MetLife Reinsurance Company of Bermuda, Ltd.

Financial Statements

As of and for the Years ended December 31, 2018 and 2017 and Independent Auditors' Report

Deloitte.

Deloitte & Touche LLP
Certified Public Accountants
201 North Franklin Street
Suite 3600
Tampa, FL 33602-5818
USA

Tel: +1 813 273 8300
Fax: +1 813 229 7698
www.deloitte.com

INDEPENDENT AUDITORS' REPORT

To the Board of Directors of MetLife Reinsurance Company of Bermuda, Ltd.:

We have audited the accompanying financial statements of MetLife Reinsurance Company of Bermuda, Ltd. (an indirect wholly-owned subsidiary of MetLife, Inc.) (the "Company"), which comprise the balance sheets as of December 31, 2018 and 2017, and the related statements of operations, comprehensive income (loss), stockholder's equity, and cash flows for the years then ended, and the related notes to the financial statements (collectively referred to as the "financial statements").

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these 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 financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these 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 financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the 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 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 financial statements referred to above present fairly, in all material respects, the financial position of MetLife Reinsurance Company of Bermuda, Ltd. as of December 31, 2018 and 2017, and the results of their operations and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1 to the financial statements, since the Company is a member of a controlled group of affiliated companies, its results may not be indicative of those of a stand-alone entity. Our opinion is not modified with respect to this matter.

Restriction of Use

This report is intended solely for the information and use of the board of directors and the management of MetLife Reinsurance Company of Bermuda, Ltd. and for filing with the Bermuda Monetary Authority to whose jurisdiction the company is subject and is not intended to be and should not be used by anyone other than these specified parties.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the information about incurred and paid claims development prior to 2018 within Note 2 to the financial statements be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Financial Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Deloitte & Touche LLP

April 30, 2019

MetLife Reinsurance Company of Bermuda, Ltd.

Balance Sheets
December 31, 2018 and 2017

(In thousands, except share and per share data)

	2018	2017
Assets		
Investments:		
Fixed maturity securities available-for-sale, at estimated fair value (amortized cost: $3,974,979 and $4,682,048, respectively)	$ 3,770,902	$ 4,624,831
Short-term investments, at estimated fair value	760	24,980
Derivative assets, at estimated fair value	379,615	941,026
Funds withheld at interest	199,408	52,681
Total investments	4,350,685	5,643,518
Cash and cash equivalents, principally at estimated fair value	1,373,006	1,296,027
Accrued investment income	40,823	55,227
Premiums, reinsurance and other receivables	707,584	359,030
Deferred policy acquisition costs and value of business acquired	124,192	65,975
Total assets	$ 6,596,290	$ 7,419,777
Liabilities and Stockholder's Equity		
Liabilities		
Future policy benefits	$ 432,662	$ 181,663
Policyholder account balances, at estimated fair value	4,053,663	4,101,158
Other policy-related balances	401,905	34,558
Derivative liabilities, at estimated fair value	182,133	196,383
Derivative collateral payable for reinsurance transactions	246,093	865,466
Other liabilities	215,400	11,914
Total liabilities	$ 5,531,856	5,391,142
Contingencies, Commitments and Guarantees (Note 12)		
Stockholder's Equity		
Common stock, par value $250,000 per share; 4,000 shares authorized: 2,000 shares issued and outstanding	500,000	500,000
Additional paid-in capital	373,135	523,135
Retained earnings	439,290	1,030,555
Accumulated other comprehensive income (loss)	(247,991)	(25,055)
Total stockholder's equity	1,064,434	2,028,635
Total liabilities and stockholder's equity	$ 6,596,290	$ 7,419,777

See accompanying notes to the financial statements.

MetLife Reinsurance Company of Bermuda, Ltd.

Statements of Operations
For the Years Ended December 31, 2018 and 2017

(In thousands)

	2018	2017
Revenues		
Premiums	$ 313,468	$ 69,187
Universal life and investment-type product policy fees	103,675	113,560
Net investment income	127,414	129,839
Net investment gains (losses)	(26,625)	338
Net derivative gains (losses)	129,494	(192,734)
Other revenues	811	—
Total revenues	648,237	120,190
Expenses		
Policyholder benefits and claims	306,381	283,121
Other expenses	1,469	(44,644)
Total expenses	307,850	238,477
Income (loss) before provision for foreign withholding tax	340,387	(118,287)
Provision for foreign withholding tax expense (benefit)	1,652	—
Net income (loss)	$ 338,735	$ (118,287)

See accompanying notes to the financial statements.

MetLife Reinsurance Company of Bermuda, Ltd.

Statements of Comprehensive Income (Loss)
For the Years Ended December 31, 2018 and 2017

(In thousands)

	2018	2017
Net income (loss)	$ 338,735	$ (118,287)
Other comprehensive income (loss):		
Unrealized investment gains (losses), net of related offsets	(146,838)	122,622
Foreign currency translation adjustments	(76,098)	63,302
Other comprehensive income (loss)	(222,936)	185,924
Comprehensive income (loss)	$ 115,799	$ 67,637

See accompanying notes to the financial statements.

MetLife Reinsurance Company of Bermuda, Ltd.

Statements of Stockholder's Equity
For the Years Ended December 31, 2018 and 2017

(In thousands)

	Common Stock	Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Stockholder's Equity
Balance at December 31, 2016	$ 500,000	$ 523,135	$ 1,148,842	$ (210,979)	$ 1,960,998
Net income (loss)			(118,287)		(118,287)
Other comprehensive income (loss)				185,924	185,924
Balance at December 31, 2017	500,000	523,135	1,030,555	$ (25,055)	2,028,635
Return of capital		(150,000)			(150,000)
Dividends on common stock			(930,000)		(930,000)
Net income (loss)			338,735		338,735
Other comprehensive income (loss)				(222,936)	(222,936)
Balance at December 31, 2018	$ 500,000	$ 373,135	$ 439,290	$ (247,991)	$ 1,064,434

See accompanying notes to the financial statements.

MetLife Reinsurance Company of Bermuda, Ltd.

Statements of Cash Flows
For the Years Ended December 31, 2018 and 2017

(In thousands)

	2018	2017
Cash flows from operating activities		
Net income (loss)	$ 338,735	$ (118,287)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:		
Amortization of premiums and accretion of discounts associated with investments, net	24,247	36,959
(Gains) losses on investments, net	26,625	(338)
(Gains) losses on derivatives, net	3,588	350,440
Policyholder benefits and claims	(52,065)	146,391
Change in accrued investment income	(9,132)	(19,784)
Change in premiums, reinsurance and other receivables	(513,327)	70,972
Change in deferred policy acquisition costs and value of business acquired, net	(56,452)	(65,975)
Change in future policy benefits and policy-related balances	482,926	119,209
Change in other liabilities	204,452	(31,490)
Other, net	(2,404)	1,391
Net cash provided by (used in) operating activities	447,193	489,488
Cash flows from investing activities		
Sales and maturities of fixed maturity securities available-for-sale	2,002,327	1,573,836
Purchases of fixed maturity securities available-for-sale	(1,175,157)	(1,038,292)
Cash received in connection with freestanding derivatives	574,307	480,039
Cash paid in connection with freestanding derivatives	(437,042)	(1,101,800)
Net change in short-term investments	23,945	44,288
Net change in funds withheld at interest	(5,381)	(23,469)
Other, net	(4,228)	(13,428)
Net cash provided by (used in) investing activities	978,771	(78,826)
Cash flows from financing activities		
Policyholder account balances withdrawals	(230,955)	(264,434)
Net change in derivative collateral payable for reinsurance transactions	(290,767)	99,085
Financing element on certain derivative instruments	295,684	(51,345)
Return of capital	(150,000)	—
Dividends on common stock	(930,000)	—
Other, net	—	(467)
Net cash provided by (used in) financing activities	(1,306,038)	(217,161)
Effect of change in foreign currency exchange rates on cash and cash equivalents balances	(42,947)	72,771
Change in cash and cash equivalents	76,979	266,272
Cash and cash equivalents, beginning of year	1,296,027	1,029,755
Cash and cash equivalents, end of year	$ 1,373,006	$ 1,296,027
Supplemental disclosures of cash flow information:		
Net cash paid (received) for:		
Foreign withholding tax	$ 1,652	$ —
Non-cash transactions		
Increase in funds withheld at interest (See Note 4)	$ 131,115	$ —

See accompanying notes to the financial statements.

1. Business, Basis of Presentation and Summary of Significant Accounting Policies

Business

MetLife Reinsurance Company of Bermuda, Ltd. (the "Company" or "MRB") is a wholly-owned subsidiary of MetLife Global Holding Company II GmbH ("Swiss II"), which is a Swiss domiciled holding company, located in the Canton of Zug. Swiss II is an indirect, wholly-owned subsidiary of MetLife, Inc. ("MetLife").

The Company was incorporated in Bermuda and is licensed as a Class E Insurer under the Bermuda Insurance Act of 1978 (the "Act"). The Company engages in traditional and financial reinsurance with both affiliated and non-affiliated companies.

Basis of Presentation

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("GAAP") which require management to adopt accounting policies and make estimates and assumptions that affect amounts reported in the financial statements. In applying these policies and estimates, management makes subjective and complex judgments that frequently require assumptions about matters that are inherently uncertain. Many of these policies, estimates and related judgments are common in the insurance and financial services industries; others are specific to the Company's business and operations. Actual results could differ from estimates.

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

Summary of Significant Accounting Policies

The following are the Company's significant accounting policies with references to notes providing additional information on such policies and critical accounting estimates relating to such policies.

Accounting Policy	Note
Reserves	2
Deferred Policy Acquisition Costs and Value of Business Acquired	3
Reinsurance	4
Investments	5
Derivatives	6
Fair Value	7
Income Tax	11
Contingencies, Commitments and Guarantees	12

Future Policy Benefits, Policyholder Account Balances and Other Policy-Related Balances

The Company establishes liabilities for insurance policies assumed by the Company. Generally, amounts are payable over an extended period of time and related liabilities are calculated as the present value of future expected benefits to be paid reduced by the present value of future expected premiums. Such liabilities are established based on methods and underlying assumptions in accordance with GAAP and applicable actuarial standards. Principal assumptions used in the establishment of liabilities for future policy benefits ("FPBs") are mortality, morbidity, policy lapse, renewal, retirement, disability incidence, disability terminations, investment returns, inflation, expenses and other contingent events as appropriate to the respective product type and geographical area.

These assumptions are established at the time the policy is reinsured and are intended to estimate the experience for the period the policy benefits are payable. Utilizing these assumptions, liabilities are established on a block of business basis. For long-duration insurance contracts, assumptions such as mortality, morbidity and interest rates are "locked in" upon the issuance of new business. However, significant adverse changes in experience on such contracts may require the establishment of premium deficiency reserves. Such reserves are determined based on the then current assumptions and do not include a provision for adverse deviation.

1. Business, Basis of Presentation and Summary of Significant Accounting Policies (continued)

Premium deficiency reserves may also be established for short-duration contracts to provide for expected future losses. These reserves are based on actuarial estimates of the amount of loss inherent in that period, including losses incurred for which claims have not been reported. The provisions for unreported claims are calculated using studies that measure the historical length of time between the incurred date of a claim and its eventual reporting to the Company. Anticipated investment income is considered in the calculation of premium deficiency losses for short-duration contracts.

The Company regularly reviews its estimates of liabilities for future policy benefits and compares them with its actual experience. Differences result in changes to the liability balances with related charges or credits to benefit expenses in the period in which the changes occur.

The Company assumed guaranteed minimum benefits associated with certain variable annuity product risks that provide the policyholder a minimum return based on their initial deposit less withdrawals. These guarantees are accounted for as insurance liabilities or as embedded derivatives depending on how and when the benefit is paid. Specifically, a guarantee is accounted for as an embedded derivative if a guarantee is paid without requiring (i) the occurrence of a specific insurable event, or (ii) the policyholder to annuitize. Alternatively, a guarantee is accounted for as an insurance liability if the guarantee is paid only upon either (i) the occurrence of a specific insurable event, or (ii) annuitization. In certain cases, a guarantee may have elements of both an insurance liability and an embedded derivative and in such cases the guarantee is split and accounted for under both models.

Guarantees assumed are accounted for as insurance liabilities in future policy benefits and include guaranteed minimum death benefits (“GMDB”) and the life-contingent portion of guaranteed minimum withdrawal benefits (“GMWB”).

Guarantees assumed are accounted for as embedded derivatives in policyholder account balances (“PABs”) and include the non-life-contingent portion of GMWB and guaranteed minimum accumulation benefits (“GMAB”). At inception, the Company attributes to the embedded derivative a portion of the projected future guarantee fees to be collected from the policyholder equal to the present value of projected future guaranteed benefits. Any additional fees represent “excess” fees and are reported in universal life and investment-type product policy fees.

The Company has elected to account for certain assumed reinsurance liabilities at fair value that are reported in PABs (See Notes 4 and 7).

Other policy-related balances include assumed policy and contract claims and experience rated refunds due and unpaid.

The liability for policy and contract claims generally relates to assumed incurred but not reported (“IBNR”) death and disability claims, as well as claims assumed which have been reported but not yet settled. The liability for these claims is based on the Company’s estimated ultimate cost of settling all claims. The Company derives estimates for the development of IBNR claims principally from analyses of historical patterns of claims by business line. The methods used to determine these estimates are continually reviewed. Adjustments resulting from this continuous review process and differences between estimates and payments for claims are recognized in policyholder benefits and claims expense in the period in which the estimates are changed or payments are made.

Recognition of Insurance Revenue and Related Benefits

Premiums related to traditional life, annuity contracts with life contingencies, and long-duration accident & health policies are recognized as revenues when due from policyholders. Policyholder benefits and expenses are provided to recognize profits over the estimated lives of the insurance policies. When premiums are due over a significantly shorter period than the period over which benefits are provided, any excess profit is deferred and recognized into earnings in a constant relationship to insurance in-force or, for annuities, the amount of expected future policy benefit payments.

Premiums related to short-duration contracts are recognized on a pro rata basis over the applicable contract term.

For assumed reinsurance agreements that the Company has elected to account for at fair value under fair value option (“FVO”), the entire change in fair value is reported in policyholder benefits and claims (See Note 4).

1. Business, Basis of Presentation and Summary of Significant Accounting Policies (continued)

Deferred Policy Acquisition Costs and Value of Business Acquired

The Company reimburses the direct writer of the reinsured business for significant costs in connection with acquiring new and renewal reinsurance business. Costs that are related directly to the successful acquisition or renewal of reinsurance agreements are capitalized as deferred acquisition costs ("DAC"). Such costs primarily include:

- incremental direct costs of contract acquisition, such as commissions; and
- other essential direct costs that would not have been incurred had a policy not been acquired or renewed.

All other acquisition-related costs are expensed as incurred.

Value of business acquired ("VOBA") is an intangible asset resulting from a business combination that represents the excess of book value over the estimated fair value of acquired insurance, annuity, and investment-type contracts in-force at the acquisition date. The estimated fair value of the acquired liabilities is based on projections, by each block of business, of future policy and contract charges, premiums, mortality and morbidity, separate account performance, surrenders, operating expenses, investment returns, nonperformance risk adjustment and other factors. Actual experience on the purchased business may vary from these projections.

DAC and VOBA for nonparticipating and non-dividend-paying traditional contracts are amortized based on actual and expected future gross premiums.

See Note 3 for additional information on DAC and VOBA amortization. Amortization of DAC and VOBA is included in other expenses.

The recovery of DAC and VOBA is dependent upon the future profitability of the related business. DAC and VOBA are aggregated in the financial statements for reporting purposes.

Reinsurance

For each of its reinsurance agreements, the Company determines whether the agreement provides indemnification against loss or liability relating to insurance risk in accordance with applicable accounting standards. Cessions under reinsurance agreements do not discharge the ceding company's obligations as the insurer. The Company reviews all contractual features, including those that may limit the amount of insurance risk to which the Company is subject or features that delay the timely reimbursement of claims.

Other than a certain agreement elected to be accounted for on a fair value basis, for reinsurance of existing in-force blocks of long-duration contracts that transfer significant insurance risk, the difference, if any, between the amounts paid (received), and the liabilities ceded (assumed) related to the underlying contracts is considered the net cost of reinsurance at the inception of the reinsurance agreement. The net cost of reinsurance is recorded as DAC when there is a loss at inception on the assuming entity and to other liabilities when there is a gain at inception. The net cost of reinsurance is subsequently amortized on a basis consistent with the methodology used for amortizing DAC related to the underlying reinsured contracts. The amortization on the net cost of reinsurance is recognized in other expenses when there is a loss at inception and within policyholder benefits and claims when there is a gain. Subsequent amounts paid (received) on the reinsurance of in-force blocks, as well as amounts paid (received) related to new business, are recorded as ceded (assumed) premiums and ceded (assumed) future policy benefit liabilities are established.

For prospective reinsurance of short-duration contracts that meet the criteria for reinsurance accounting, amounts paid (received) are recorded as ceded (assumed) premiums and ceded (assumed) unearned premiums. Unearned premiums are reflected as a component of premiums, reinsurance and other receivables (future policy benefits). Such amounts are amortized through earned premiums over the remaining contract period in proportion to the amount of insurance protection provided.

1. Business, Basis of Presentation and Summary of Significant Accounting Policies (continued)

Amounts currently recoverable under reinsurance agreements are included in premiums, reinsurance and other receivables and amounts currently payable are included in other liabilities. Assets and liabilities relating to reinsurance agreements with the same reinsurer may be recorded net on the balance sheet, if a right of offset exists within the reinsurance agreement. In the event that reinsurers do not meet their obligations to the Company under the terms of the reinsurance agreements, reinsurance recoverable balances could become uncollectible. In such instances, reinsurance recoverable balances are stated net of allowances for uncollectible reinsurance.

Other than a certain reinsurance agreement elected to be accounted for on a fair value basis, premiums, fees and policyholder benefits and claims include amounts assumed under reinsurance agreements and are net of reinsurance ceded. Amounts received from reinsurers for policy administration are reported in other revenues. Certain assumed GMWB and GMAB business are accounted for as embedded derivatives with changes in estimated fair value reported in net derivative gains (losses).

For a certain assumed reinsurance agreement that the Company has elected to account for on a fair value basis, the entire change in fair value is reported in policyholder benefits and claims (See Note 4).

If the Company determines that a reinsurance agreement does not expose the reinsurer to a reasonable possibility of a significant loss from insurance risk, the Company records the agreement using the deposit method of accounting. Deposits received are included in other liabilities and deposits made are included within premiums, reinsurance and other receivables. As amounts are paid or received, consistent with the underlying contracts, the deposit assets or liabilities are adjusted. Interest on such deposits is recorded as other revenues or other expenses, as appropriate. Periodically, the Company evaluates the adequacy of the expected payments or recoveries and adjusts the deposit asset or liability through other revenues or other expenses, as appropriate.

Investments

Net Investment Income and Net Investment Gains (Losses)

Income from investments is reported within net investment income, unless otherwise stated herein. Gains and losses on sales of investments and impairment losses are reported within net investment gains (losses), unless otherwise stated herein.

Fixed Maturity Securities

The Company's fixed maturity securities are classified as available-for-sale ("AFS") and are reported at their estimated fair value. Unrealized investment gains and losses on these securities are recorded as net unrealized gain (losses) on investments within the stockholder's equity component of other comprehensive income (loss) ("OCI"), net of policyholder-related amounts. All security transactions are recorded on a trade date basis. Investment gains and losses on sales are determined on a specific identification basis.

Interest income and prepayment fees are recognized when earned. Interest income is recognized using an effective yield method giving effect to amortization of premiums and accretion of discounts, and is based on the estimated economic life of the securities, which for mortgage-backed and asset-backed securities considers the estimated timing and amount of prepayments of the underlying loans. See Note 5 "— Investments — Fixed Maturity Securities AFS — Methodology for Amortization of Premium and Accretion of Discount on Structured Securities." The amortization of premium and accretion of discount of fixed maturity securities also takes into consideration call and maturity dates.

The Company periodically evaluates fixed maturity securities for impairment. The assessment of whether impairments have occurred is based on management's case-by-case evaluation of the underlying reasons for the decline in estimated fair value and an analysis of the gross unrealized losses by severity and/or age. The analysis of gross unrealized losses is described further in Note 5 "—Evaluation of AFS Securities for OTTI and Evaluating Temporarily Impaired AFS Securities."

1. Business, Basis of Presentation and Summary of Significant Accounting Policies (continued)

For fixed maturity securities in an unrealized loss position, an other-than-temporary impairment ("OTTI") is recognized in earnings when it is anticipated that the amortized cost will not be recovered. When either: (i) the Company has the intent to sell the security; or (ii) it is more likely than not that the Company will be required to sell the security before recovery, the OTTI recognized in earnings is the entire difference between the security's amortized cost and estimated fair value. If neither of these conditions exist, the difference between the amortized cost of the security and the present value of projected future cash flows expected to be collected is recognized as an OTTI in earnings ("credit loss"). If the estimated fair value is less than the present value of projected future cash flows expected to be collected, this portion of OTTI related to other-than-credit factors ("noncredit loss") is recorded in OCI.

Short-term Investments

Short-term investments include securities and other investments with remaining maturities of one year or less, but greater than three months, at the time of purchase and are stated at estimated fair value or amortized cost, which approximates estimated fair value.

Derivative Assets

Derivative assets consist of freestanding derivatives with positive estimated fair values and are described in "— Derivatives" below.

Funds Withheld at Interest

Funds withheld at interest represent amounts contractually withheld by ceding companies in accordance with reinsurance agreements. The Company records a funds withheld at interest asset rather than the underlying investments and records income and valuation changes in accordance with the agreement. The Company recognizes interest income earned, which is reported within other revenues, and recognizes the change in estimated fair value of funds withheld at interest, which is reported within net derivative gains (losses).

Derivatives

Freestanding Derivatives

Freestanding derivatives are carried in the Company's balance sheet either as assets within derivative assets or as liabilities within derivative liabilities at estimated fair value. The Company does not offset the fair value amounts recognized for derivatives executed with the same counterparty under the same master netting agreement.

Accruals on derivatives are generally recorded in accrued investment income or within derivative liabilities. However, accruals that are not scheduled to settle within one year are included with the derivatives carrying value in derivative assets or derivative liabilities.

The Company's derivatives are not designated as qualifying for hedge accounting. Changes in the estimated fair value of derivatives are generally reported in net derivative gains (losses) and the fluctuations in estimated fair value of derivatives can result in significant volatility in net income.

Embedded Derivatives

The Company assumes variable annuity guarantees that contain embedded derivatives. The Company assesses each identified embedded derivative to determine whether it is required to be bifurcated. The embedded derivative is bifurcated from the host contract and accounted for as a freestanding derivative if:

- the combined instrument is not accounted for in its entirety at fair value with changes in fair value recorded in earnings;
- the terms of the embedded derivative are not clearly and closely related to the economic characteristics of the host contract; and
- a separate instrument with the same terms as the embedded derivative would qualify as a derivative instrument.

1. Business, Basis of Presentation and Summary of Significant Accounting Policies (continued)

Such embedded derivatives are carried in the balance sheet at estimated fair value with the host contract and changes in their estimated fair value are generally reported in net derivative gains (losses) for assumed reinsurance. At inception, the Company attributes to the embedded derivative a portion of the projected future guarantee fees to be collected from the policyholder equal to the present value of projected future guaranteed benefits. Any additional fees represent "excess" fees and are reported in universal life and investment-type product policy fees.

Fair Value

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. In most cases, the exit price and the transaction (or entry) price will be the same at initial recognition.

Subsequent to initial recognition, fair values are based on unadjusted quoted prices for identical assets or liabilities in active markets that are readily and regularly obtainable. When such quoted prices are not available, fair values are based on quoted prices in markets that are not active, quoted prices for similar but not identical assets or liabilities, or other observable inputs. If these inputs are not available, or observable inputs are not determinative, unobservable inputs and/or adjustments to observable inputs requiring management judgment are used to determine the fair value of assets and liabilities.

Other Accounting Policies

Cash and Cash Equivalents

The Company considers all highly liquid securities and other investments purchased with an original or remaining maturity of three months or less at the date of purchase to be cash equivalents. Cash equivalents are stated at amortized cost, which approximates estimated fair value.

Other Revenues

Other revenues consist of interest on funds withheld.

Foreign Currency

Assets and liabilities accounts that are settled in foreign currencies are translated from the functional currency to U.S. dollars at the exchange rates in effect at each year-end and revenue and expense accounts are translated at the average exchange rates during the year. The resulting translation adjustments are charged or credited directly to OCI. Gains and losses from foreign currency transactions including the effect of re-measurement of monetary assets and liabilities to the appropriate functional currency, are reported as part of net investment gains (losses) in the period in which they occur.

Recent Accounting Pronouncements

Changes to GAAP are established by the Financial Accounting Standards Board ("FASB") in the form of accounting standards updates ("ASUs") to the FASB Accounting Standards Codification. The Company considers the applicability and impact of all ASUs. The following tables provide a description of new ASUs issued by the FASB and the impact of the adoption on the Company's financial statements.

Adoption of New Accounting Pronouncements

Except as noted below, the ASUs adopted by the Company effective January 1, 2018 did not have a material impact on its financial statements.

Other

Effective January 16, 2018, the London Clearing House ("LCH") amended its rulebook, resulting in the characterization of variation margin transfers as settlement payments, as opposed to adjustments to collateral. These amendments impacted the accounting treatment of the Company's centrally cleared derivatives, for which the LCH serves as the central clearing party. As of the effective date, the application of the amended rulebook reduced gross derivative assets by $325 million, gross derivative liabilities by $7 million, accrued investment income by $8 million, and collateral payables recorded within payables for collateral under securities loaned and other transactions by $325 million.

1. Business, Basis of Presentation and Summary of Significant Accounting Policies (continued)

Effective January 3, 2017, the Chicago Mercantile Exchange ("CME") amended its rulebook, resulting in the characterization of variation margin transfers as settlement payments, as opposed to adjustments to collateral. These amendments impacted the accounting treatment of the Company's centrally cleared derivatives for which the CME serves as the central clearing party. As of the effective date, the application of the amended rulebook reduced gross derivative assets by $777 million, gross derivative liabilities by $487 million, accrued investment income by $15 million, accrued investment expense recorded within other liabilities by $3 million, and collateral payables recorded within payables for collateral under securities loaned and other transactions of $301 million.

Future Adoption of New Accounting Pronouncements

ASUs not listed below were assessed and either determined to be not applicable or are not expected to have a material impact on the Company's financial statements. ASUs issued but not yet adopted as of December 31, 2018 that are being assessed and may or may not have a material impact on the Company's financial statements are summarized in the table below.

Standard	Description	Effective Date and Method of Adoption	Impact on Financial Statements
ASU 2018-16, *Derivatives and Hedging (Topic 815): Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedge Accounting Purposes*	The new guidance permits the use of the overnight index swap rate based on the Secured Overnight Financing Rate as a U.S. benchmark interest rate for hedge accounting purposes under Topic 815.	January 1, 2019, to be applied prospectively for qualifying new or redesignated hedging relationships entered into after January 1, 2019.	The Company does not expect the adoption to have a material impact on its financial statements.
ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework-Changes to the Disclosure Requirements for Fair Value Measurement*	The new guidance modifies the disclosure requirements on fair value by removing some requirements, modifying others, adding changes in unrealized gains and losses included in OCI for recurring Level 3 fair value measurements, and under certain circumstances, providing the option to disclose certain other quantitative information with respect to significant unobservable inputs in lieu of a weighted average.	January 1, 2020. Amendments related to changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty should be applied prospectively. All other amendments should be applied retrospectively.	As of December 31, 2018, the Company early adopted the provisions of the guidance that removed the requirements relating to transfers between fair value hierarchy levels and certain disclosures about valuation processes for Level 3 fair value measurements. The Company will adopt the remainder of the new guidance at the effective date, and is currently evaluating the impact of those changes on its financial statements.
ASU 2018-12, *Financial Services-Insurance (Topic 944): Targeted Improvements to the Accounting for Long-Duration Contracts*	The new guidance (i) prescribes the discount rate to be used in measuring the liability for future policy benefits for traditional and limited payment long-duration contracts, and requires assumptions for those liability valuations to be updated after contract inception, (ii) requires more market-based product guarantees on certain separate account and other account balance long-duration contracts to be accounted for at fair value, (iii) simplifies the amortization of DAC for virtually all long-duration contracts, and (iv) introduces certain financial statement presentation requirements, as well as significant additional quantitative and qualitative disclosures.	January 1, 2021, to be applied retrospectively to January 1, 2019 (with early adoption permitted).	The Company has started its implementation efforts and is currently evaluating the impact of the new guidance. Given the nature and extent of the required changes to a significant portion of the Company's operations, the adoption of this standard is expected to have a material impact on its financial statements.
ASU 2017-12, *Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*	The new guidance simplifies the application of hedge accounting in certain situations and amends the hedge accounting model to enable entities to better portray the economics of their risk management activities in their financial statements.	January 1, 2019, to be applied on a modified retrospective basis through a cumulative effect adjustment to retained earnings.	The adoption of the new guidance will not have a material impact on the Company's financial statements.

1. Business, Basis of Presentation and Summary of Significant Accounting Policies (continued)

Standard	Description	Effective Date and Method of Adoption	Impact on Financial Statements
ASU 2017-08, *Receivables - Nonrefundable Fees and Other Costs (Subtopic 310-20), Premium Amortization on Purchased Callable Debt Securities*	The new guidance shortens the amortization period for certain callable debt securities held at a premium and requires the premium to be amortized to the earliest call date. However, the new guidance does not require an accounting change for securities held at a discount whose discount continues to be amortized to maturity.	January 1, 2019, to be applied on a modified retrospective basis through a cumulative effect adjustment to retained earnings.	The adoption of the new guidance will not have a material impact on the Company's financial statements.
ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments,* as clarified and amended by ASU 2018-19*, Codification Improvements to Topic 326, Financial Instruments-Credit Losses*	This new guidance replaces the incurred loss impairment methodology with one that reflects expected credit losses. The measurement of expected credit losses should be based on historical loss information, current conditions, and reasonable and supportable forecasts. The new guidance requires that an OTTI on a debt security will be recognized as an allowance going forward, such that improvements in expected future cash flows after an impairment will no longer be reflected as a prospective yield adjustment through net investment income, but rather a reversal of the previous impairment and recognized through realized investment gains and losses. The guidance also requires enhanced disclosures. In November 2018, the FASB issued ASU 2018-19, clarifying that receivables arising from operating leases should be accounted for in accordance with *Topic 842, Leases.* The Company has assessed the asset classes impacted by the new guidance and is currently assessing the accounting and reporting system changes that will be required to comply with the new guidance.	January 1, 2020. For substantially all financial assets, the ASU is to be applied on a modified retrospective basis through a cumulative effect adjustment to retained earnings. For previously impaired debt securities and certain debt securities acquired with evidence of credit quality deterioration since origination, the new guidance is to be applied prospectively.	The Company believes that the most significant impact upon adoption will be to its mortgage loan investments. The Company is currently evaluating the impact of the new guidance on its financial statements.

2. Reserves

Reinsurance Liabilities

Future policy benefits are measured as follows:

Product Type:	Measurement Assumptions:
Variable annuities	Present value of expected future payments. Interest rate assumptions used in establishing such liabilities range from 2.40% to 3.50%.
Assumed traditional fixed annuities after annuitization	Present value of expected future payments. Interest rate assumptions used in establishing such liabilities range from 0.01% to 5.60%.
Accident and health insurance	Present value of expected future payments. Interest rate assumptions used in establishing such liabilities is 1.50%.
Disabled lives	Present value of benefits method and experience assumptions as to claim terminations, expenses and interest. Interest rate assumptions used in establishing such liabilities range from 0.5% to 7%.
Nonparticipating life	Gross premium valuation using best estimate assumptions, United States dollar swap rates and an adjustment for MetLife credit default swaps. Interest rate assumptions for the aggregate future policy benefit liabilities range from 0.25% to 2.50%.

Guarantees

The Company assumes variable annuity products with guaranteed minimum benefits. The non-life contingent portion of both GMWB and GMAB are accounted for as embedded derivatives in PABs and are further discussed in Note 6. Guarantees accounted for as reinsurance liabilities include:

Guarantee:		Measurement Assumptions:
GMDBs	• A return of purchase payment upon death even if the account value is reduced to zero.	• Present value of expected death benefits in excess of the projected account balance recognizing the excess ratably over the accumulation period based on the present value of total expected assessments. • Investment performance and volatility assumptions are consistent with the historical experience of the appropriate underlying equity index, such as the S&P 500 Index. • Benefit assumptions are based on the average benefits payable over a range of scenarios.
GMWBs	• A return of purchase payment via partial withdrawals, even if the account value is reduced to zero, provided that cumulative withdrawals in a contract year do not exceed a certain limit. • Certain contracts include guaranteed withdrawals that are life contingent.	• Expected value of the life contingent payments and expected assessments using assumptions consistent with those used for estimating the GMDBs liabilities.

2. Reserves (continued)

Information regarding the liabilities for guarantees (excluding embedded derivatives) relating to annuity contracts was as follows:

	Annuity Contracts		
	GMDBs	GMWBs	Total
		(In thousands)	
Assumed			
Balance at January 1, 2016	$ 118,437	$ 8,180	$ 126,617
Incurred guaranteed benefits	38,275	(2,543)	35,732
Paid guaranteed benefits	(5,648)	—	(5,648)
Balance at December 31, 2016	151,064	5,637	156,701
Incurred guaranteed benefits	13,931	1,868	15,799
Paid guaranteed benefits	(3,012)	—	(3,012)
Balance at December 31, 2017	161,983	7,505	169,488
Incurred guaranteed benefits	(52,412)	31,440	(20,972)
Paid guaranteed benefits	(1,821)	$ —	(1,821)
Balance at December 31, 2018	$ 107,750	$ 38,945	$ 146,695

Liabilities for Unpaid Claims and Claim Expenses

The following is information about incurred and paid claims development as of December 31, 2018. Such amounts are presented net of reinsurance, and are not discounted. The tables present claims development and cumulative claim payments by incurral year. The development tables are only presented for significant short-duration product liabilities. In order to eliminate potential fluctuations related to foreign exchange rates, liabilities and payments denominated in a foreign currency have been translated using the 2018 year end spot rates for all periods presented. The information about incurred and paid claims development prior to 2018 is presented as supplementary information.

Group Life and Group Disability

	Incurred Claims and Allocated Claim Adjustment Expense, Net of Reinsurance		At December 31, 2018	
	For the Years Ended December 31,			
	(Unaudited)			
Incurral Year	2017	2018	Total IBNR Liabilities Plus Expected Development on Reported Claims	Cumulative Number of Reported Claims
	(Dollars in thousands)			
2017	$ 21,881	$ 10,951	$ 9,089	33
2018		42,146	41,192	49
Total		53,097		
Cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance		(2,816)		
Total unpaid claims and claim adjustment expenses, net of reinsurance		$ 50,281		

	Cumulative Paid Claims and Paid Allocated Claim Adjustment Expenses, Net of Reinsurance	
	For the Years Ended December 31,	
	(Unaudited)	
Incurral Year	2017	2018
	(In thousands)	
2017	$ 1,709	$ 1,863
2018		953
Total cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance		$ 2,816

Average Annual Percentage Payout

The following is supplementary information about average historical claims duration as of December 31, 2018:

	Average Annual Percentage Payout of Incurred Claims by Age	
Years	1	2
Group Life and Group Disability	9%	1%

Significant Methodologies and Assumptions

Group Life and Group Disability total incurred claims are calculated using a combination of loss ratio and development methods. The paid claims are removed to identify the total incurred but not reported ("IBNR") liabilities plus expected development of reported claims - typically pending claims and claims in the course of payment. The loss ratio method is used in the period in which the claims are neither sufficient nor credible. In developing the loss ratios, any material rate increases that could change the underlying premium without affecting the estimated incurred losses are taken into account. For periods where sufficient and credible claim data exists, the development method is used based on the claim triangles which categorize claims according to both the period in which they were incurred and the period in which they were paid, adjudicated or reported.

An expense liability is held for future expenses associated with the payment of incurred but not yet paid claims (IBNR and pending). This is expressed as a percentage of the underlying claims liability and is based on past experience and the anticipated future expense structure.

For Group Life and Group Disability, first year incurred claims and allocated loss adjustment expenses increased in 2018 compared to the 2017 incurral year due to the growth in the size of the business.

There were no significant changes in methodologies during 2018. The assumptions used in calculating the unpaid claims and claim adjustment expenses for Group Life and Group Disability are updated annually to reflect emerging trends in claim experience.

No additional premiums or return premiums have been accrued as a result of the prior year development.

Liabilities for Group Life and Group Disability unpaid claims and claim adjustment expenses were $52.2 million and $21.2 million at December 31, 2018 and 2017, respectively. Using interest rates ranging from 2% to 4%, based on the incurral year, the total discount applied to these liabilities was $458 thousand and $0 at December 31, 2018 and 2017, respectively. The amount of interest accretion recognized was $480 thousand and $300 thousand for the years ended December 31, 2018 and 2017, respectively. These amounts were reflected in policyholder benefits and claims.

For Group Life, claims were based upon individual death claims. For Group Disability, claim frequency was determined by the number of reported claims as identified by a unique claim number assigned to individual claimants.

Reconciliation of the Disclosure of Incurred and Paid Claims Development to the Liability for Unpaid Claims and Claim Adjustment Expenses

The reconciliation of the net incurred and paid claims development tables to the liability for unpaid claims and claims adjustment expenses on the balance sheet was as follows at:

	December 31, 2018
	(In thousands)
Unpaid claims and allocated claims adjustment expenses, net of reinsurance:	
Group Life and Group Disability	$ 50,281
Other insurance lines (1)	269,468
Total unpaid claims and allocated claims adjustment expenses, net of reinsurance	319,749
Reinsurance recoverables on unpaid claims:	
Group Life and Group Disability	—
Other insurance lines	—
Total reinsurance recoverable on unpaid claims	—
Liability for unpaid claims and claim adjustment liabilities - short-duration	319,749
Unallocated claims adjustment expenses	—
Discounting	(458)
Liability for unpaid claims and claim adjustment liabilities - short-duration	319,291
Liability for unpaid claims and claim adjustment liabilities - all long-duration lines	61,997
Total liability for unpaid claims and claim adjustment expense (included in other policy-related balances)	$ 381,288

(1) Includes $267.1 million related to the December 2018 finalization of a reinsurance agreement to assume global employee benefits business from a non-affiliated foreign reinsurer.

Rollforward of Claims and Claim Adjustment Expenses

Information regarding the liabilities for unpaid claims and claim adjustment expenses was as follows:

	Years Ended December 31,	
	2018	2017
	(In thousands)	
Balance at January 1,	$ 34,370	$ 10,498
Less: Reinsurance recoverables	—	—
Net balance at January 1,	34,370	10,498
Incurred related to:		
Current year	305,097	140,173
Prior years (1)	169,789	—
Total incurred	474,886	140,173
Paid related to:		
Current year	(111,022)	(105,802)
Prior years	(16,946)	(10,499)
Total paid	(127,968)	(116,301)
Net balance at December 31,	381,288	34,370
Add: Reinsurance recoverables	—	—
Balance at December 31,	$ 381,288	$ 34,370

(1) During 2018, claims and claim adjustment expenses associated with prior years increased due to the December 2018 finalization of a reinsurance agreement to assume global employee benefits business from a non-affiliated foreign reinsurer.

3. Deferred Policy Acquisition Costs and Value of Business Acquired

See Note 1 for a description of capitalized acquisition costs.

Nonparticipating and Non-Dividend-Paying Traditional Contracts

The Company amortizes DAC and VOBA related to these contracts over the appropriate premium paying period in proportion to the actual and expected future gross premiums that were set at contract issue. The expected premiums are based upon the premium requirement of each policy and assumptions for mortality, morbidity, persistency and investment returns at policy issuance, or policy acquisition (as it relates to VOBA), include provisions for adverse deviation, and are consistent with the assumptions used to calculate future policyholder benefit liabilities. These assumptions are not revised after policy issuance or acquisition unless the DAC or VOBA balance is deemed to be unrecoverable from future expected profits. Absent a premium deficiency, variability in amortization after policy issuance or acquisition is caused only by variability in premium volumes.

Factors Impacting Amortization

The Company also periodically reviews other long-term assumptions underlying the projections of estimated gross profits. These assumptions primarily relate to investment returns, interest crediting rates, mortality, morbidity, persistency, policyholder behavior and expenses to administer business. Management annually updates assumptions used in the calculation of estimated gross margins and profits which may have significantly changed. If the update of assumptions causes expected future gross margins and profits to increase, DAC and VOBA amortization will decrease, resulting in a current period increase to earnings. The opposite result occurs when the assumption update causes expected future gross margins and profits to decrease.

Amortization of DAC and VOBA is attributed to net investment gains (losses) and net derivative gains (losses), and to other expenses for the amount of gross margins or profits originating from transactions other than investment gains and losses.

3. Deferred Policy Acquisition Costs and Value of Business Acquired (continued)

Information regarding DAC and VOBA was as follows:

	Years Ended December 31,	
	2018	2017
	(In thousands)	
DAC:		
Balance at January 1,	$ 7,469	$ —
Capitalizations	7,761	7,992
Amortization related to:		
Other expenses	(988)	(472)
Total amortization	(988)	(472)
Effect of foreign currency translation	(60)	(51)
Balance at December 31,	14,182	7,469
VOBA:		
Balance at January 1,	58,506	—
Acquisitions	59,588	62,481
Amortization related to:		
Other expenses	(7,617)	(3,578)
Total amortization	(7,617)	(3,578)
Effect of foreign currency translation	(467)	(397)
Balance at December 31,	110,010	58,506
Total DAC and VOBA:		
Balance at December 31,	$ 124,192	$ 65,975

The estimated future amortization expense to be reported in other expenses for the next five years was as follows:

	VOBA
	(In thousands)
2019	$ 8,593
2020	$ 8,217
2021	$ 7,861
2022	$ 7,469
2023	$ 7,019

4. Reinsurance

The Company assumes insurance risk from affiliated and non-affiliated insurance companies.

Accounting for reinsurance requires extensive use of assumptions and estimates, particularly related to the future performance of the underlying business and the potential impact of counterparty credit risks. The Company periodically reviews actual and anticipated experience compared to the aforementioned assumptions used to establish assets and liabilities relating to ceded and assumed reinsurance and evaluates the financial strength of counterparties to its reinsurance agreements using criteria similar to that evaluated in the security impairment process discussed in Note 5.

In December 2018, the Company finalized a reinsurance agreement to assume global employee benefits business from a certain foreign non-affiliated reinsurer. As a result of this agreement, the significant impacts to the Company were increases to funds withheld at interest of $131.1 million, $461.4 million of premiums, reinsurance and other receivables, FPBs of $66.4 million, other policy-related balances of $326.1 million and other liabilities of $191.0 million and at December 31, 2018. The Company's statement of operations reflects a gain of $9.0 million for this agreement for the year ended December 31, 2018.

Related Party Reinsurance Transactions

The Company has reinsurance agreements with certain of MetLife Inc. subsidiaries, MetLife Europe d.a.c., MetLife Insurance K.K. ("MLJ"), MetLife Insurance Limited ("MIL"), Metropolitan Life Insurance Company, and American Life Insurance Company, which are all related parties.

Information regarding the significant effects of affiliated reinsurance included on the statement of operations was as follows:

	Years Ended December 31,	
	2018	2017
	(In thousands)	
Premiums		
Reinsurance assumed	$ 129,424	$ 69,238
Universal life and investment-type product policy fees		
Reinsurance assumed	$ 27,894	$ 29,905
Policyholder benefits and claims		
Reinsurance assumed	$ 144,708	$ 281,296
Other expenses		
Reinsurance assumed	$ (30,508)	$ (55,899)

4. Reinsurance (continued)

Information regarding the significant effects of assumed affiliated reinsurance included on the balance sheet was as follows at:

	December 31,	
	2018	2017
	(In thousands)	
Assets		
Funds withheld at interest	$ 67,520	$ 52,681
Premiums, reinsurance and other receivables	77,080	33,816
Deferred policy acquisition costs and value of business acquired	124,192	65,975
Total assets	$ 268,792	$ 152,472
Liabilities		
Future policy benefits	$ 265,949	$ 105,143
Policyholder account balances	3,561,646	3,812,012
Other policy-related balances	71,990	33,215
Other liabilities	17,655	11,833
Total liabilities	$ 3,917,240	$ 3,962,203

In February 2018, the Company entered into a new reinsurance agreement to assume a 29.7% quota share of certain individual accident and health hospital cash policies issued by MLJ. This agreement transfers significant insurance risk and therefore, is accounted for as reinsurance. As a result of this agreement, the significant impacts to the Company were increases to premium, reinsurance and other receivables of $38.0 million, DAC and VOBA of $61.2 million, FPBs of $105.8 million, other policy-related balances of $3.6 million and other liabilities of $3.2 million at December 31, 2018.

In February 2017, the Company entered into a reinsurance agreement to assume a 30.6% quota share of certain individual accident and health hospital cash policies issued by MLJ. This agreement transfers significant insurance risk and therefore, is accounted for as reinsurance. The significant impacts to the Company were increases in cash of $54.0 million and $16.4 million, premiums, reinsurance and other receivables of $20.2 million and $21.0 million, DAC and VOBA of $63.0 million and $66.0 million, FPBs of $109.0 million and $92.8 million, other policy-related balances of $3.8 million and $3.3 million and other liabilities of $3.3 million and $2.7 million at December 31, 2018 and 2017, respectively. The Company's statement of operations reflects gains of $3.4 million and $4.6 million for both MLJ agreements for the years ended December 31, 2018, and 2017, respectively.

In January 2017, the Company entered into a reinsurance agreement to assume a 70% quota share of certain group life and disability policies issued by MIL**.** This agreement transfers significant insurance risk and therefore, is accounted for as reinsurance. The significant impacts to the Company were increases in cash of $7.6 million and $16.7 million, premiums, reinsurance and other receivables of $10.0 million and $3.7 million and other policy-related balances of $52.2 million and $21.2 million at December 31, 2018 and 2017, respectively. The Company's statement of operations reflects losses for this agreement of $2.1 million and $1.0 million for the years ended December 31, 2018 and 2017, respectively.

5. Investments

See Note 7 for information about the fair value hierarchy for investments and the related valuation methodologies.

Investment Risks and Uncertainties

Investments are exposed to the following primary sources of risk: credit, interest rate, liquidity, market valuation and currency risk. The financial statement risks, stemming from such investment risks, are those associated with the determination of estimated fair values, the diminished ability to sell certain investments in times of strained market conditions, the recognition of impairments, the recognition of income on certain investments and the potential consolidation of variable interest entities ("VIEs"). The use of different methodologies, assumptions and inputs relating to these financial statement risks may have a material effect on the amounts presented within the financial statements.

5. Investments (continued)

The determination of impairments is highly subjective and is based upon periodic evaluations and assessments of known and inherent risks associated with the respective asset class. Such evaluations and assessments are revised as conditions change and new information becomes available.

The recognition of income on certain investments (e.g. structured securities, including mortgage-backed securities, asset-backed securities ("ABS") and certain structured investment transactions) is dependent upon certain factors such as prepayments and defaults, and changes in such factors could result in changes in amounts to be earned.

Fixed Maturity Securities AFS

Fixed Maturity Securities AFS by Sector

The following table presents the fixed maturity securities AFS by sector. Municipals includes taxable and tax-exempt revenue bonds, and to a much lesser extent, general obligations of states, municipalities and political subdivisions. Redeemable preferred stock is reported within U.S. corporate and foreign corporate fixed maturity securities AFS. Included within fixed maturity securities AFS are structured securities including residential mortgage-backed securities ("RMBS"), commercial mortgage-backed securities ("CMBS") and ABS (collectively, "Structured Securities"). There were no gross unrealized OTTI losses at both December 31, 2018 and 2017.

	December 31, 2018				December 31, 2017			
		Gross Unrealized				Gross Unrealized		
	Amortized Cost	Gains	Temporary Losses	Estimated Fair Value	Amortized Cost	Gains	Temporary Losses	Estimated Fair Value
	(In thousands)							
U.S. corporate	$ 2,005,040	$ 1,469	$ 118,719	$ 1,887,790	$ 2,365,210	$ 12,883	$ 40,298	$2,337,795
Foreign corporate	708,152	138	41,604	666,686	697,102	1,115	12,060	686,157
U.S. government and agency	551,430	5,219	10,006	546,643	805,100	4,029	3,998	805,131
Municipals	307,586	562	21,315	286,833	309,298	1,275	13,110	297,463
RMBS	211,054	1,847	4,879	208,022	212,579	—	5,700	206,879
Foreign government	168,361	12	16,042	152,331	213,718	2,077	2,797	212,998
CMBS	20,471	38	803	19,706	20,770	—	661	20,109
ABS	2,885	6	—	2,891	58,271	30	2	58,299
Total fixed maturity securities	$ 3,974,979	$ 9,291	$ 213,368	$ 3,770,902	$ 4,682,048	$ 21,409	$ 78,626	$4,624,831

The Company did not hold non-income producing fixed maturity securities AFS at both December 31, 2018 and 2017.

Methodology for Amortization of Premium and Accretion of Discount on Structured Securities

Amortization of premium and accretion of discount on Structured Securities considers the estimated timing and amount of prepayments of the underlying loans. Actual prepayment experience is periodically reviewed and effective yields are recalculated when differences arise between the originally anticipated and the actual prepayments received and currently anticipated. Prepayment assumptions for Structured Securities are estimated using inputs obtained from third-party specialists and based on management's knowledge of the current market. For credit-sensitive and certain prepayment-sensitive Structured Securities, the effective yield is recalculated on a prospective basis. For all other Structured Securities, the effective yield is recalculated on a retrospective basis.

5. Investments (continued)

Maturities of Fixed Maturity Securities AFS

The amortized cost and estimated fair value of fixed maturity securities AFS, by contractual maturity date, were as follows at December 31, 2018:

	Due in One Year or Less	Due After One Year Through Five Years	Due After Five Years Through Ten Years	Due After Ten Years	Structured Securities	Total Fixed Maturity Securities AFS
	(In thousands)					
Amortized cost	$ 42,927	$ 1,175,576	$ 847,052	$ 1,675,014	$ 234,410	$ 3,974,979
Estimated fair value	$ 42,743	$ 1,139,607	$ 800,567	$ 1,557,366	$ 230,619	$ 3,770,902

Actual maturities may differ from contractual maturities due to the exercise of call or prepayment options. Fixed maturity securities AFS not due at a single maturity date have been presented in the year of final contractual maturity. Structured Securities are shown separately, as they are not due at a single maturity.

Continuous Gross Unrealized Losses for Fixed Maturity Securities AFS by Sector

The following table presents the estimated fair value and gross unrealized losses of fixed maturity securities AFS in an unrealized loss position, aggregated by sector and by length of time that the securities have been in a continuous unrealized loss position at:

	December 31, 2018				December 31, 2017			
	Less than 12 Months		Equal to or Greater than 12 Months		Less than 12 Months		Equal to or Greater than 12 Months	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
	(In thousands, except number of securities)							
U.S. corporate	$ 664,087	$ 42,899	$ 1,177,510	$ 75,820	$ 602,643	$ 3,689	$ 1,107,945	$ 36,609
Foreign corporate	82,457	7,304	561,658	34,300	213,996	1,493	385,383	10,567
U.S. government and agency	21,532	626	97,441	9,380	455,678	1,601	93,234	2,397
Municipals	20,377	1,223	242,315	20,092	7,221	46	252,372	13,064
RMBS	14,715	51	74,708	4,828	23,496	219	183,383	5,481
Foreign government	77,145	6,653	73,354	9,389	5,955	122	125,067	2,675
CMBS	—	—	17,150	803	2,532	3	17,576	658
ABS	713	—	—	—	24,868	2	—	—
Total fixed maturity securities AFS	$ 881,026	$ 58,756	$ 2,244,136	$ 154,612	$ 1,336,389	$ 7,175	$ 2,164,960	$ 71,451
Total number of securities in an unrealized loss position	116		211		95		183	

5. Investments (continued)

Evaluation of Fixed Maturity Securities AFS for OTTI and Evaluating Temporarily Impaired Fixed Maturity Securities AFS

Evaluation and Measurement Methodologies

Management considers a wide range of factors about the security issuer and uses its best judgment in evaluating the cause of the decline in the estimated fair value of the security and in assessing the prospects for near-term recovery. Inherent in management's evaluation of the security are assumptions and estimates about the operations of the issuer and its future earnings potential. Considerations used in the impairment evaluation process include, but are not limited to: (i) the length of time and the extent to which the estimated fair value has been below amortized cost; (ii) the potential for impairments when the issuer is experiencing significant financial difficulties; (iii) the potential for impairments in an entire industry sector or sub-sector; (iv) the potential for impairments in certain economically depressed geographic locations; (v) the potential for impairments where the issuer, series of issuers or industry has suffered a catastrophic loss or has exhausted natural resources; (vi) whether the Company has the intent to sell or will more likely than not be required to sell a particular security before the decline in estimated fair value below amortized cost recovers; (vii) with respect to Structured Securities, changes in forecasted cash flows after considering the quality of underlying collateral, expected prepayment speeds, current and forecasted loss severity, consideration of the payment terms of the underlying assets backing a particular security, and the payment priority within the tranche structure of the security; (viii) the potential for impairments due to weakening of foreign currencies on non-functional currency denominated securities that are near maturity; and (ix) other subjective factors, including concentrations and information obtained from regulators and rating agencies.

The methodology and significant inputs used to determine the amount of credit loss are as follows:

- The Company calculates the recovery value by performing a discounted cash flow analysis based on the present value of future cash flows. The discount rate is generally the effective interest rate of the security prior to impairment.
- When determining collectability and the period over which value is expected to recover, the Company applies considerations utilized in its overall impairment evaluation process which incorporates information regarding the specific security, fundamentals of the industry and geographic area in which the security issuer operates, and overall macroeconomic conditions. Projected future cash flows are estimated using assumptions derived from management's best estimates of likely scenario-based outcomes after giving consideration to a variety of variables that include, but are not limited to: payment terms of the security; the likelihood that the issuer can service the interest and principal payments; the quality and amount of any credit enhancements; the security's position within the capital structure of the issuer; possible corporate restructurings or asset sales by the issuer; and changes to the rating of the security or the issuer by rating agencies.
- Additional considerations are made when assessing the unique features that apply to certain Structured Securities including, but not limited to: the quality of underlying collateral, expected prepayment speeds, current and forecasted loss severity, consideration of the payment terms of the underlying loans or assets backing a particular security, and the payment priority within the tranche structure of the security.
- When determining the amount of the credit loss for the following types of securities: U.S. and foreign corporate, foreign government and municipals, the estimated fair value is considered the recovery value when available information does not indicate that another value is more appropriate. When information is identified that indicates a recovery value other than estimated fair value, management considers in the determination of recovery value the same considerations utilized in its overall impairment evaluation process as described above, as well as any private and public sector programs to restructure such securities.

The amortized cost of securities is adjusted for OTTI in the period in which the determination is made. The Company does not change the revised cost basis for subsequent recoveries in value.

In periods subsequent to the recognition of OTTI on a security, the Company accounts for the impaired security as if it had been purchased on the measurement date of the impairment. Accordingly, the discount (or reduced premium) based on the new cost basis is accreted over the remaining term of the security in a prospective manner based on the amount and timing of estimated future cash flows.

5. Investments (continued)

Current Period Evaluation

Based on the Company's current evaluation of its securities in an unrealized loss position in accordance with its impairment policy, and the Company's current intentions and assessments (as applicable to the type of security) about holding, selling and any requirements to sell these securities, the Company concluded that these securities were not other-than-temporarily impaired at December 31, 2018. Future OTTI will depend primarily on economic fundamentals, issuer performance (including changes in the present value of future cash flows expected to be collected), and changes in credit ratings, collateral valuation and foreign currency exchange rates. If economic fundamentals deteriorate or if there are adverse changes in the above factors, OTTI may be incurred in upcoming periods.

Gross unrealized losses on fixed maturity securities AFS increased $134.7 million during the year ended December 31, 2018 to $213.4 million. The increase in gross unrealized losses for the year ended December 31, 2018, was primarily attributable to increases in interest rates and widening credit spreads.

At December 31, 2018, there were no fixed maturity securities AFS with an unrealized loss position of 20% or more of amortized cost for six months or greater.

Cash Equivalents

The carrying value of cash equivalents, which includes securities and other investments with an original or remaining maturity of three months or less at the time of purchase, was $168.7 million and $193.3 million at December 31, 2018 and 2017, respectively.

Net Unrealized Investment Gains (Losses)

Net unrealized investments gains (losses) included in accumulated other comprehensive income ("AOCI") were ($204.1) million and ($57.2) million related to fixed maturity securities AFS at December 31, 2018 and 2017, respectively. There was a change of ($146.8) million and $122.7 million in net unrealized investment gains (losses) on fixed maturity securities AFS for the years ended December 31, 2018 and 2017, respectively.

Concentrations of Credit Risk

There were no investments in any counterparty that were greater than 10% of the Company's stockholder's equity, other than the U.S. government and its agencies, at both December 31, 2018 and 2017.

Invested Assets Held in Trust and Pledged as Collateral

Invested assets held in trust and pledged as collateral are presented below at estimated fair value at:

	December 31,	
	2018	2017
	(In thousands)	
Invested assets held in trust (1)	$ 399,859	$ —
Invested assets pledged as collateral (2)	89,873	124,377
Total invested assets held in trust and pledged as collateral	$ 489,732	$ 124,377

(1) The Company holds assets in trust in connection with certain reinsurance transactions.

(2) The Company has pledged invested assets in connection with derivative transactions (see Note 6).

Variable Interest Entities

The Company has invested in certain legal entities that are VIEs. In certain instances, the Company may hold both the power to direct the most significant activities of the entity, as well as an economic interest in the entity and, as such, it would be deemed the primary beneficiary or consolidator of the entity. The determination of the VIE's primary beneficiary requires an evaluation of the contractual and implied rights and obligations associated with each party's relationship with or involvement in the entity, an estimate of the entity's expected losses and expected residual returns and the allocation of such estimates to each party involved in the entity.

5. Investments (continued)

Consolidated VIEs

There were no VIEs for which the Company has concluded that it is the primary beneficiary and which are consolidated at both December 31, 2018 and 2017.

Unconsolidated VIEs

The carrying amount and maximum exposure to loss relating to VIEs in which the Company holds a significant variable interest but is not the primary beneficiary and which have not been consolidated were as follows at:

	December 31,			
	2018		2017	
	Carrying Amount	Maximum Exposure to Loss (1)	Carrying Amount	Maximum Exposure to Loss (1)
	(In thousands)			
Fixed maturity securities AFS:				
Structured Securities (2)	$ 230,620	$ 230,620	$ 285,287	$ 285,287
U.S. and foreign corporate	29,444	29,444	88,240	88,240
Total	$ 260,064	$ 260,064	$ 373,527	$ 373,527

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(1) The maximum exposure to loss relating to fixed maturity securities AFS is equal to their carrying amounts or the carrying amounts of retained interests. Such a maximum loss would be expected to occur only upon bankruptcy of the issuer or investee.

(2) For these variable interests, the Company's involvement is limited to that of a passive investor in mortgage-backed or ABS issued by trusts that do not have substantial equity.

Net Investment Income

The components of net investment income were as follows:

	Years Ended December 31,	
	2018	2017
	(In thousands)	
Investment income:		
Fixed maturity securities AFS	$ 130,657	$ 131,901
Cash, cash equivalents and short-term investments	4,565	2,978
Subtotal	135,222	134,879
Less: Investment expenses	7,808	5,040
Net investment income	$ 127,414	$ 129,839

See "— Related Party Investment Transactions" for discussion of affiliated investment expenses.

5. Investments (continued)

Net Investment Gains (Losses)

Components of Net Investment Gains (Losses)

The components of net investment gains (losses) were as follows:

	Years Ended December 31,	
	2018	2017
	(In thousands)	
Fixed maturity securities AFS	$ (29,669)	$ (12,634)
Foreign currency transaction gains (losses)	3,180	13,687
Other	(136)	(715)
Total net investment gains (losses)	$ (26,625)	$ 338

Sales or Disposals and Impairments of Fixed Maturity Securities AFS

Sales of securities are determined on a specific identification basis. Proceeds from sales or disposals and the components of net investment gains (losses) were as shown in the table below.

	Years Ended December 31,	
	2018	2017
	(In thousands)	
Proceeds	$ 1,528,307	$ 717,738
Gross investment gains	$ 1,913	$ 1,484
Gross investment losses	(31,582)	(14,118)
OTTI losses	—	—
Net investment gains (losses)	$ (29,669)	$ (12,634)

Related Party Investment Transactions

The Company transfers invested assets, primarily consisting of fixed maturity securities AFS, to and from affiliates. There were no transfers in 2018. The estimated fair value, amortized cost and net investment gains (losses) recognized on invested assets transferred to affiliates for the year ended December 31, 2017 was $17.7 million, $17.6 million and $107 thousand, respectively.

The Company receives investment administrative services from affiliates. The related investment administrative service charges were $4.1 million and $471 thousand for the years ended December 31, 2018 and 2017, respectively.

6. Derivatives

Accounting for Derivatives

See Note 1 for a description of the Company’s accounting policies for derivatives and Note 7 for information about the fair value hierarchy for derivatives.

Derivative Strategies

The Company is exposed to various risks relating to its ongoing business operations, including interest rate, foreign currency exchange rate, credit and equity market. The Company uses a variety of strategies to manage these risks, including the use of derivatives.

6. Derivatives (continued)

Derivatives are financial instruments whose values are derived from interest rates, foreign currency exchange rates, credit spreads and/or other financial indices. Derivatives may be exchange-traded or contracted in the over-the-counter ("OTC") market. Certain of the Company's OTC derivatives are cleared and settled through central clearing counterparties ("OTC-cleared"), while others are bilateral contracts between two counterparties ("OTC-bilateral"). The types of derivatives the Company uses include swaps, forwards, futures and option contracts.

The Company uses a wide range of derivative contracts to mitigate the risk associated with variable annuity living guarantee benefits. These derivatives include equity and interest rate futures, interest rate swaps, currency futures/forwards, equity indexed options, interest rate option contracts and equity variance swaps. The Company also engages in certain reinsurance agreements that have embedded derivatives.

The Company utilizes all derivatives in non-qualifying hedging relationships.

Interest Rate Derivatives

The Company uses a variety of interest rate derivatives to reduce its exposure to changes in interest rates, including interest rate swaps, futures and swaptions.

Interest rate swaps are used by the Company primarily to reduce market risks from changes in interest. In an interest rate swap, the Company agrees with another party to exchange, at specified intervals, the difference between fixed rate and floating rate interest amounts as calculated by reference to an agreed gross notional amount.

In exchange-traded interest rate (Treasury and swap) futures transactions, the Company agrees to purchase or sell a specified number of contracts, the value of which is determined by the different classes of interest rate securities, to post variation margin on a daily basis in an amount equal to the difference in the daily market values of those contracts and to pledge initial margin based on futures exchange requirements. The Company enters into exchange-traded futures with regulated futures commission merchants that are members of the exchange. Exchange-traded interest rate (Treasury and swap) futures are used primarily to hedge minimum guarantees embedded in certain variable annuity products assumed by the Company.

Swaptions are used by the Company to hedge interest rate risk associated with minimum guarantees embedded in certain variable annuity products assumed by the Company. A swaption is an option to enter into a swap with a forward starting effective date. In certain instances, the Company locks in the economic impact of existing purchased swaptions by entering into offsetting written swaptions. The Company pays a premium for purchased swaptions and receives a premium for written swaptions. Swaptions are included in interest rate options.

Foreign Currency Exchange Rate Derivatives

The Company uses foreign currency forwards to reduce the risk from fluctuations in foreign currency exchange rates associated with its assets and liabilities denominated in foreign currencies. In a foreign currency forward transaction, the Company agrees with another party to deliver a specified amount of an identified currency at a specified future date. The price is agreed upon at the time of the contract and payment for such a contract is made at the specified future date.

To a lesser extent, the Company uses exchange-traded currency futures to hedge currency mismatches between assets and liabilities.

Equity Derivatives

The Company uses a variety of equity derivatives to reduce its exposure to equity market risk, including equity index options, variance swaps and exchange-traded equity futures.

Equity index options are used by the Company primarily to hedge minimum guarantees embedded in certain variable annuity products assumed by the Company. To hedge against adverse changes in equity indices, the Company enters into contracts to sell the equity index within a limited time at a contracted price. The contracts will be net settled in cash based on differentials in the indices at the time of exercise and the strike price. In certain instances, the Company may enter into a combination of transactions to hedge adverse changes in equity indices within a pre-determined range through the purchase and sale of options.

6. Derivatives (continued)

Equity variance swaps are used by the Company primarily to hedge minimum guarantees embedded in certain variable annuity products assumed by the Company. In an equity variance swap, the Company agrees with another party to exchange amounts in the future, based on changes in equity volatility over a defined period.

In exchange-traded equity futures transactions, the Company agrees to purchase or sell a specified number of contracts, the value of which is determined by the different classes of equity securities, to post variation margin on a daily basis in an amount equal to the difference in the daily market values of those contracts and to pledge initial margin based on futures exchange requirements. The Company enters into exchange-traded futures with regulated futures commission merchants that are members of the exchange. Exchange-traded equity futures are used primarily to hedge liabilities embedded in certain variable annuity products assumed by the Company.

Primary Risks Managed by Derivatives

The following table presents the primary underlying risk exposure, gross notional amount, and estimated fair value of the Company's derivatives, excluding embedded derivatives, held at:

		December 31,					
		2018			2017		
			Estimated Fair Value			Estimated Fair Value	
	Primary Underlying Risk Exposure	Gross Notional Amount	Assets	Liabilities	Gross Notional Amount	Assets	Liabilities
		(In thousands)					
Derivatives Not Designated or Not Qualifying as Hedging Instruments							
Interest rate swaps	Interest rate	$ 6,216,979	$ 37,042	$ 437	$ 6,208,624	$ 346,615	$ —
Interest rate futures	Interest rate	1,296,924	411	2,223	2,010,545	653	1,311
Interest rate options	Interest rate	838,336	162,834	—	2,972,725	448,007	—
Foreign currency forwards	Foreign currency exchange rate	1,474,168	43,541	404	1,941,952	—	34,494
Equity futures	Equity market	1,428,064	11,926	67,009	2,234,907	12,662	2,616
Equity options	Equity market	2,137,313	118,748	112,060	2,440,496	127,694	134,111
Variance swaps	Equity market	142,320	5,113	—	883,786	5,395	23,851
Total		$ 13,534,104	$ 379,615	$ 182,133	$ 18,693,035	$ 941,026	$ 196,383

The Company's derivatives were not designated or did not qualify as part of a hedging relationship at both December 31, 2018 and 2017. The Company's freestanding derivatives economically hedge embedded derivatives that do not qualify for hedge accounting because the changes in estimated fair value of the embedded derivatives are already recorded in net income.

Net Derivative Gains (Losses)

The components of net derivative gains (losses) were as follows:

	Years Ended December 31,	
	2018	2017
	(In thousands)	
Freestanding derivative and hedging gains (losses) (1)	$ 223,114	$ (508,763)
Embedded derivative gains (losses)	(93,620)	316,029
Total net derivative gains (losses)	$ 129,494	$ (192,734)

(1) Includes foreign currency transaction gains (losses) on hedged items in non-qualifying hedging relationships, which are not presented elsewhere in this note.

The company recognized net derivative gains (losses) from settlement payments related to non-qualifying hedges of $48.0 million and $60.0 million for the years ended December 31, 2018 and 2017, respectively.

6. Derivatives (continued)

Non-Qualifying Derivatives and Derivatives for Purposes Other Than Hedging

The following table presents the amount and location of gains (losses) recognized in income for derivatives that were not designated or qualifying as hedging instruments:

	Net Derivative Gains (Losses)
	(In thousands)
Year Ended December 31, 2018	
Interest rate derivatives	$ (43,235)
Foreign currency exchange rate derivatives	79,170
Equity derivatives	139,212
Total	$ 175,147
Year Ended December 31, 2017	
Interest rate derivatives	$ 79,797
Foreign currency exchange rate derivatives	83,634
Equity derivatives	405,349
Total	$ 568,780

Credit Risk on Freestanding Derivatives

The Company may be exposed to credit-related losses in the event of nonperformance by counterparties to derivatives. Generally, the current credit exposure of the Company's derivatives is limited to the net positive estimated fair value of derivatives at the reporting date after taking into consideration the existence of master netting or similar agreements and any collateral received pursuant to such agreements.

The Company manages its credit risk related to derivatives by entering into transactions with creditworthy counterparties and establishing and monitoring exposure limits. The Company's OTC-bilateral derivative transactions are governed by International Swaps and Derivatives Association ("ISDA") Master Agreements which provide for legally enforceable set-off and close-out netting of exposures to specific counterparties in the event of early termination of a transaction, which includes, but is not limited to, events of default and bankruptcy. In the event of an early termination, the Company is permitted to set off receivables from the counterparty against payables to the same counterparty arising out of all included transactions. Substantially all of the Company's ISDA Master Agreements also include Credit Support Annex provisions which require both the pledging and accepting of collateral in connection with its OTC-bilateral derivatives.

The Company's OTC-cleared derivatives are effected through central clearing counterparties and its exchange-traded derivatives are effected through regulated exchanges. Such positions are marked to market and margined on a daily basis, and the Company has minimal exposure to credit-related losses in the event of nonperformance by clearing brokers or central clearing counterparties to such derivatives.

See Note 7 for a description of the impact of credit risk on the valuation of derivatives.

6. Derivatives (continued)

The estimated fair values of the Company's net derivative assets and net derivative liabilities after the application of master netting agreements and collateral were as follows at:

Derivatives Subject to a Master Netting Arrangement or a Similar Arrangement	**December 31, 2018 Assets**	**2018 Liabilities**	**2017 Assets**	**2017 Liabilities**
	(In thousands)			
Gross estimated fair value of derivatives:				
OTC-bilateral (1)	$ 330,236	$ 112,465	$ 581,097	$ 192,393
OTC-cleared (1), (5)	37,227	1,128	354,049	—
Exchange-traded	12,337	69,232	13,315	3,927
Total gross estimated fair value of derivatives (1)	379,800	182,825	948,461	196,320
Amounts offset in the balance sheet	—	—	—	—
Estimated fair value of derivatives presented on the balance sheet (1), (5)	379,800	182,825	948,461	196,320
Gross amounts not offset on the balance sheet:				
Gross estimated fair value of derivatives: (2)				
OTC-bilateral	(28,080)	(28,080)	(65,845)	(65,845)
OTC-cleared	(894)	(894)	—	—
Exchange-traded	(501)	(501)	(31)	(31)
Cash collateral: (3)				
OTC-bilateral	(239,305)	—	(513,008)	(450)
OTC-cleared	—	(228)	(334,418)	—
Exchange-traded	—	(53,187)	—	(4,716)
Securities collateral: (4)				
OTC-bilateral	(48,928)	(84,385)	—	(114,415)
OTC-cleared	—	—	—	—
Exchange-traded	—	—	—	—
Net amount after application of master netting agreements and collateral	$ 62,092	$ 15,550	$ 35,159	$ 10,863

(1) At December 31, 2018 and 2017, derivative assets included income or (expense) accruals reported in accrued investment income or in other liabilities of $185 thousand and $7.4 million, respectively, and derivative liabilities included (income) or expense accruals reported in accrued investment income or in other liabilities of $692 thousand and ($63) thousand, respectively.

(2) Estimated fair value of derivatives is limited to the amount that is subject to set-off and includes income or expense accruals.

(3) Cash collateral received by the Company for OTC-bilateral and OTC-cleared derivatives is included in cash and cash equivalents and the obligation to return it is included in derivative collateral payable for reinsurance transactions on the balance sheet. The receivable for the return of cash collateral provided by the Company is inclusive of initial margin on exchange-traded and OTC-cleared derivatives and is included in premiums, reinsurance and other receivables on the balance sheet. The amount of cash collateral offset in the table above is limited to the net estimated fair value of derivatives after application of netting agreements. At December 31, 2018 and 2017, the Company received excess cash collateral of $6.8 million and $18.0 million, respectively, and provided excess cash collateral of $98.6 million and $134.8 million, respectively, which is not included in the table above due to the foregoing limitation.

6. Derivatives (continued)

(4) Securities collateral received by the Company is held in separate custodial accounts and is not recorded on the balance sheet. Subject to certain constraints, the Company is permitted by contract to sell or re-pledge this collateral, but at December 31, 2018 none of the collateral had been sold or re-pledged. Securities collateral pledged by the Company is reported in fixed maturity securities on the balance sheet. Subject to certain constraints, the counterparties are permitted by contract to sell or re-pledge this collateral. The amount of securities collateral offset in the table above is limited to the net estimated fair value of derivatives after application of netting agreements and cash collateral. At December 31, 2018 and 2017, the Company received excess securities collateral with an estimated fair value of $18.3 million and $60.9 million, respectively, for its OTC-bilateral derivatives, and provided excess securities collateral with an estimated fair value of $5.5 million and $10.0 million, respectively, which are not included in the table above due to foregoing limitations.

(5) Effective January 16, 2018, the LCH amended its rulebook, resulting in the characterization of variation margin transfers as settlement payments, as opposed to adjustments to collateral. Effective January 3, 2017, the CME amended its rulebook, resulting in the characterization of variation margin transfers as settlement payments, as opposed to adjustments to collateral. See Note 1 for further information on the LCH and CME amendments.

The Company's collateral arrangements for its OTC-bilateral derivatives generally require the counterparty in a net liability position, after considering the effect of netting agreements, to pledge collateral when the collateral amount owed by that counterparty reaches a minimum transfer amount. All of the Company's netting agreements for derivatives contain provisions that require both the Company and the counterparty to maintain a specific investment grade credit rating from each of Moody's and S&P. If a party's credit or financial strength rating, as applicable, were to fall below that specific investment grade credit rating, that party would be in violation of these provisions, and the other party to the derivatives could terminate the transactions and demand immediate settlement and payment based on such party's reasonable valuation of the derivatives.

The following table presents the estimated fair value of the Company's OTC-bilateral derivatives that were in a net liability position after considering the effect of netting agreements, together with the estimated fair value and balance sheet location of the collateral pledged. OTC-bilateral derivatives that are not subject to collateral agreements are excluded from this table.

	Estimated Fair Value of Derivatives in Net Liability	Estimated Fair Value of Collateral Provided: Fixed Maturity Securities	Estimated Fair Value of Collateral Provided: Cash
	(In thousands)		
December 31, 2018			
Derivatives subject to credit-contingent provisions	$ 84,385	$ 89,873	$5,749
December 31, 2017			
Derivatives subject to credit-contingent provisions	$ 126,611	$ 120,775	$ 450

(1) After taking into consideration the existence of netting agreements.

The Company's obligations arising from OTC derivatives are guaranteed by MetLife. The Company's derivatives are subject to industry standard netting agreements and collateral agreements that limit the unsecured portion of any open derivative position. On a net counterparty basis at December 31, 2018 and 2017, derivative transactions with positive mark-to-market values (in-the-money) were $302.2 million and $515.3 million, respectively, and derivative transactions with negative mark-to-market values (out-of-the-money) were $84.4 million and $126.6 million, respectively. To secure the obligations represented by the out-of-the-money transactions, the Company had provided collateral to its counterparties with an estimated fair value of $84.4 million and $114.4 million, respectively, at December 31, 2018 and 2017. Accordingly, unsecured derivative liabilities of the Company guaranteed by MetLife were $0 and $12.2 million, respectively, at December 31, 2018 and 2017.

6. Derivatives (continued)

Embedded Derivatives

The Company assumes variable annuity guarantees that contain embedded derivatives. The Company assesses each identified embedded derivative to determine whether it is required to be bifurcated. The embedded derivative is bifurcated from the host contract and accounted for as a freestanding derivative if the combined instrument is not accounted for in its entirety at fair value with changes in fair value recorded in earnings.

The following table presents the estimated fair value and balance sheet location of the Company's embedded derivatives that have been separated from their host contracts at:

		December 31,	
	Balance Sheet Location	**2018**	**2017**
		(In thousands)	
Embedded derivatives within asset host contracts:			
Funds withheld on assumed reinsurance	Funds withheld at interest	$ 67,520	$ 52,681
Embedded derivatives within asset host contracts		$ 67,520	$ 52,681
Embedded derivatives within liability host contracts:			
Assumed guaranteed minimum benefits	PABs	$ 443,920	$ 214,193
Embedded derivatives within liability host contracts		$ 443,920	$ 214,193

The following table presents changes in estimated fair value related to embedded derivatives:

	Years Ended December 31,	
	2018	**2017**
	(In thousands)	
Net derivative gains (losses) (1)	$ (93,620)	$ 316,029

(1) The valuation of assumed guaranteed minimum benefits includes a nonperformance risk adjustment. The amounts included in net derivative gains (losses), in connection with this adjustment, were $79.5 million and ($121.4) million for the years ended December 31, 2018 and 2017, respectively.

7. Fair Value

When developing estimated fair values, the Company considers three broad valuation approaches: (i) the market approach, (ii) the income approach, and (iii) the cost approach. The Company determines the most appropriate valuation approach to use, given what is being measured and the availability of sufficient inputs, giving priority to observable inputs. The Company categorizes its assets and liabilities measured at estimated fair value into a three-level hierarchy, based on the significant input with the lowest level in its valuation. The input levels are as follows:

Level 1 Unadjusted quoted prices in active markets for identical assets or liabilities. The size of the bid/ask spread is used as an indicator of market activity for fixed maturity securities AFS.

Level 2 Quoted prices in markets that are not active or inputs that are observable either directly or indirectly. These inputs can include quoted prices for similar assets or liabilities other than quoted prices in Level 1, quoted prices in markets that are not active, or other significant inputs that are observable or can be derived principally from or corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 Unobservable inputs that are supported by little or no market activity and are significant to the determination of estimated fair value of the assets or liabilities. Unobservable inputs reflect the reporting entity’s own assumptions about the assumptions that market participants would use in pricing the asset or liability.

Financial markets are susceptible to severe events evidenced by rapid depreciation in asset values accompanied by a reduction in asset liquidity. The Company’s ability to sell securities, as well as the price ultimately realized for these securities, depends upon the demand and liquidity in the market and increases the use of judgment in determining the estimated fair value of certain securities.

Considerable judgment is often required in interpreting market data to develop estimates of fair value, and the use of different assumptions or valuation methodologies may have a material effect on the estimated fair value amounts.

7. Fair Value (continued)

Recurring Fair Value Measurements

The assets and liabilities measured at estimated fair value on a recurring basis and their corresponding placement in the fair value hierarchy, including those items for which the Company has elected the FVO, are presented below at:

	December 31, 2018			
	Fair Value Hierarchy			
	Level 1	Level 2	Level 3	Total Estimated Fair Value
	(In thousands)			
Assets				
Fixed maturity securities AFS:				
U.S. corporate	$ —	$ 1,796,105	$ 91,685	$ 1,887,790
Foreign corporate	—	659,394	7,292	666,686
U.S. government and agency	422,492	124,151	—	546,643
Municipals	—	286,833	—	286,833
RMBS	—	208,022	—	208,022
Foreign government	—	152,331	—	152,331
CMBS	—	19,706	—	19,706
ABS	—	2,891	—	2,891
Total fixed maturity securities AFS	422,492	3,249,433	98,977	3,770,902
Short-term investments	—	760	—	760
Derivative assets: (1)				
Interest rate	411	199,876	—	200,287
Foreign currency exchange rate	—	43,541	—	43,541
Equity market	11,926	118,748	5,113	135,787
Total derivative assets	12,337	362,165	5,113	379,615
Embedded derivatives within asset host contracts (2)	—	—	67,520	67,520
Total assets	$ 434,829	$ 3,612,358	$ 171,610	$ 4,218,797
Liabilities				
Fair value option liabilities (3)	$ —	$ —	$ 3,609,743	$ 3,609,743
Derivative liabilities: (1)				
Interest rate	2,223	437	—	2,660
Foreign currency exchange rate	—	404	—	404
Equity market	67,009	112,060	—	179,069
Total derivative liabilities	69,232	112,901	—	182,133
Embedded derivatives within liability host contracts (2)	—	—	443,920	443,920
Total liabilities	$ 69,232	$ 112,901	$ 4,053,663	$ 4,235,796

7. Fair Value (continued)

	December 31, 2017			
	Fair Value Hierarchy			
	Level 1	Level 2	Level 3	Total Estimated Fair Value
	(In thousands)			
Assets				
Fixed maturity securities AFS:				
U.S. corporate	$ —	$ 2,235,851	$ 101,944	$ 2,337,795
Foreign corporate	—	678,081	8,076	686,157
U.S. government and agency	661,075	144,056	—	805,131
Municipals	—	297,463	—	297,463
RMBS	—	206,879	—	206,879
Foreign government	—	212,786	212	212,998
CMBS	—	20,109	—	20,109
ABS	—	58,299	—	58,299
Total fixed maturity securities AFS	661,075	3,853,524	110,232	4,624,831
Short-term investments	24,980	—	—	24,980
Derivative assets: (1)				
Interest rate	653	794,622	—	795,275
Foreign currency exchange rate	—	—	—	—
Equity market	12,662	127,694	5,395	145,751
Total derivative assets	13,315	922,316	5,395	941,026
Embedded derivatives within asset host contracts (2)	—	—	52,681	52,681
Total assets	$ 699,370	$ 4,775,840	$ 168,308	$ 5,643,518
Liabilities				
Fair value option liabilities (3)			$ 3,886,966	3,886,966
Derivative liabilities: (1)				
Interest rate	1,311	—	—	1,311
Foreign currency exchange rate	—	34,494	—	34,494
Equity market	2,616	134,111	23,851	160,578
Total derivative liabilities	3,927	168,605	23,851	196,383
Embedded derivatives within liability host contracts (2)	—	—	214,193	214,193
Total liabilities	$ 3,927	$ 168,605	$ 4,125,010	$ 4,297,542

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(1) The amounts are presented gross in the tables above to reflect the presentation on the balance sheets, but are presented net for purposes of the rollforward in the Fair Value Measurements Using Significant Unobservable Inputs (Level 3) tables.

(2) Embedded derivatives within asset host contracts are presented within funds withheld at interest on the balance sheets. Embedded derivatives within liability host contracts are presented within policyholder account balances on the balance sheets.

(3) FVO liabilities are presented within policyholder account balances on the balance sheets.

The following describes the valuation methodologies used to measure assets and liabilities at fair value.

7. Fair Value (continued)

Investments

Securities and Short-term Investments

When available, the estimated fair value of these financial instruments is based on quoted prices in active markets that are readily and regularly obtainable. Generally, these are the most liquid of the Company's securities holdings and valuation of these securities does not involve management's judgment.

When quoted prices in active markets are not available, the determination of estimated fair value is based on market standard valuation methodologies, giving priority to observable inputs. The significant inputs to the market standard valuation methodologies for certain types of securities with reasonable levels of price transparency are inputs that are observable in the market or can be derived principally from, or corroborated by, observable market data. When observable inputs are not available, the market standard valuation methodologies rely on inputs that are significant to the estimated fair value that are not observable in the market or cannot be derived principally from, or corroborated by, observable market data. These unobservable inputs can be based in large part on management's judgment or estimation and cannot be supported by reference to market activity. Even though these inputs are unobservable, management believes they are consistent with what other market participants would use when pricing such securities and are considered appropriate given the circumstances.

The estimated fair value of other investments is determined on a basis consistent with the methodologies described herein for securities.

The valuation approaches and key inputs for each category of assets or liabilities that are classified within Level 2 and Level 3 of the fair value hierarchy are presented below. The valuation of most instruments listed below is determined using independent pricing sources, matrix pricing, discounted cash flow methodologies or other similar techniques that use either observable market inputs or unobservable inputs.

7. Fair Value (continued)

Instrument	Level 2 Observable Inputs	Level 3 Unobservable Inputs
Fixed maturity securities AFS		
U.S. corporate and Foreign corporate securities		

	Valuation Approaches: Principally the market and income approaches.
	Key Inputs:
	• quoted prices in markets that are not active
	• benchmark yields; spreads off benchmark yields; new issuances; issuer rating
	• trades of identical or comparable securities; duration
	• Privately-placed securities are valued using the additional key inputs:
	  • market yield curve; call provisions
	  • observable prices and spreads for similar public or private securities that incorporate the credit quality and industry sector of the issuer
	  • delta spread adjustments to reflect specific credit-related issues
		Valuation Approaches: Principally the market and income approaches.
		Key Inputs:
		• quoted prices in markets that are not active for identical or similar securities that are less liquid and based on lower levels of trading activity than securities classified in Level 2

U.S. government and agency securities, Municipals and Foreign government securities		
	Valuation Approaches: Principally the market approach. Key Inputs: • quoted prices in markets that are not active • benchmark U.S. Treasury yield or other yields • the spread off the U.S. Treasury yield curve for the identical security • issuer ratings and issuer spreads; broker-dealer quotes • comparable securities that are actively traded	Valuation Approaches: Principally the market approach. Key Inputs: • independent non-binding broker quotations • quoted prices in markets that are not active for identical or similar securities that are less liquid and based on lower levels of trading activity than securities classified in Level 2 • credit spreads
Structured Securities		

	Valuation Approaches: Principally the market and income approaches.
	Key Inputs:
	• quoted prices in markets that are not active
	• spreads for actively traded securities; spreads off benchmark yields
	• expected prepayment speeds and volumes
	• current and forecasted loss severity; ratings; geographic region
	• weighted average coupon and weighted average maturity
	• average delinquency rates; debt-service coverage ratios
	• issuance-specific information, including, but not limited to:
	  • collateral type; structure of the security; vintage of the loans
	  • payment terms of the underlying assets
	  • payment priority within the tranche; deal performance
		• N/A

Short-term investments		
	• Short-term investments are of a similar nature and class to the fixed maturity securities AFS described above; accordingly, the valuation approaches and observable inputs used in their valuation are also similar to those described above.	• N/A

Derivatives

The estimated fair value of derivatives is determined through the use of quoted market prices for exchange-traded derivatives, or through the use of pricing models for OTC-bilateral and OTC-cleared derivatives. The determination of estimated fair value, when quoted market values are not available, is based on market standard valuation methodologies and inputs that management believes are consistent with what other market participants would use when pricing such instruments. Derivative valuations can be affected by changes in interest rates, foreign currency exchange rates, financial indices, credit spreads, default risk, nonperformance risk, volatility, liquidity and changes in estimates and assumptions used in the pricing models.

7. Fair Value (continued)

The significant inputs to the pricing models for most OTC-bilateral and OTC-cleared derivatives are inputs that are observable in the market or can be derived principally from, or corroborated by, observable market data. Certain OTC-bilateral and OTC-cleared derivatives may rely on inputs that are significant to the estimated fair value that are not observable in the market or cannot be derived principally from, or corroborated by, observable market data. These unobservable inputs may involve significant management judgment or estimation. Even though unobservable, these inputs are based on assumptions deemed appropriate given the circumstances and management believes they are consistent with what other market participants would use when pricing such instruments.

Most inputs for OTC-bilateral and OTC-cleared derivatives are mid-market inputs but, in certain cases, liquidity adjustments are made when they are deemed more representative of exit value. Market liquidity, as well as the use of different methodologies, assumptions and inputs, may have a material effect on the estimated fair values of the Company's derivatives and could materially affect net income.

The credit risk of both the counterparty and the Company are considered in determining the estimated fair value for all OTC-bilateral and OTC-cleared derivatives, and any potential credit adjustment is based on the net exposure by counterparty after taking into account the effects of netting agreements and collateral arrangements. The Company values its OTC-bilateral and OTC-cleared derivatives using standard swap curves which may include a spread to the risk-free rate, depending upon specific collateral arrangements. This credit spread is appropriate for those parties that execute trades at pricing levels consistent with similar collateral arrangements. As the Company and its significant derivative counterparties generally execute trades at such pricing levels and hold sufficient collateral, additional credit risk adjustments are not currently required in the valuation process. The Company's ability to consistently execute at such pricing levels is in part due to the netting agreements and collateral arrangements that are in place with all of its significant derivative counterparties. An evaluation of the requirement to make additional credit risk adjustments is performed by the Company each reporting period.

Freestanding Derivatives

Level 2 Valuation Approaches and Key Inputs

This level includes all types of derivatives utilized by the Company with the exception of exchange-traded derivatives included within Level 1 and those derivatives with unobservable inputs as described in Level 3.

Level 3 Valuation Approaches and Key Inputs

These valuation methodologies generally use the same inputs as described in the corresponding sections for Level 2 measurements of derivatives. However, these derivatives result in Level 3 classification because one or more of the significant inputs are not observable in the market or cannot be derived principally from, or corroborated by, observable market data.

Freestanding derivatives are principally valued using the income approach. Valuations of non-option-based derivatives utilize present value techniques, whereas valuations of option-based derivatives utilize option pricing models. Key inputs are as follows:

Instrument	Interest Rate	Foreign Currency Exchange Rate	Equity Market
Inputs common to Level 2 and Level 3 by instrument type	• swap yield curves • basis curves • interest rate volatility (1)	• swap yield curves • basis curves • currency spot rates • cross currency basis curves	• swap yield curves • spot equity index levels • dividend yield curves • equity volatility (1)
Level 3			• dividend yield curves (2) • equity volatility (1), (2)

(1) Option-based only.

(2) Extrapolation beyond the observable limits of the curve(s).

7. Fair Value (continued)

Embedded Derivatives

Embedded derivatives principally include certain assumed variable annuity guarantees. Embedded derivatives are recorded at estimated fair value with changes in estimated fair value reported in net income.

The Company calculates the fair value of these embedded derivatives, which are estimated as the present value of projected future benefits minus the present value of projected future fees using actuarial and capital market assumptions including expectations concerning policyholder behavior. The calculation is based on in-force business, projecting future cash flows from the embedded derivative over multiple risk neutral stochastic scenarios using observable risk-free rates.

Capital market assumptions, such as risk-free rates and implied volatilities, are based on market prices for publicly traded instruments to the extent that prices for such instruments are observable. Implied volatilities beyond the observable period are extrapolated based on observable implied volatilities and historical volatilities. Actuarial assumptions, including mortality, lapse, withdrawal and utilization, are unobservable and are reviewed at least annually based on actuarial studies of historical experience.

The valuation of these assumed guarantee liabilities includes nonperformance risk adjustments and adjustments for a risk margin related to non-capital market inputs. The nonperformance adjustment is determined by taking into consideration publicly available information relating to spreads in the secondary market for MetLife's debt, including related credit default swaps. These observable spreads are then adjusted, as necessary, to reflect the priority of these liabilities and the claims paying ability of the issuing insurance subsidiaries as compared to MetLife.

Risk margins are established to capture the non-capital market risks of the instrument which represent the additional compensation a market participant would require to assume the risks related to the uncertainties of such actuarial assumptions as annuitization, premium persistency, partial withdrawal and surrenders. The establishment of risk margins requires the use of significant management judgment, including assumptions of the amount and cost of capital needed to cover the guarantees. These guarantees may be more costly than expected in volatile or declining equity markets. Market conditions including, but not limited to, changes in interest rates, equity indices, market volatility and foreign currency exchange rates; changes in nonperformance risk; and variations in actuarial assumptions regarding policyholder behavior, mortality and risk margins related to non-capital market inputs, may result in significant fluctuations in the estimated fair value of the guarantees that could materially affect net income.

Embedded Derivatives Within Asset and Liability Host Contracts

Level 3 Valuation Approaches and Key Inputs:

Assumed guaranteed minimum benefits

These embedded derivatives are principally valued using the income approach. Valuations are based on option pricing techniques, which utilize significant inputs that may include swap yield curves, currency exchange rates and implied volatilities. These embedded derivatives result in Level 3 classification because one or more of the significant inputs are not observable in the market or cannot be derived principally from, or corroborated by, observable market data. Significant unobservable inputs generally include: the extrapolation beyond observable limits of the swap yield curves and implied volatilities, actuarial assumptions for policyholder behavior and mortality and the potential variability in policyholder behavior and mortality, nonperformance risk and cost of capital for purposes of calculating the risk margin.

Reinsurance

FVO Liabilities

MRB has elected to account for certain assumed reinsurance liabilities at fair value. As a result, certain reinsurance liabilities will be measured at fair value at each financial reporting date, with changes in fair value reported in policyholder benefits and claims. A risk neutral valuation approach adjusted for the nonperformance risk of MRB and a risk margin were used in the fair value determination for the reinsurance liabilities. By electing to account for this reinsurance agreement at fair value, MRB will reduce the impact of interest rate movements.

7. Fair Value (continued)

Transfers between Levels

Overall, transfers between levels occur when there are changes in the observability of inputs and market activity.

Transfers into or out of Level 3:

Assets and liabilities are transferred into Level 3 when a significant input cannot be corroborated with market observable data. This occurs when market activity decreases significantly and underlying inputs cannot be observed, current prices are not available, and/or when there are significant variances in quoted prices, thereby affecting transparency. Assets and liabilities are transferred out of Level 3 when circumstances change such that a significant input can be corroborated with market observable data. This may be due to a significant increase in market activity, a specific event, or one or more significant input(s) becoming observable.

Assets and Liabilities Measured at Fair Value Using Significant Unobservable Inputs (Level 3)

The following table presents certain quantitative information about the significant unobservable inputs used in the fair value measurement, and the sensitivity of the estimated fair value to changes in those inputs, for the more significant asset and liability classes measured at fair value on a recurring basis using significant unobservable inputs (Level 3) at:

7. Fair Value (continued)

	Valuation Techniques	Significant Unobservable Inputs	December 31, 2018 Range	Weighted Average (1)	December 31, 2017 Range	Weighted Average (1)	Impact of Increase in Input on Estimated Fair Value (2)
Fixed maturity securities AFS (3)							
U.S. corporate and foreign corporate	• Matrix pricing	• Offered quotes (4)	95 - 102	99	97 - 111	109	Increase
	• Market pricing	• Quoted prices (4)	87 - 87	87	87 - 109	100	Increase
Derivatives							
Equity market	• Present value techniques	• Volatility (5)	21% - 26%		11% - 24%		Increase (6)
Embedded derivatives							
Assumed guaranteed minimum benefits	• Option pricing techniques	• Mortality rates:					
		Ages 0 - 40	0% - 0.17%		0% - 0.16%		Decrease (7)
		Ages 41 - 60	0.05% - 0.80%		0.05% - 0.75%		Decrease (7)
		Ages 61 - 115	0.24% - 100%		0.26% - 100%		Decrease (7)
		• Lapse rates:					
		Durations 1 - 10	0.50% - 19%		0.50% - 19%		Decrease (8)
		Durations 11 - 20	2.50% - 15%		2.50% - 15%		Decrease (8)
		Durations 21 - 116	1.25% - 15%		1.25% - 15%		Decrease (8)
		• Withdrawal rates	0% - 20%		0% - 20%		(9)
		• Long-term equity volatilities	15.23% - 30%		14.14% - 33%		Increase (10)
		• Nonperformance risk spread	0.05% - 1.77%		0.03% - 1.32%		Decrease (11)
Interest Sensitive Whole Life							
	• Fair value pricing	• Mortality rates:					
		Ages 0 - 40	0% - 0.27%		0% - 0.15%		Increase (12)
		Ages 41 - 60	0.02% - 1.32%		0.04% - 1.09%		Increase (12)
		Ages 61 - 115	0.06% - 100%		0.16% - 100%		Increase (12)
		• Lapse rates:					
		Duration 1	1% - 1%		1% - 1%		Increase (13)
		Durations 2 - 116	5% - 3%		3% - 3%		Increase (13)
		• Nonperformance risk spread	0.04% - 0.59%		0.04% - 0.57%		Decrease (14)

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(1) The weighted average for fixed maturity securities AFS is determined based on the estimated fair value of the securities.

(2) The impact of a decrease in input would have resulted in the opposite impact on estimated fair value. For embedded derivatives, changes to assumed guaranteed minimum benefits are based on liability positions.

(3) Significant increases (decreases) in expected default rates in isolation would have resulted in substantially lower (higher) valuations.

(4) Range and weighted average are presented in accordance with the market convention for fixed maturity securities AFS of dollars per hundred dollars of par.

(5) Ranges represent the underlying equity volatility quoted in percentage points. Since this valuation methodology uses a range of inputs across multiple volatility surfaces to value the derivative, presenting a range is more representative of the unobservable input used in the valuation.

(6) Changes in estimated fair value are based on long U.S. dollar net asset positions and will be inversely impacted for short U.S. dollar net asset positions.

7. Fair Value (continued)

(7) Mortality rates vary by age and by demographic characteristics such as gender. Mortality rate assumptions are based on company experience. A mortality improvement assumption is also applied. For any given contract, mortality rates vary throughout the period over which cash flows are projected for purposes of valuing the embedded derivative.

(8) Base lapse rates are adjusted at the contract level based on a comparison of the actuarially calculated guaranteed values and the current policyholder account value, as well as other factors, such as the applicability of any surrender charges. A dynamic lapse function reduces the base lapse rate when the guaranteed amount is greater than the account value as in the money contracts are less likely to lapse. Lapse rates are also generally assumed to be lower in periods when a surrender charge applies. For any given contract, lapse rates vary throughout the period over which cash flows are projected for purposes of valuing the embedded derivative.

(9) The withdrawal rate represents the percentage of account balance that any given policyholder will elect to withdraw from the contract each year. The withdrawal rate assumption varies by age and duration of the contract, and also by other factors such as benefit type. For any given contract, withdrawal rates vary throughout the period over which cash flows are projected for purposes of valuing the embedded derivative. For GMWBs, any increase (decrease) in withdrawal rates results in an increase (decrease) in the estimated fair value of the guarantees. For GMABs , any increase (decrease) in withdrawal rates results in a decrease (increase) in the estimated fair value.

(10) Long-term equity volatilities represent equity volatility beyond the period for which observable equity volatilities are available. For any given contract, long-term equity volatility rates vary throughout the period over which cash flows are projected for purposes of valuing the embedded derivative.

(11) Nonperformance risk spread varies by duration and by currency. For any given contract, multiple nonperformance risk spreads will apply, depending on the duration of the cash flow being discounted for purposes of valuing the embedded derivative.

(12) Mortality rates vary by age and by demographic characteristics such as gender. Mortality rate assumptions are based on company experience. A mortality improvement assumption is also applied. For any given contract, mortality rates vary throughout the period over which cash flows are projected for purposes of valuing certain assumed reinsurance liabilities.

(13) For any given contract, lapse rates vary by projection year and remain level years 8 and onward. The market value adjustment penalizes the policyholder for lapsing the policy due to the increase in interest rates.

(14) Nonperformance risk spread is calculated by using one-third of the MetLife credit default swap spreads and varies by duration. For any given contract, multiple nonperformance risk spreads will apply, depending on the duration of the cash flow being discounted for purposes of valuing certain assumed reinsurance liabilities.

The following is a summary of the valuation techniques and significant unobservable inputs used in the fair value measurement of assets and liabilities classified within Level 3 that are not included in the preceding table. Generally, embedded derivatives within funds withheld related to certain assumed reinsurance, use the same valuation techniques and significant unobservable inputs as previously described for Level 3 freestanding derivatives.

7. Fair Value (continued)

The following table summarizes the change of all assets and (liabilities) measured at estimated fair value on a recurring basis using significant unobservable inputs (Level 3):

	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)				
	Fixed Maturity Securities AFS				
	Corporate (1)	Foreign Government	Net Derivatives (2)	Net Embedded Derivatives (8)	Fair Value Option Liabilities
			(In thousands)		
Balance, January 1, 2017	$ 142,901	$ —	$ (25,249)	$ (411,225)	$ 3,986,972
Total realized/unrealized gains (losses) included in net income (loss) (3) (4)	(139)	—	(4,062)	316,029	165,227
Total realized/unrealized gains (losses) included in AOCI	5,220	1	441	27,535	—
Purchases (5)	—	211	—	—	—
Sales (5)	(14,126)	—	—	—	—
Issuances (5)	—	—	—	—	—
Settlements (5)	—	—	10,414	(93,851)	(265,233)
Transfers into Level 3 (6)	—	—	—	—	—
Transfers out of Level 3 (6)	(23,836)	—	—	—	—
Balance, December 31, 2017	110,020	212	(18,456)	(161,512)	3,886,966
Total realized/unrealized gains (losses) included in net income (loss) (3) (4)	(255)	8	(747)	(93,620)	(46,206)
Total realized/unrealized gains (losses) included in AOCI	(9,400)	(6)	—	(37,352)	—
Purchases (5)	—	—	—	—	—
Sales (5)	(1,388)	(214)	—	—	—
Issuances (5)	—	—	—	—	—
Settlements (5)	—	—	24,316	(83,916)	(231,017)
Transfers into Level 3 (6)	—	—	—	—	—
Transfers out of Level 3 (6)	—	—	—	—	—
Balance, December 31, 2018	$ 98,977	$ —	$ 5,113	$ (376,400)	$ 3,609,743
Changes in unrealized gains (losses) included in net income (loss) for the instruments still held at December 31, 2016: (7)	$ (115)	$ —	$ (4,441)	$ 32,485	$ —
Changes in unrealized gains (losses) included in net income (loss) for the instruments still held at December 31, 2017: (7)	$ (244)	$ —	$ (2,215)	$ 286,020	$ —
Changes in unrealized gains (losses) included in net income (loss) for the instruments still held at December 31, 2018: (7)	$ (254)	$ —	$ (283)	$ (116,635)	$ —
Gains (Losses) Data for the year ended December 31, 2016:					
Total realized/unrealized gains (losses) included in net income (loss) (3) (4)	$ (115)	$ —	$ (4,269)	$ 55,567	$ (355,311)
Total realized/unrealized gains (losses) included in AOCI	$ (8,413)	$ —	$ (832)	$ (4,946)	$ —

(1) Comprised of U.S. and foreign corporate securities.

(2) Freestanding derivative assets and liabilities are presented net for purposes of the rollforward.

(3) Amortization of premium/accretion of discount is included within net investment income. Impairments charged to net income (loss) on securities are included in net investment gains (losses). Lapses associated with net embedded derivatives are included in net derivative gains (losses).

7. Fair Value (continued)

(4) Interest and dividend accruals, as well as cash interest coupons and dividends received, are excluded from the rollforward.

(5) Items purchased/issued and then sold/settled in the same period are excluded from the rollforward. Fees attributed to embedded derivatives are included in settlements.

(6) Items transferred into and then out of Level 3 in the same period are excluded from the rollforward.

(7) Changes in unrealized gains (losses) included in net income (loss) relate to assets and liabilities still held at the end of the respective periods. Substantially all changes in unrealized gains (losses) included in net income (loss) for net derivatives and net embedded derivatives are reported in net derivative gains (losses).

(8) Embedded derivative assets and liabilities are presented net for purposes of the rollforward.

Fair Value of Financial Instruments Carried at Other Than Fair Value

The following tables provide fair value information for financial instruments that are carried on the balance sheet at amounts other than fair value. These tables exclude the following financial instruments: cash and cash equivalents, accrued investment income and derivative collateral payable for reinsurance transactions. The estimated fair value of the excluded financial instruments, which are primarily classified in Level 2, approximates carrying value as they are short-term in nature such that the Company believes there is minimal risk of material changes in interest rates or credit quality. All remaining balance sheet amounts excluded from the tables below are not considered financial instruments subject to this disclosure.

The carrying values and estimated fair values for such financial instruments, and their corresponding placement in the fair value hierarchy, are summarized as follows at:

	December 31, 2018				
		Fair Value Hierarchy			
	Carrying Value	Level 1	Level 2	Level 3	Total Estimated Fair Value
			(In thousands)		
Assets					
Premiums, reinsurance and other receivables	$ 152,241	$ —	$ 152,241	$ —	$ 152,241
Liabilities					
Other liabilities	$ 1,017		$ 1,017		$ 1,017

	December 31, 2017				
		Fair Value Hierarchy			
	Carrying Value	Level 1	Level 2	Level 3	Total Estimated Fair Value
			(In thousands)		
Assets					
Premiums, reinsurance and other receivables	$ 314,226	$ —	$ 314,226	$ —	$ 314,226

8. Letters of Credit

At December 31, 2018, the Company had access to certain letters of credit (”LOCs”) agreements totaling $3.0 billion in letter of credit capacity from various banks indirectly through LOCs available to MetLife for the benefit of the Company and certain affiliates of MetLife. At December 31, 2018, the Company had no outstanding LOCs.

LOCs outstanding and available to MetLife and its affiliates at December 31, 2018 were as follows:

Borrower(s)	Expiration	Maximum Capacity	Used by the Company	Used by Affiliates	Unused Commitments
			(In thousands)		
MetLife, Inc. and MetLife Funding, Inc.	December 2021 (1)	$3,000,000 (1)	$ —	$ 446,237	$ 2,553,763

(1) All borrowings under this unsecured revolving credit facility must be repaid by December 20, 2021, except that LOCs outstanding upon termination may remain outstanding until December 20, 2022.

9. Stockholder’s Equity

Return of Capital

On June 22, 2018, the Company had a return of capital of $150 million in the form of cash to its parent, Swiss II. The Company had no return of capital in 2017.

Equity

The capital and solvency return is an annual return relating to an insurer’s risk management practices and to the information used by an insurer to calculate its enhanced capital requirement (“ECR”) and target capital level (“TCL”) as may be prescribed by or under Rules made under section 6A of the Act. Every Class E insurer shall submit to the Bermuda Monetary Authority (“the BMA”) a completed capital and solvency return on or before its filing date.

The capital and solvency return is used to calculate an insurer’s ECR, an additional capital and surplus requirement imposed by or under Rules made under section 6A of the Act. The ECR of an insurer at the end of its relevant year is the higher of the Bermuda Solvency Capital Requirement (“the BSCR”) model and an approved internal capital model, provided that the ECR amount is equal to or exceeds the Minimum Margin of Solvency. The TCL, a target level of capital and surplus, of an insurer is calculated as 120% of the ECR.

The BSCR model calculates a risk-based capital measure by applying capital factors to capital and solvency return elements, including investments and other assets, operational risk, and long-term insurance risks, in order to establish an overall measure of capital and surplus for statutory solvency purposes. The capital factor established for each risk element, when applied to that element, produces a required capital and surplus amount. The individual capital amounts generated for each risk element (excluding operational risk) are then summed. Covariance adjustments are made to arrive at the BSCR (after covariance adjustment), which is further adjusted to include insurer-specific operational risk and capital add-ons, as assessed by the BMA to finally produce the BSCR of an insurer.

An insurer’s available statutory capital and surplus divided by the BSCR gives the BSCR ratio. An insurer’s available statutory capital and surplus divided by the ECR gives the ECR ratio. The BSCR and ECR ratios will assist the BMA to evaluate the financial strength of each insurer.

The BSCR, ECR and TCL establish solvency capital levels that are used by the BMA to monitor the capital adequacy of MRB as a Class E insurer.

Relevant capital and solvency regulations are used to measure and report the Company’s financial strength. These measures are based on the BMA’s regulatory requirements. The regulatory capital tests verify that the Company retains an excess of solvency capital above the required minimum level calculated using a series of prudent assumptions about the type of business that is underwritten. The Company fully complied with these regulatory requirements during the year.

9. Stockholder's Equity (continued)

The Company paid dividends of $930 million to Swiss II during the year ended December 31, 2018. The Company did not pay a dividend to Swiss II during the year ended December 31, 2017.

Dividend Restrictions

The Company may not pay dividends during any financial year if such payment would cause the Company to fail to meet its minimum solvency margin as defined in the Act. Further, the Company may not pay a dividend unless the value of the Company's long-term business fund (as certified by the Company's Appointed Actuary) exceeds its insurance and other liabilities.

In addition, the Company may not pay a dividend or a distribution out of contributed surplus unless there are reasonable grounds for believing that the Company will remain able, and after the payment of the dividend or distribution, to meet its liabilities when they become due and that the realizable value of that Company's assets will, after payment of the dividend or distribution, be greater than the sum of its liabilities.

Any dividend or distribution from the Company's retained earnings that otherwise meets the foregoing conditions may generally be paid without regulatory approval. Any return of contributed capital that would reduce the Company's total statutory capital (share capital and contributed surplus), as reported in the Company's previous year's financial statements, by 15% or more must be approved by the BMA.

Moreover, dividends up to 25% of total statutory Capital and Surplus require entity Board approval and the Company will provide courtesy notice to the BMA. Dividends above 25% of statutory Capital and Surplus require entity Board approval and an affidavit with BMA approval at least 7 days before payment, signed by 2 Directors and the Principal Representative.

Accumulated Other Comprehensive Income (Loss)

Information regarding changes in the balances of each component of AOCI was as follows:

	Unrealized Investment Gains (Losses), Net of Related Offsets	Foreign Currency Translation Adjustments	Total
		(In thousands)	
Balance at December 31, 2016	$ (179,852)	$ (31,127)	$ (210,979)
OCI before reclassifications	109,917	63,302	173,219
AOCI before reclassifications	(69,935)	32,175	(37,760)
Amounts reclassified from AOCI	12,705	—	12,705
Balance at December 31, 2017	(57,230)	32,175	(25,055)
OCI before reclassifications	(176,527)	(76,098)	(252,625)
AOCI before reclassifications	(233,757)	(43,923)	(277,680)
Amounts reclassified from AOCI	29,689	—	29,689
Balance at December 31, 2018	$ (204,068)	$ (43,923)	$ (247,991)

9. Stockholder's Equity (continued)

Information regarding amounts reclassified out of each component of AOCI was as follows:

AOCI Components	Amounts Reclassified from AOCI		Statement of Operations Locations
	Years Ended December 31,		
	2018	2017	
	(In thousands)		
Net unrealized investment gains (losses):			
Net unrealized investment gains (losses)	$ (29,693)	$ (12,718)	Net investment gains (losses)
Net unrealized investment gains (losses)	4	13	Net investment income
Total reclassifications	$ (29,689)	$ (12,705)	

10. Other Expenses

Information on other expenses was as follows:

	Years Ended December 31,	
	2018	2017
	(In thousands)	
General and administrative expenses	$ 1,526	$ 10,216
Premium taxes, other taxes, and licenses & fees	150	634
Commissions and other variable expenses	58,183	10,756
Capitalization of DAC and acquisition of VOBA	(67,349)	(70,473)
Amortization of DAC and VOBA	8,605	4,050
Interest expense	354	173
Total other expenses	$ 1,469	$ (44,644)

Capitalization of DAC and Amortization of DAC and VOBA

See Note 3 for additional information on DAC and VOBA including impacts of capitalization and amortization.

11. Income Tax

Under current Bermuda law, the Company is not required to pay any corporate taxes in Bermuda on either income or capital gains. Accordingly, no provision for income taxes is reflected in the accompanying financial statement. The Company operates in jurisdictions outside of Bermuda for which foreign withholding is recorded as required by the jurisdiction.

There are no uncertain tax positions that would require recognition in the financial statements. If the Company were to incur an income tax liability in the future, interest on any income tax liability would be reported as interest expense and penalties on any income tax liability would be reported as income taxes.No interest expense or penalties have been recognized for the years ended December 31, 2018 and 2017, respectively. The Company does not expect that its assessment regarding unrecognized tax positions will materially change over the next 12 months. However, the Company’s conclusions regarding uncertain tax positions may be subject to review and adjustment at a later date based upon ongoing analyses of tax laws, regulations and interpretations thereof as well as other factors including but not limited to, questioning the timing and amount of deductions, the nexus of income among various tax jurisdictions, compliance with U.S., State and Foreign income tax laws, and changes in administrative practices and precedents of the relevant taxing authorities. Generally, the Company is subject to income tax examinations for all tax years since its inception.

12. Contingencies, Commitments and Guarantees

There is no pending or threatened litigation, claim or assessment against the Company that would constitute a material loss contingency.

Various litigation, claims or assessments against the Company may arise in the ordinary course of the Company's business. Liabilities for litigations, claims or assessments are established when it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. The Company regularly reviews relevant information with respect to liabilities for litigation, regulatory investigations and litigation-related contingencies to be reflected in the Company's financial statements. Based on information currently known by the Company's management, in its opinion, there are no current legal proceedings, likely to have such an effect. However, it is possible that an adverse outcome in a litigation matter, should such a litigation matter arise in the future, could have a material effect on the Company's net income or cash flows.

Remediation of Material Weakness

The Company identified the following material weakness in the principles associated with both the control activities and information and communication components of the Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission as of December 31, 2017:

Assumed Variable Annuity Guarantee Reserves:

Ineffective design and operating effectiveness of the controls related to data validation and monitoring of reserves for variable annuity guarantees issued by a former operating joint venture in Japan and reinsured by the Company.

The Company and its affiliates' remediation steps outlined below strengthened its internal control over financial reporting. As of December 31, 2018, the Company and its affiliates had implemented these enhanced procedures and controls and successfully tested them. As a result, the Company concluded that it had remediated the material weakness associated with Assumed Variable Annuity Guarantee Reserves as of that date.

To remediate the material weakness identified above, management performed the following actions:

- The Company and its affiliates engaged third party advisors and employees, supervised by MetLife's Chief Auditor, to examine and analyze the facts and circumstances giving rise to the material weakness, and addressed those findings; and

- The Company and its affiliates enhanced reconciliation, analytic controls, and change management to ensure the completeness and accuracy of the assumed reinsurance in-force data.

13. Other Related Party Transactions

Service Agreements

The Company has entered into various agreements with affiliates for a range of administrative and other services necessary to conduct its activities. The bases for such charges are modified and adjusted by management when necessary or appropriate to reflect fairly and equitably the actual cost incurred by the Company and/or affiliate. Expenses and fees incurred with affiliates related to these agreements, recorded in other expenses, were $3.1 million and $1.6 million for the years ended December 31, 2018 and 2017, respectively.

The Company had net receivables (payables) to affiliates, related to the items discussed above, of $631 thousand and $165 thousand at December 31, 2018 and 2017, respectively. These receivables exclude affiliated reinsurance balances discussed in Note 4.

See Note 5 and Note 6 for additional related party transactions.

14. Subsequent Event

The Company has evaluated events subsequent to December 31, 2018, and through April 30, 2019, which is the date these financial statements were available to be issued, and except for the item noted below, has determined there are no material subsequent events requiring adjustment to or disclosure in the financial statements.

In February 2019, the Company entered into a new reinsurance agreement to assume a 33% quota share of certain individual accident and health hospital cash policies issued by MLJ. This agreement transfers significant insurance risk and therefore, is accounted for as reinsurance. As a result of this agreement, the significant impacts to the Company were increases to premium, reinsurance and other receivables of $52.1 million, DAC and VOBA of $66.1 million and FPBs of $118.2 million.