384)	(296)
Less: Reclassification adjustment for gains (losses) realized in net income[1]	4	74	20
Less: Income tax expense (benefit)	(459)	360	256
Net unrealized investment gains (losses) on AFS securities	(1,960)	968	592
Noncredit component of OTTI losses on AFS securities			
Noncredit component of OTTI losses on AFS securities	(9)	(5)	(9)
Less: Reclassification adjustment for losses realized in net income[1]	(3)	(9)	(7)
Less: Income tax expense (benefit)	(1)	1	—
Net noncredit component of OTTI losses on AFS securities	(5)	3	(2)
Unrealized gains (losses) on hedging instruments			
Unrealized gains (losses) on hedging instruments	146	(105)	(5)
Less: Income tax benefit	31	(22)	(2)
Net unrealized gains (losses) on hedging instruments	115	(83)	(3)
Pension adjustments	(1)	—	1
Foreign currency translation adjustments	—	1	(2)
Change in AOCI from comprehensive income (loss)	(1,851)	889	586
Adoption of accounting standards	(42)	187	—
Change in AOCI	$ (1,893)	$ 1,076	$ 586

[1] *Recognized in investment related gains (losses) on the consolidated statements of income.*

11. Income Taxes

Income tax expense consists of the following:

	Years ended December 31,		
(In millions)	2018	2017	2016
Current	$ 78	$ 4	$ (33)
Deferred	44	101	(20)
Income tax expense (benefit)	$ 122	$ 105	$ (53)

Income tax expense was calculated based on the following components of income before income taxes:

	Years ended December 31,		
(In millions)	2018	2017	2016
Income before income taxes – Bermuda	$ 713	$ 1,348	$ 710
Income before income taxes – U.S.	534	274	134
Income before income taxes	$ 1,247	$ 1,622	$ 844

The expected tax provision computed on pre-tax income at the weighted average tax rate has been calculated as the sum of the pre-tax income in each jurisdiction multiplied by that jurisdiction's applicable statutory tax rate. Statutory tax rates of 0% and 21% have been used for Bermuda and the U.S., respectively, for the year ended December 31, 2018. Statutory tax rates of 0% and 35% have been used for Bermuda and the U.S., respectively, for the years ended December 31, 2017 and 2016. A reconciliation of the difference between the expected tax provision at the weighted average tax rate and income tax expense (benefit) is as follows:

	Years ended December 31,		
(In millions)	2018	2017	2016
Expected tax provision computed on pre-tax income at weighted average income tax rate	$ 112	$ 96	$ 48
Increase (decrease) in income taxes resulting from:			
Deferred tax valuation allowance	—	2	(105)
Prior year true-up	11	8	1
Corporate owned life insurance	(3)	(8)	(7)
Stock compensation expense	1	5	5
Change in statutory tax rates	—	(7)	—
State taxes and other	1	9	5
Income tax expense (benefit)	$ 122	$ 105	$ (53)
Effective tax rate	10%	6%	(6)%

Public Law no. 115-97, an Act to provide for reconciliation pursuant to titles II and V of the concurrent resolution on the budget for fiscal year 2018 (Tax Act) was enacted on December 22, 2017 and made key changes to the U.S. tax law, including the reduction of the U.S. statutory tax rate from 35% to 21%. As such, the December 31, 2017 deferred tax balances were remeasured to reflect the reduction in rate and the resulting decrease to the net deferred tax liability is included in change in statutory tax rates of the reconciliation above.

During the third quarter of 2016, we identified a tax plan that allows us to use a significant portion of the U.S. non-life insurance companies' net operating losses and other deductible temporary differences. As a result, we released the corresponding deferred tax valuation allowance of $102 million, as it is more likely than not that these attributes will be realized.

Total income taxes were as follows:

	Years ended December 31,		
(In millions)	2018	2017	2016
Income tax expense (benefit)	$ 122	$ 105	$ (53)
Income tax expense (benefit) from OCI	(429)	339	254
Total income taxes	$ (307)	$ 444	$ 201

Current income tax recoverable and deferred tax assets are included in other assets on the consolidated balance sheets, and current income tax payable and deferred tax liabilities are included in other liabilities on the consolidated balance sheets. Current and deferred income tax assets and liabilities were as follows:

	December 31,	
(In millions)	2018	2017
Current income tax recoverable	$ 36	$ 29
Current income tax payable	33	—
Net current income tax recoverable	$ 3	$ 29
Deferred tax assets (liabilities)	340	(45)

Deferred income tax assets and liabilities consisted of the following:

	December 31,	
(In millions)	2018	2017[1]
Deferred tax assets		
Insurance liabilities	$ 1,186	$ 1,345
Net unrealized losses on AFS	112	—
Net operating and capital loss carryforwards	78	168
Tax credits	—	6
Fixed assets	43	26
Employee benefits	24	29
Other	38	26
Total deferred tax assets	1,481	1,600
Valuation allowance	(52)	(46)
Deferred tax assets, after valuation allowance	1,429	1,554
Deferred tax liabilities		
Investments, including derivatives	296	777
Net unrealized gains on AFS	—	318
DAC, DSI and VOBA	790	496
Other	3	8
Total deferred tax liabilities	1,089	1,599
Net deferred tax assets (liabilities)	$ 340	$ (45)

[1] *Deferred tax balances were remeasured as of December 22, 2017 using the reduced U.S. statutory income tax rate as a result of the Tax Act.*

As of December 31, 2018, we have gross deferred tax assets associated with U.S. federal and state net operating losses of $308 million, which will begin to expire in 2022. The valuation allowance is related to U.S federal and state net operating losses and other deferred tax assets.

ALRe and its Bermuda subsidiaries file protective U.S. income tax returns and its U.S. subsidiaries file income tax returns with the U.S. federal government and various U.S. state governments. AADE is not subject to U.S. federal and state examinations by tax authorities for years prior to 2011, while Athene Annuity & Life Assurance Company of New York (AANY) is not subject to examinations for years prior to 2015. The Internal Revenue Service (IRS) is currently auditing the 2013 consolidated tax return filed by Athene USA Corporation, and is conducting a limited scope audit of the 2015 consolidated tax return filed by AADE. No material adverse proposed adjustments have been issued with respect to either exam. See discussion of tax examinations relating to Aviva USA and subsidiaries in *Note 14 – Commitments and Contingencies.*

Under current Bermuda law, we are not required to pay any taxes in Bermuda on either income or capital gains. We have received an undertaking from the Bermuda Minister of Finance that, in the event of any such taxes being imposed, the Company will be exempted from taxation until the year 2035.

Withholding taxes have not been provided on undistributed earnings of ALRe's U.S. subsidiaries as of December 31, 2018 or 2017. Although withholding taxes may apply in the event a dividend is paid by ALRe's U.S. subsidiaries, we have not accrued withholding taxes as we do not intend to remit these earnings. The cumulative amount potentially subject to withholding tax, if distributed, as well as the determination of the potential associated tax liability, is not practicable to compute. Any dividends remitted to AHL from ALRe are not subject to withholding tax.

12. Statutory Requirements

Our insurance and reinsurance subsidiaries are subject to insurance laws and regulations in the jurisdictions in which they operate including Bermuda, all U.S. states and the District of Columbia. Certain regulations include restrictions that limit the dividends or other distributions, such as loans or cash advances, available to shareholders without prior approval of the insurance regulatory authorities. The differences between financial statements prepared for insurance regulatory authorities and GAAP financial statements vary by jurisdiction.

Bermuda statutory requirements—ALRe, AARe, and Acra Re II Ltd. (ACRA) are each licensed by the Bermuda Monetary Authority (BMA) as long-term insurers and are subject to the Insurance Act 1978, as amended (Bermuda Insurance Act) and regulations promulgated thereunder. The BMA implemented the Economic Balance Sheet (EBS) framework into the Bermuda Solvency Capital Requirement (BSCR), which was granted equivalence to the European Union's Directive (2009/138/EC) (Solvency II).

Under the Bermuda Insurance Act, long-term insurers are required to maintain minimum statutory capital and surplus to meet the minimum margin of solvency (MMS) and the Enhanced Capital Requirement (ECR). For the Class C reinsurer, ACRA, MMS is equal to the greater of $500,000, 1.5% of the total statutory assets or 25% of ECR. For the Class E reinsurers, ALRe and AARe, MMS is equal to the greater of $8 million, 2% of the first $500 million of statutory assets plus 1.5% of statutory assets above $500 million or 25% of ECR. For each class, the ECR is calculated based on a risk-based capital model where risk factor charges are applied to the EBS. As of December 31, 2018, our Bermuda entities were in excess of the minimum levels required. As of December 31, 2018 and 2017, ALRe's EBS capital and surplus was $12.0 billion and $7.7 billion, respectively, resulting in a BSCR ratio of 340% and 354%, respectively.

Under the EBS framework, statutory financial statements are generally equivalent to GAAP financial statements, with the exception of permitted practices granted by the BMA. Our Bermuda entities have permission in the statutory financial statements to use amortized cost instead of fair value as the basis for certain investments. Additionally, our Bermuda entities use U.S. statutory reserving principles for the calculation of insurance reserves instead of GAAP, subject to the reserves being proved adequate based on cash flow testing. The following represents the effect of the permitted practices to the statutory financial statements:

	December 31, 2018		
(In millions)	ALRe	AARe[1]	ACRA
Increase (decrease) to capital and surplus due to permitted practices	$ 554	$ 202	$ (252)
Increase (decrease) to statutory net income due to permitted practices	(705)	179	(267)

[1] *AARe has permission to use amortized cost instead of fair value as the basis for certain investments but does not produce GAAP financial statements. The effect of the permitted practices to the AARe statutory financial statements reflects the impact of the difference between amortized cost and fair value for certain investments.*

Under the Bermuda Insurance Act, our Bermuda entities are prohibited from paying a dividend in an amount exceeding 25% of the prior year's statutory capital and surplus, unless at least two members of the companies' respective board of directors and its principal representative in Bermuda sign and submit to the BMA an affidavit attesting that a dividend in excess of this amount would not cause the subsidiary to fail to meet its relevant margins. In certain instances, the Bermuda entity would also be required to provide prior notice to the BMA in advance of the payment of dividends. In the event that such an affidavit is submitted to the BMA, and further subject to meeting the MMS and ECR requirements, a Bermuda entity is permitted to distribute up to the sum of 100% of statutory surplus and an amount less than 15% of statutory capital. Distributions in excess of this amount require the approval of the BMA. The following represents the maximum distribution our Bermuda entities would be permitted to remit to its parent without the need for prior approval:

	December 31,	
(In millions)	2018	2017
ALRe	$ 5,942	$ 5,022
AARe	997	—
ACRA	—	—

U.S. statutory requirements—ALRe's regulated U.S. subsidiaries and the corresponding insurance regulatory authorities are as follows:

Subsidiary	Regulatory Authority
AADE	Delaware Department of Insurance
AANY	New York Department of Financial Services
Athene Life Insurance Company of New York (ALICNY)	New York Department of Financial Services
AAIA	Iowa Insurance Division
Structured Annuity Reinsurance Company (STAR)	Iowa Insurance Division
Athene Re USA IV	State of Vermont Department of Financial Regulation

Each entity's statutory statements are presented on the basis of accounting practices determined by the respective regulatory authority. The regulatory authority recognizes only statutory accounting practices prescribed or permitted by the corresponding state for determining and reporting the financial condition and results of operations of an insurance company and for determining its solvency under insurance law.

The maximum dividend these subsidiaries can pay to ALRe, without prior approval of the respective state insurance department, is subject to restrictions relating to statutory surplus or net gain from operations. The maximum dividend payment over a twelve-month period may not, without prior approval, be paid from a source other than earned surplus and may not exceed the greater of (1) the prior year's net gain from operations or (2) 10% of policyholders' surplus. Based on these restrictions, the maximum dividend AADE could pay to Athene USA absent regulatory approval was $154 million and $135 million as of December 31, 2018 and 2017, respectively. Other requirements limit the amount that could be withdrawn from AADE and the maximum AADE could dividend while staying in compliance with these state regulations, which was $310 million and $103 million as of December 31, 2018 and 2017, respectively. Any dividends from ALRe's other U.S. statutory entities in excess of the amounts allowed for AADE would not be able to be remitted to Athene USA without regulatory approval from the Delaware Department of Insurance.

As of December 31, 2018, our U.S. subsidiaries' solvency, liquidity and risk-based capital amounts were significantly in excess of the minimum levels required.

In some instances, the states of domicile of our U.S. subsidiaries have adopted prescribed accounting practices that differ from the required accounting outlined in National Association of Insurance Commissioners (NAIC) Statutory Accounting Principles (SAP). These subsidiaries also have certain accounting practices permitted by the states of domicile that differ from those found in NAIC SAP. These prescribed and permitted practices are described as follows:

AAIA – Among the products issued by AAIA are indexed universal life insurance and fixed indexed annuities. These products allow a portion of the premium to earn interest based on certain indices, primarily the S&P 500. We purchase call options, futures and variance swaps to hedge the growth in interest credited to the customer as a direct result of increases in the related index. The Iowa Insurance Division allows an insurer to elect (1) to use an amortized cost method to account for certain derivative instruments, such as call options, purchased to hedge the growth in interest credited to the customer on indexed insurance products and (2) to use an indexed annuity reserve calculation methodology under which call options associated with the current index interest crediting term are valued at zero. AAIA has elected to apply this option to its over-the-counter call options and reserve liabilities. As a result, AAIA's statutory surplus increased by $39 million and decreased by $66 million as of December 31, 2018 and 2017, respectively.

Athene Re USA IV – AAIA has ceded the AmerUs Closed Block to Athene Re USA IV on a 100% funds withheld basis. A permitted practice in the State of Vermont allows Athene Re USA IV to include as admitted assets the face amount of all issued and outstanding letters of credit used to fund its reinsurance obligations to AAIA in its statutory financial statements. If Athene Re USA IV had not followed this permitted practice, then it would not have exceeded authorized control level risk based capital requirements. As of December 31, 2018 and 2017, the face amount of the letters of credit was $153 million.

Statutory capital and surplus and net income (loss)—The following table presents, for each of our insurance subsidiaries, the statutory capital and surplus and the statutory net income (loss), based on the most recently filed statutory financial statements filed with insurance regulators:

	Statutory capital & surplus		Statutory net income (loss)		
	December 31,		Years ended December 31,		
(In millions)	2018	2017	2018	2017	2016
ALRe	$ 9,659	$ 6,972	$ 418	$ 828	$ 460
AARe	2,095	—	997	—	—
ACRA	393	—	(287)	—	—
AADE	1,544	1,348	18	24	71
AANY	282	268	6	29	1
ALICNY	70	76	(22)	6	10
AAIA	1,234	1,164	81	239	100
STAR	92	90	9	3	17
Athene Re USA IV	29	25	5	(3)	(5)

13. Related Parties

Unsecured Revolving Notes Receivable and Payable—We have an unsecured revolving notes receivable and payable with AHL. The unsecured revolving notes receivable from AHL permits AHL to borrow up to $250 million with a fixed interest rate of 1.25% and a maturity date of June 1, 2020. As of December 31, 2018 and 2017, we had $105 million and $0 million, respectively, outstanding under this agreement. In February 2019, the revolving notes receivable agreement was amended to increase the borrowing capacity to $1 billion and to extend the maturity date to March 31, 2024.

The unsecured revolving notes payable from Athene USA to AHL has a borrowing capacity of $250 million and an outstanding balance of $0 million and $16 million as of December 31, 2018 and 2017, respectively. Interest accrues at the U.S. short-term applicable federal rate per year, and the balance is due on June 1, 2020, or earlier at AHL's request.

The unsecured revolving notes payable from ALRe to AHL has a borrowing capacity of $250 million and had no outstanding balance as of December 31, 2018 and 2017. Interest accrues at a fixed rate of 1.25% and has a maturity date of June 1, 2020, or earlier at AHL's request. In February 2019, the revolving notes payable agreement was amended to increase the borrowing capacity to $1 billion and to extend the maturity date to March 31, 2024.

Athene Asset Management

Investment related expenses – Substantially all of our investments are managed by AAM, a subsidiary of AGM. AAM provides direct investment management, asset allocation, mergers and acquisition asset diligence and certain operational support services for our investment portfolio, including investment compliance, tax, legal and risk management support. As of December 31, 2018, AAM directly managed $88,311 million of our investment portfolio assets, of which 84% are designated one or two (the two highest designations) by the NAIC.

For the services it renders, AAM earns a fee on all assets managed in accounts owned by or related to us, including sub-advised assets, subject to certain limited exceptions. Additionally, AAM recharges the sub-advisory fees it incurs with respect to our sub-advised assets to us. Historically, AAM generally earned an annual fee of 0.40% of assets under management. In the second quarter of 2017, following shareholder approval of an amendment to our bye-laws, we entered into the Fifth Amended and Restated Fee Agreement (Revised Fee Agreement), retroactive to January 1, 2017. The Revised Fee Agreement amended certain fee arrangements we previously had in place with AAM to provide for, among other things, an annual fee of 0.30% (reduced from 0.40%) on all assets that Apollo manages in accounts owned by us in the U.S. and Bermuda or in accounts supporting reinsurance ceded to our U.S. and Bermuda entities by third-party insurers (North American Accounts) in excess of $65,846 million (the level of assets in the North American Accounts as of December 31, 2016). The fee to be paid by us to AAM on the first $65,846 million of assets in the North American Accounts remains 0.40% per year, subject to certain discounts and exceptions.

For certain assets which require specialized sourcing and underwriting capabilities, AAM has chosen to mandate sub-advisors rather than building out in-house capabilities. AAM has entered into Master Sub-Advisory Agreements (MSAAs) with certain Apollo affiliates to sub-advise AAM with respect to a portion of our assets, with the fees recharged to us, in addition to the gross fee paid to AAM as described above. The MSAAs cover services rendered by Apollo-affiliated sub-advisors relating to the following investments:

	December 31,	
(In millions, except for percentages)	2018	2017
AFS securities		
Foreign governments	$ 153	$ 152
Corporate	3,398	2,934
CLO	5,703	5,166
ABS	663	681
CMBS	880	872
Trading securities	87	121
Equity securities	2	—
Mortgage loans	3,507	2,232
Investment funds	157	26
Funds withheld at interest	4,126	1,737
Other investments	70	75
Total assets sub-advised by Apollo affiliates	$ 18,746	$ 13,996
Percent of assets sub-advised by Apollo affiliates to total AAM-managed assets	18%	18%

AAM and certain other Apollo affiliates entered into addendums to the MSAAs in 2017, retroactive to January 1, 2017, pursuant to which, with limited exceptions, Apollo will earn 0.40% per year on all assets in the North American Accounts explicitly sub-advised by Apollo up to $10,000 million, 0.35% per year on all assets in such accounts explicitly sub-advised by Apollo in excess of $10,000 million up to $12,441 million (the level of fee-paying sub-advised assets in the North American Accounts at December 31, 2016), 0.40% per year on all assets in such accounts explicitly sub-advised by Apollo in excess of $12,441 million up to $16,000 million, and 0.35% per year on all assets in such accounts explicitly sub-advised by Apollo in excess of $16,000 million.

The following summarizes the asset management fees and sub-advisory fees we have incurred related to AAM and other Apollo affiliates:

	Years ended December 31,		
(In millions)	2018	2017	2016
Asset management fees	$ 291	$ 264	$ 237
Sub-advisory fees	59	51	60

The management and sub-advisory fees are included within net investment income on the consolidated statements of income. As of December 31, 2018 and 2017, the management fees payable was $35 million and $29 million, respectively, and the sub-advisory fees payable was $18 million and $12 million, respectively. Both the management and sub-advisory fees payables are included in other liabilities on the consolidated balance sheets.

Other related party transactions

A-A Mortgage – We have an equity method investment of $463 million and $403 million as of December 31, 2018 and 2017, respectively, in A-A Mortgage, which has an investment in AmeriHome Mortgage Company, LLC (AmeriHome). We have a loan purchase agreement with AmeriHome. The agreement allows us to purchase residential mortgage loans which AmeriHome has purchased from correspondent sellers and pooled for sale in the secondary market. AmeriHome retains the servicing rights to the sold loans. We purchased $722 million, $57 million and $22 million of residential mortgage loans under this agreement during the years ended December 31, 2018, 2017 and 2016, respectively. Additionally, we purchased ABS securities issued by AmeriHome affiliates in the amount of $122 million during the year ended December 31, 2018, which are included in related party AFS securities on the consolidated balances sheets. Previously, we had loans due from A-A Mortgage affiliates in the principal amount of $52 million as of December 31, 2017, and these were included in related party short-term investments on the consolidated balance sheets. The loans were repaid in 2018. We also have commitments to make additional equity investments in A-A Mortgage of $125 million as of December 31, 2018.

MidCap – CoInvest VII holds a significant investment in MidCap, which is included in investment funds of consolidated VIEs on the consolidated balance sheets. We have also advanced amounts under a subordinated debt facility to Midcap and, as of December 31, 2018 and 2017, the principal balance was $245 million, which is included in other related party investments on the consolidated balance sheets. Our total investment in MidCap, including amounts advanced under credit facilities, totaled $791 million and $766 million as of December 31, 2018 and 2017, respectively. Additionally, we purchased ABS and CLO securities issued by MidCap affiliates during the years ended December 31, 2018, 2017 and 2016 of $142 million, $88 million and $4 million, respectively, which are included in related party AFS securities on the consolidated balance sheets.

Athora Holding Ltd. (Athora) – AHL owns common shares of Athora and, as a result of this ownership, we consider Athora to be a related party. As of December 31, 2018 and 2017, we had $166 million and $174 million, respectively, of funding agreements outstanding to Athora.

VA Capital and Venerable Holdings, Inc. (Venerable) – In connection with the Voya reinsurance transactions, we made a $75 million minority equity investment in VA Capital, which is included in investments in related parties – investment funds on the consolidated balance sheets and accounted for as an equity method investment. VA Capital is owned by a consortium of investors, led by affiliates of AGM, Crestview Partners and Reverence Capital Partners, and is the holding company of Venerable. Additionally, we provided Venerable with a $150 million, 15-year term loan, which is held at amortized cost and included in investment in related parties – other investments on the consolidated balance sheets. While management views the overall transactions with Voya and Venerable as favorable to us, the stated interest rate of 6.257% on the term loan to Venerable represents a below-market interest rate and management considered such rate as part of its evaluation and pricing of the Voya reinsurance transactions. Venerable is the holding company of VIAC.

Strategic Partnership – On October 24, 2018, we entered into an agreement pursuant to which we may invest up to $2.5 billion over three years in funds managed by Apollo entities. This arrangement is intended to permit us to invest across the Apollo alternatives platform into credit-oriented, strategic and other alternative investments in a manner and size that is consistent with our existing investment strategy. Fees for such investments payable by us to Apollo would be more favorable to us than market rates, and consistent with our existing alternative investments, investments made under the Strategic Partnership require approval of AAM and remain subject to our existing governance processes, including approval by our conflicts committee where applicable. During the fourth quarter of 2018, we invested $16 million under the Strategic Partnership and these investments are classified investment funds of consolidated VIEs.

14. Commitments and Contingencies

Contingent Commitments—We had commitments to make investments, primarily capital contributions to investment funds, inclusive of related party commitments discussed previously, of $2,729 million and $2,357 million as of December 31, 2018 and 2017, respectively. We expect most of our current commitments will be invested over the next five years; however, these commitments could become due any time upon counterparty request.

Funding Agreements—We are a member of the Federal Home Loan Bank (FHLB) and, through membership, we have issued funding agreements to the FHLB in exchange for cash advances. As of December 31, 2018 and 2017, we had $926 million and $573 million, respectively, of funding agreements outstanding with the FHLB. We are required to provide collateral in excess of the funding agreement amounts outstanding, considering any discounts to the securities posted and prepayment penalties.

We have a funding agreement backed notes (FABN) program, which allows Athene Global Funding, a special-purpose, unaffiliated statutory trust, to offer up to $10 billion of its senior secured medium-term notes. Athene Global Funding uses the net proceeds from each sale to purchase one or more funding agreements from us. As of December 31, 2018 and 2017, we had $2,700 million and $2,996 million, respectively, of FABN funding agreements outstanding.

Pledged Assets and Funds in Trust (Restricted Assets)—The total restricted assets included on the consolidated balance sheets are as follows:

	December 31,	
(In millions)	2018	2017
AFS securities	$ 5,439	$ 1,572
Trading securities	68	—
Equity securities	2	36
Mortgage loans	1,830	914
Investment funds	53	20
Derivative assets	24	—
Short-term investments	77	10
Other investments	47	—
Restricted cash	492	105
Total restricted assets	$ 8,032	$ 2,657

The restricted assets are primarily related to reinsurance trusts established in accordance with coinsurance agreements and the FHLB funding agreements described above.

Letter of Credit—We have an unused letter of credit for $230 million as of December 31, 2018. This letter of credit was issued for our reinsurance program and expires in two years.

Litigation, Claims and Assessments

Griffiths Matter – On July 27, 2015, John Griffiths, on behalf of himself and others similarly situated, filed a putative class action complaint against us in the United States District Court for the District of Massachusetts. An amended complaint was filed on December 18, 2015. The complaint asserted claims against AHL, AAIA and Athene London Assignment Corporation (Athene London), in addition to an Aviva defendant. AHL is a named defendant due to its purchase of Aviva USA, and AAIA and Athene London are named as successors to Aviva Life Insurance Company and Aviva London Assignment Corporation, respectively. The complaint alleged a putative class of all persons who are the beneficial owners of assets which were used to purchase structured settlement annuities that Aviva Life Insurance Company, Aviva London Assignment Corporation, and Aviva International Insurance Limited (collectively, the Aviva Entities) or their predecessors, as applicable, delivered to purchasers on or after April 1, 2003 that were backed by a capital maintenance agreement issued by Aviva International Insurance Limited or its predecessor (the CMA). The complaint alleged that the Aviva Entities sold structured settlement annuities to the public on the basis that such products were backed by the CMA, which was alleged to be a source of great financial strength. The complaint further alleged that the Aviva Entities used the CMA to enhance the sales volume and raise the price of the annuities. The complaint claimed that, as a result of Aviva USA's sale to AHL, the CMA terminated. According to the complaint, no notice of this termination was provided to the owners of the structured settlement annuities. The complaint alleged that the termination of the CMA gave rise to claims for breach of contract, breach of fiduciary duty, promissory estoppel, and unjust enrichment. AHL and plaintiff agreed to a term sheet settlement on a class-wide basis. On November 8, 2018, the court dismissed the action pursuant to the settlement approval which required AHL to: (1) enter into a capital maintenance agreement with Athene London requiring AHL to provide capital to Athene London upon a missed structured settlement payment that is not timely cured and (2) pay a monetary amount that is immaterial to us. We have complied with the settlement.

IRS Matters – The IRS completed its examinations of the 2006 through 2010 and 2011 through 2012 Aviva USA tax years with Aviva USA agreeing to all proposed adjustments with two exceptions: (1) AAIA's treatment of call options used to hedge fixed indexed annuity (FIA) liabilities and (2) the disallowance of offsetting tax deductions taken by AAIA and taxable income reported by the non-life subgroup with respect to unpaid independent marketing organization commissions. Athene USA filed suit in federal court contesting the IRS's position after negotiations proved unsuccessful. We resolved this matter with the IRS through a Closing Agreement on Final Determination Covering Specific Matters (Form 906). The resolution did not have a material impact on our financial position or results of operations. The court dismissed the matter on December 17, 2018.

Corporate-owned Life Insurance (COLI) Matter – In 2000 and 2001, two insurance companies which were subsequently merged into AAIA purchased from American General Life Insurance Company (American General) broad based variable COLI policies that, as of December 31, 2018, had an asset value of $362 million, and is included in other assets on the consolidated balance sheets. In January 2012, the COLI policy administrator delivered to AAIA a supplement to the existing COLI policies and advised that American General and ZC Resource Investment Trust (ZC Trust) had unilaterally implemented changes set forth in the supplement that if effective, would: (1) potentially negatively impact the crediting rate for the policies and (2) change the exit and surrender protocols set forth in the policies. In March 2013, AAIA filed suit against American General, ZC Trust, and ZC Resource LLC in Chancery Court in Delaware, seeking, among other relief, a declaration that the changes set forth in the supplement were ineffectual and in breach of the parties' agreement. The parties filed cross motions for judgment as a matter of law, and the court granted defendants' motion and dismissed without prejudice on ripeness grounds. The issue that negatively impacts the crediting rate for one of the COLI policies has subsequently been triggered and on April 3, 2018, we filed suit against the same defendants in Chancery Court in Delaware seeking substantially similar relief, which the defendants have moved to dismiss. The Court heard oral arguments on February 13, 2019 and has taken the matter under advisement. If the supplement is ultimately deemed to be effective, the purported changes to the policies could impair AAIA's ability to access the value of guarantees associated with the policies. The value of the guarantees included within the asset value reflected above is $187 million as of December 31, 2018.

Holzer Matter – On September 12, 2016, Jack Holzer and Mary Bruesh-Holzer filed suit in Jackson County, Missouri against several defendants, including AADE, as successor-in-interest to Business Men's Assurance Company of America. Mr. Holzer allegedly sustained injuries due to asbestos exposure from 1966–1973 while working in an office building in Kansas City, Missouri, then owned by Business Men's Assurance Company of America. Plaintiffs asserted strict liability and negligence claims against AADE. On February 26, 2018, an agreement was reached that resulted in the settlement of this matter. The settlement had no impact on our financial condition, results of operations or cash flows.

Regulatory Matters – Our U.S. insurance subsidiaries have experienced increased service and administration complaints related to the conversion and administration of the block of life insurance business acquired in connection with our acquisition of Aviva USA and reinsured to affiliates of Global Atlantic. The life insurance policies included in this block have been and are currently being administered by AllianceOne Inc. (AllianceOne), a subsidiary of DXC Technology Company, which was retained by such Global Atlantic affiliates to provide services on such policies. AllianceOne also administers certain annuity policies that were on Aviva USA's legacy policy administration systems that were also converted in connection with the acquisition of Aviva USA and have experienced similar service and administration issues.

As a result of the difficulties experienced with respect to the administration of such policies, we have received notifications from several state regulators, including but not limited to the New York State Department of Financial Services (NYSDFS), the California Department of Insurance (CDI) and the Texas Department of Insurance, indicating, in each case, that the respective regulator planned to undertake a market conduct examination or enforcement proceeding of the applicable U.S. insurance subsidiary relating to the treatment of policyholders subject to our reinsurance agreements with affiliates of Global Atlantic and the conversion of such annuity policies, including the administration of such blocks by AllianceOne. On June 28, 2018 we entered into a consent order with the NYSDFS resolving that matter in a manner that, when considering the indemnification received from affiliates of Global Atlantic, did not have a material impact on our financial condition, results of operations or cash flows.

In addition to the foregoing, we have received inquiries, and expect to continue to receive inquiries, from other regulatory authorities regarding the conversion matter. In addition to the examinations and proceedings initiated to date, it is possible that other regulators may pursue similar formal examinations, inquiries or enforcement proceedings and that any examinations, inquiries and/or enforcement proceedings may result in fines, administrative penalties and payments to policyholders. While we do not expect the amount of any such fines, penalties or payments arising from these matters to be material to our financial condition, results of operations or cash flows, it is possible that such amounts could be material.

Pursuant to the terms of the reinsurance agreements between us and the relevant affiliates of Global Atlantic, the applicable affiliates of Global Atlantic have financial responsibility for the ceded life block and are subject to significant administrative service requirements, including compliance with applicable law. The agreements also provide for indemnification to us, including for administration issues.

On January 23, 2019, we received a letter from the NYSDFS, with respect to a recent PRT transaction, which expressed concerns with our interpretation and reliance upon certain exemptions from licensing in New York in connection with certain activities performed by employees in our PRT channel, including specific activities performed within New York. We are currently in discussions with the NYSDFS to identify approaches to resolve its concerns. Reasonably possible losses, if any, cannot be estimated at this time.