

MetLife Reinsurance Company of Bermuda, Ltd.

Financial Statements

As of and for the Years ended December 31, 2022 and 2021 and Independent Auditor's Report

INDEPENDENT AUDITOR'S REPORT

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

Opinion

We have audited the 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, 2022 and 2021, 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").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

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.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for 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.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for one year after the date that the financial statements are available to be issued.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

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 2022 included in Note 2 to the financial statements be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Financial Accounting Standards Board who 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.

Restriction on Use

Our 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.

A handwritten signature in black ink that reads "Deloitte & Touche LLP". The signature is written in a cursive, flowing style.

May 23, 2023

MetLife Reinsurance Company of Bermuda, Ltd.

**Balance Sheets
December 31, 2022 and 2021**

(In thousands, except share and per share data)

	2022	2021
Assets		
Investments:		
Fixed maturity securities available-for-sale, at estimated fair value (net of allowance for credit loss of \$9,157 and \$0, respectively; amortized cost: \$7,937,660 and \$8,476,065, respectively)	\$ 6,240,785	\$8,926,612
Short-term investments, at estimated fair value	—	19,000
Derivative assets, at estimated fair value	217,173	315,771
Funds withheld at interest	3,073,005	4,607,248
Total investments	<u>9,530,963</u>	<u>13,868,631</u>
Cash and cash equivalents, principally at estimated fair value	859,321	1,101,732
Accrued investment income	60,870	58,986
Premiums, reinsurance and other receivables	891,839	835,731
Deferred policy acquisition costs and value of business acquired	137,325	172,308
Total assets	<u>\$ 11,480,318</u>	<u>\$16,037,388</u>
Liabilities and Stockholder's Equity		
Liabilities		
Future policy benefits	\$ 746,262	\$ 688,509
Policyholder account balances	8,916,811	12,865,528
Other policy-related balances	632,794	649,922
Derivative liabilities, at estimated fair value	224,103	174,997
Derivative collateral payable for reinsurance transactions	147,183	236,397
Other liabilities	521,087	633,430
Total liabilities	<u>11,188,240</u>	<u>15,248,783</u>
Contingencies, Commitments and Guarantees (Note 12)		
Stockholder's Equity		
Common stock, par value \$250,000 per share; 4,000 shares authorized; 800 shares issued and outstanding	200,000	200,000
Additional paid-in capital	288,135	373,135
Retained earnings (accumulated deficit)	1,690,493	10,059
Accumulated other comprehensive income (loss)	(1,886,550)	205,411
Total stockholder's equity	<u>292,078</u>	<u>788,605</u>
Total liabilities and stockholder's equity	<u>\$ 11,480,318</u>	<u>\$16,037,388</u>

See accompanying notes to the financial statements.

MetLife Reinsurance Company of Bermuda, Ltd.

Statements of Operations
For the Years Ended December 31, 2022 and 2021
(In thousands)

	2022	2021
Revenues		
Premiums	\$ 349,227	\$ 420,097
Universal life and investment-type product policy fees	88,427	105,525
Net investment income	250,474	245,822
Net investment gains (losses)	(141,675)	5,841
Net derivative gains (losses)	(270,704)	(126,232)
Other revenues	(480,639)	285,186
Total revenues	(204,890)	936,239
Expenses		
Policyholder benefits and claims	(1,504,308)	(115,871)
Interest credited to policyholder account balances	(490,549)	224,272
Other expenses	108,244	126,931
Total expenses	(1,886,613)	235,332
Income (loss) before provision for foreign withholding tax	1,681,723	700,907
Provision for foreign withholding tax expense (benefit)	1,289	1,663
Net income (loss)	<u>\$ 1,680,434</u>	<u>\$ 699,244</u>

See accompanying notes to the financial statements.

MetLife Reinsurance Company of Bermuda, Ltd.

**Statements of Comprehensive Income (Loss)
For the Years Ended December 31, 2022 and 2021**

(In thousands)

	2022	2021
Net income (loss)	<u>\$ 1,680,434</u>	<u>\$ 699,244</u>
Other comprehensive income (loss):		
Unrealized investment gains (losses), net of related offsets	(2,088,776)	(654,574)
Foreign currency translation adjustments	(3,185)	(2,215)
Other comprehensive income (loss)	<u>(2,091,961)</u>	<u>(656,789)</u>
Comprehensive income (loss)	<u><u>\$ (411,527)</u></u>	<u><u>\$ 42,455</u></u>

See accompanying notes to the financial statements.

MetLife Reinsurance Company of Bermuda, Ltd.

**Statements of Stockholder's Equity
For the Years Ended December 31, 2022 and 2021
(In thousands)**

	Common Stock	Additional Paid-in Capital	Retained Earnings (Accumulated Deficit)	Accumulated Other Comprehensive Income (Loss)	Total Stockholder's Equity
Balance at December 31, 2020	\$ 200,000	\$ 373,135	\$ (689,185)	\$ 862,200	\$ 746,150
Net income (loss)			699,244		699,244
Other comprehensive income (loss)				(656,789)	(656,789)
Balance at December 31, 2021	<u>200,000</u>	<u>373,135</u>	<u>10,059</u>	<u>205,411</u>	<u>788,605</u>
Net income (loss)			1,680,434		1,680,434
Other comprehensive income (loss)				(2,091,961)	(2,091,961)
Return of Capital		\$ (85,000)			(85,000)
Balance at December 31, 2022	<u>\$ 200,000</u>	<u>\$ 288,135</u>	<u>\$ 1,690,493</u>	<u>\$ (1,886,550)</u>	<u>\$ 292,078</u>

See accompanying notes to the financial statements.

MetLife Reinsurance Company of Bermuda, Ltd.

Statements of Cash Flows
For the Years Ended December 31, 2022 and 2021
(In thousands)

	2022	2021
Cash flows from operating activities		
Net income (loss)	\$ 1,680,434	\$ 699,244
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	(436)	(3,177)
Premiums	(29,772)	(59,014)
(Gains) losses on investments, net	141,675	(5,841)
(Gains) losses on derivatives, net	336,202	205,301
Other revenues	—	(326,090)
Policyholder benefits and claims	(1,606,401)	(263,681)
Change in accrued investment income	(5,622)	(38,693)
Change in premiums, reinsurance and other receivables	(66,407)	259,110
Change in deferred policy acquisition costs and value of business acquired, net	13,496	(15,831)
Change in future policy benefits and policy-related balances	47,259	(154,546)
Change in other liabilities	(105,616)	338,146
Other, net	3,399	9,415
Net cash provided by (used in) operating activities	408,211	644,343
Cash flows from investing activities		
Sales, maturities and repayments of:		
Fixed maturity securities available-for-sale	1,278,810	2,439,558
Short-term investments	19,000	999
Purchases of:		
Fixed maturity securities available-for-sale	(920,103)	(2,512,748)
Short-term investments	—	(19,999)
Cash received in connection with freestanding derivatives	313,413	583,606
Cash paid in connection with freestanding derivatives	(410,918)	(885,999)
Net change in funds withheld at interest	(79,013)	9,559
Other, net	18,484	(4,624)
Net cash provided by (used in) investing activities	219,673	(389,648)
Cash flows from financing activities		
Policyholder account balances:		
Deposits	19,234	15,691
Withdrawals	(680,807)	(472,386)
Net change in derivative collateral payable for reinsurance transactions	(89,214)	(67,653)
Cash received on certain derivative instruments with financing elements	100,434	411,499
Cash paid on certain derivative instruments with financing elements	(72,475)	(240,817)
Return of capital	(85,000)	—
Other, net	(169)	(189)
Net cash provided by (used in) financing activities	(807,997)	(353,855)
Effect of change in foreign currency exchange rates on cash and cash equivalents balances	(62,298)	(35,144)
Change in cash and cash equivalents	(242,411)	(134,304)
Cash and cash equivalents, beginning of year	1,101,732	1,236,036
Cash and cash equivalents, end of year	\$ 859,321	\$ 1,101,732

MetLife Reinsurance Company of Bermuda, Ltd.

Statements of Cash Flows
For the Years Ended December 31, 2022 and 2021
(In thousands)

	<u>2022</u>	<u>2021</u>
Supplemental disclosures of cash flow information:		
Net cash paid (received) for:		
Foreign withholding tax	<u>\$ 1,289</u>	<u>\$ 1,663</u>
Non-cash transactions:		
Increase (decrease) in funds withheld at interest in connection with a reinsurance transaction	<u>\$(1,031,151)</u>	<u>\$ 4,454,239</u>
Increase (decrease) in policyholder account balances in connection with a reinsurance transaction	<u>\$(1,031,151)</u>	<u>\$ 4,454,239</u>
Transfer of fixed maturity securities available-for-sale from an affiliate	<u>\$ —</u>	<u>\$ 326,173</u>

See accompanying notes to the financial statements.

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 is 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.

Reclassifications

Cash flows from short term investments and financing elements on certain derivative instruments in the prior years’ Statement of Cash Flows, which were previously presented net, have been revised to gross presentation to conform with the current year presentation. The revision in presentation was not material to the previously presented financial statements.

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

Notes to the Financial Statements — (continued)

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

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, certain liabilities are established on a group level and others are established on a policy level basis for the block of business reinsured. 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.

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 unless the assumptions are locked in.

Policyholder account balances (“PABs”) related to contracts or contract features where the Company has no significant insurance risk.

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 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

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

Notes to the Financial Statements — (continued)

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

The liability for policy and contract claims generally relates to assumed incurred but not reported (“IBNR”) death, medical 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.

The unearned revenue liability relates to universal life and investment-type products and represents policy charges for services to be provided in future periods. The charges are deferred as unearned revenue and amortized using the product’s estimated gross profits, similar to deferred acquisition costs (“DAC”) as discussed further herein. Such amortization is recorded in universal life and investment-type product policy fees.

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.

Deposits related to universal life and investment-type products are credited to policyholder account balances. Revenues from such contracts consist of fees for mortality, policy administration and surrender charges and are recorded in universal life and investment-type product policy fees in the period in which services are provided. Amounts that are charged to earnings include interest credited and benefit claims incurred in excess of related policyholder account balances.

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).

Deferred Policy Acquisition Costs and Value of Business Acquired

When 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 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. DAC for variable deferred annuity contracts are amortized using actual and expected gross profits.

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

Notes to the Financial Statements — (continued)

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

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 certain agreements 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 amortized on a basis consistent with the methodologies and assumptions used for amortizing DAC related to the underlying reinsured contracts. 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) premiums, reinsurance and other receivables (future policy benefits) 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.

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, consistent with credit loss guidance which requires recording an allowance for credit loss ("ACL").

Other than certain reinsurance agreements 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 certain assumed reinsurance agreements 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.

Notes to the Financial Statements — (continued)

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

InvestmentsNet Investment Income

Net investment income includes primarily interest income, including amortization of premium and accretion of discount, and prepayment fees and is net of related investment expenses.

Net Investment Gains (Losses)

Net investment gains (losses) include primarily (i) realized gains (losses) from sales and disposals of investments, which are determined by specific identification, (ii) intent-to-sell impairment losses on fixed maturity securities available-for-sale (“AFS”) and to a lesser extent, (iii) recognized gains (losses). Recognized gains (losses) are primarily comprised of the change in the allowance for ACL which includes both (i) provisions for credit loss on fixed maturity securities AFS and (ii) subsequent changes in the ACL.

Accrued Investment Income

Accrued investment income is presented separately on the balance sheet and excluded from the carrying value of the related investments, primarily fixed maturity securities.

Fixed Maturity Securities

The Company’s fixed maturity securities are classified as AFS and are reported at their estimated fair value. Changes in the estimated fair value of these securities not recognized in earnings representing unrecognized unrealized investment gains (losses) are recorded as a separate component of other comprehensive income (loss) (“OCI”), net of policy-related amounts. All security transactions are recorded on a trade date basis. Sales of securities 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 premium and accretion of discount, 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 Products.” The amortization of premium and accretion of discount also take into consideration call and maturity dates. Generally, the accrual of income is ceased and accrued investment income that is considered uncollectible is recognized as a charge within net investment gains (losses) when securities are impaired.

The Company periodically evaluates these 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 as described in Note 5 “Fixed Maturity Securities AFS - Evaluation of Fixed Maturity Securities AFS for Credit Loss.”

For securities in an unrealized loss position, a credit loss is recognized in earnings within net investment gains (losses) when it is anticipated that the amortized cost, excluding accrued investment income, 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 reduction of amortized cost and the loss recognized in earnings is the entire difference between the security’s amortized cost and estimated fair value. If neither of these conditions exists, the difference between the amortized cost of the security and the present value of projected future cash flows expected to be collected is recognized in earnings as a credit loss by establishing an ACL with a corresponding charge recorded in net investment gains (losses). However, the ACL is limited by the amount that the fair value is less than the amortized cost. This limitation is known as the “fair value floor.” If the estimated fair value is less than the present value of projected future cash flows expected to be collected, this portion of the decline in value related to other-than-credit factors (“noncredit loss”) is recorded in OCI as an unrecognized loss.

For purchased credit deteriorated fixed maturity securities AFS, an ACL is established at acquisition, which is added to the purchase price to establish the initial amortized cost of the investment and is not recognized in earnings.

Notes to the Financial Statements — (continued)

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

Short-term Investments

Short-term investments include highly liquid securities and other investments with remaining maturities of one year or less, but greater than three months, at the time of purchase. Securities included within short-term investments are stated at estimated fair value, while other investments included within short-term investments are stated at amortized cost less ACL, 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 a receivable for 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 reinsurance agreements. 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 estimated 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 other liabilities. However, accruals that are not scheduled to settle within one year are included with the derivative’s 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.

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.

Notes to the Financial Statements — (continued)

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

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 unadjusted quoted prices are not available, estimated 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 determinable, unobservable inputs and/or adjustments to observable inputs requiring significant management judgment are used to determine the estimated fair value of assets and liabilities. These unobservable inputs can be based on management's judgment, assumptions or estimation and may not be observable in market activity. Unobservable inputs are based on management's assumptions about the inputs market participants would use in pricing the assets.

Other Accounting Policies

Cash and Cash Equivalents

The Company considers 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. Securities included within cash equivalents are stated at estimated fair value, while other investments included within 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.

Notes to the Financial Statements — (continued)

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

Adopted Accounting Pronouncements

The table below describes the impacts of the ASUs adopted by the Company, effective January 1, 2022.

Standard	Description	Effective Date and Method of Adoption	Impact on Financial Statements
ASU 2020-04, <i>Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting</i> ; as clarified and amended by ASU 2021-01, <i>Reference Rate Reform (Topic 848): Scope</i> ; as amended by ASU 2022-06, <i>Reference Rate Reform (Topic 848)-Deferral of the Sunset Date of Topic 848</i>	The guidance provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by reference rate reform if certain criteria are met. The expedients and exceptions provided by the amendments do not apply to contract modifications made and hedging relationships entered into or evaluated after December 31, 2022, with certain exceptions. ASU 2021-01 amends the scope of the recent reference rate reform guidance. New optional expedients allow derivative instruments impacted by changes in the interest rate used for margining, discounting, or contract price alignment to qualify for certain optional relief. The amendments in ASU 2022-06 extend the sunset date of the reference rate reform optional expedients and exceptions to December 31, 2024.	Effective for contract modifications made between March 12, 2020 and December 31, 2024	The guidance reduces the operational and financial impacts of contract modifications that replace a reference rate, such as London Interbank Offered Rate (LIBOR), affected by reference rate reform. Contract modifications for invested assets and derivative instruments occurred during 2021 and 2022 and will continue into 2023. Based on actions taken to date, the adoption of the guidance has not had a material impact on the Company's financial statements. The Company does not expect the adoption of this guidance to have a material ongoing impact on its financial statements.

Notes to the Financial Statements — (continued)

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

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 and disclosures. ASUs issued but not yet adopted as of December 31, 2022 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 2018-12, <i>Financial Services—Insurance (Topic 944): Targeted Improvements to the Accounting for Long-Duration Contracts</i> , as amended by ASU 2019-09, <i>Financial Services—Insurance (Topic 944): Effective Date</i> , as amended by ASU 2020-11, <i>Financial Services—Insurance (Topic 944): Effective Date and Early Application</i> ; as amended by ASU 2022-05, <i>Financial Services—Insurance (Topic 944): Transition for Sold Contracts</i>	<p>The 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.</p> <p>Market risk benefits are contracts or contract features that guarantee benefits, such as guaranteed minimum benefits, in addition to an account balance which expose insurance companies to other than nominal capital market risk and protect the contractholder from the same risk. Certain contracts or contract features to be identified as “market risk benefits” are currently accounted for as embedded derivatives and measured at fair value, while others will transition to fair value measurement upon the adoption of ASU 2018-12. The methods for determining the fair value of contract features considered to be market risk benefits are similar to the approaches used if it was previously accounted for as an embedded derivative; except that changes in fair value attributable to nonperformance risk now will be recognized directly in OCI.</p> <p>The amendments in ASU 2019-09 defer the effective date of ASU 2018-12 to January 1, 2022 for all entities, and the amendments in ASU 2020-11 further defer the effective date of ASU 2018-12 for an additional year to January 1, 2023 for all entities. The amendments in ASU 2022-05 allow entities to make an accounting policy election to exclude certain sold or disposed contracts or legal entities from application of the transition guidance. The Company does not intend to make such an election.</p>	<p>January 1, 2023, to be applied retrospectively to January 1, 2021 (with early adoption permitted). Estimated impacts from adoption as of the transition date of January 1, 2021 are measured using market rate assumptions appropriate as of that date. Such estimates do not reflect changes in market rate assumptions subsequent to January 1, 2021.</p>	<p>The Company's implementation efforts and the evaluation of the impacts of the guidance on its financial statements, as well as its systems, processes, and controls, continue to progress. Given the nature and extent of the required changes to a significant portion of the Company's operations, the adoption of this guidance is expected to have a material impact on its financial position, results of operations, and disclosures.</p> <p>The Company will adopt the guidance effective January 1, 2023. The modified retrospective approach will be used, except in regard to market risk benefits where the Company will use the full retrospective approach. The impact of these transition methods on the Company's financial statements on January 1, 2021 is still under review by management.</p>

Notes to the Financial Statements - (continued)

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 2.39% 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 2.0% to 6.22%.
Accident and health insurance	Present value of expected future payments. Interest rate assumptions used in establishing such liabilities range from -0.02% to 1.5%.
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% 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% to 2.50%.

Notes to the Financial Statements — (continued)

2. Reserves (continued)

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	<ul style="list-style-type: none"> A return of purchase payment upon death even if the account value is reduced to zero. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Expected value of the life contingent payments and expected assessments using assumptions consistent with those used for estimating the GMDBs liabilities.

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 December 31, 2020	141,381	33,197	174,578
Incurred guaranteed benefits	5,202	(14,288)	(9,086)
Paid guaranteed benefits	(10,013)	375	(9,638)
Balance at December 31, 2021	136,570	19,284	155,854
Incurred guaranteed benefits	(7,430)	(7,687)	(15,117)
Paid guaranteed benefits	(612)	—	(612)
Balance at December 31, 2022	<u>\$ 128,528</u>	<u>\$ 11,597</u>	<u>\$ 140,125</u>

Notes to the Financial Statements — (continued)

2. Reserves (continued)

Liabilities for Unpaid Claims and Claim Expenses

The following is information about incurred and paid claims development at December 31, 2022. 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 2022 year end spot rates for all periods presented. The information about incurred and paid claims development prior to 2022 is presented as supplementary information.

AffiliatedGroup Life and Group Disability

Incurral Year	Incurred Claims and Allocated Claim Adjustment Expense, Net of Reinsurance						At December 31, 2022	
	Years Ended December 31,						Total IBNR Liabilities Plus Expected Development on Reported Claims	Cumulative Number of Reported Claims
	(Unaudited)							
	2017	2018	2019	2020	2021	2022		
	(Dollars in thousands)							
2017	\$ 21,077	\$ 10,549	\$ 11,293	\$ 17,563	\$ 16,188	\$ 19,199	\$ 3,228	203
2018		40,598	26,289	35,208	36,351	37,188	10,415	481
2019			74,131	56,023	56,497	59,328	18,416	721
2020				65,165	59,567	56,022	29,291	525
2021					37,547	33,536	22,341	510
2022						36,218	35,357	228
Total						241,491		
Cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance						(122,463)		
Total unpaid claims and claim adjustment expenses, net of reinsurance						\$ 119,028		

Incurral Year	Cumulative Paid Claims and Paid Allocated Claim Adjustment Expenses, Net of Reinsurance					
	Years Ended December 31,					
	(Unaudited)					
	2017	2018	2019	2020	2021	2022
(In thousands)						
2017	\$ 1,646	\$ 1,794	\$ 7,286	\$ 15,149	\$ 13,880	\$ 15,970
2018		918	6,113	15,772	22,092	26,773
2019			2,330	12,965	28,590	40,912
2020				2,326	12,660	26,731
2021					1,373	11,196
2022						881
Total cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance						\$ 122,463

Average Annual Percentage Payout

The following is supplementary information about average historical claims duration at December 31, 2022:

Years	Average Annual Percentage Payout of Incurred Claims by Age, Net of Reinsurance					
	1	2	3	4	5	6
Group Life and Group Disability	4.3%	16.1%	26.5%	26.2%	3%	10.9%

Significant Methodologies and Assumptions

For Group Life, the IBNR liability is determined by using the Bornhuetter-Ferguson Method, with factors derived by examining the experience of historical claims. A pending liability is also calculated for claims that have been reported but have not been paid. A claim eligibility ratio based on past experience is applied to the face amount of individual claims.

Notes to the Financial Statements — (continued)

2. Reserves (continued)

For Group Disability, the IBNR liability is calculated by applying a percentage to premiums in-force based on the expected delay as evidenced by the experience in the portfolio. The calculated IBNR liability is then allocated back into different incurral years based on historical run-off patterns. As the benefit for this class of business is a regular series of payments, an additional reserve is required for the liability for ongoing benefit payments – claims in course of payment (“CICP”). The assumptions employed in the calculation of the CICP, are adjusted for the Company’s own experience.

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

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 \$114.1 million and \$133.5 million at December 31, 2022 and 2021, respectively. Using interest rates ranging from 1% to 5%, based on the incurral year, the total discount applied to these liabilities was \$5.0 million and \$3.2 million at December 31, 2022 and 2021, respectively. The amount of interest accretion recognized was \$2.0 million and \$2.3 million for the years ended December 31, 2022 and 2021, respectively. These amounts were reflected in policyholder benefits and claims.

For Group Life and Group Disability, claims frequency is tracked by the number of reported claims as identified by a unique claim number assigned to individual claimants. Claim counts include claims that do not ultimately result in a liability. A liability is established for only those claims that are expected to result in a liability, based on historical factors.

Non-AffiliatedDisability

Incurral Year	Incurred Claims and Allocated Claim Adjustment Expense, Net of Reinsurance						At December 31, 2022						
	Years Ended December 31,						Total IBNR Liabilities Plus Expected Development on Reported Claims	Cumulative Number of Reported Claims					
	(Unaudited)												
	2018	2019	2020	2021	2022								
(Dollars in thousands)													
2013	\$	3,977	\$	4,300	\$	6,187	\$	6,458	\$	6,380	\$	—	97
2014		5,186		5,588		6,926		7,784		6,714		—	121
2015		9,055		9,854		10,951		11,278		10,040		—	165
2016		10,346		11,209		13,876		15,547		14,300		—	279
2017		22,269		20,534		20,763		18,377		16,585		—	316
2018		33,362		22,630		26,315		24,873		23,050		—	661
2019				43,045		34,054		34,941		29,684		—	1,089
2020						46,438		33,441		22,917		—	1,084
2021								52,352		26,917		6,532	607
2022										48,509		20,072	666
Total										205,096			
Cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance										(53,365)			
All outstanding liabilities before 2013, net of reinsurance										7,456			
Total unpaid claims and claim adjustment expenses, net of reinsurance										\$	159,187		

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

2. Reserves (continued)

Incurral Year	Cumulative Paid Claims and Paid Allocated Claim Adjustment Expenses, Net of Reinsurance		
	Years Ended December 31,		
	(Unaudited)		
	2020	2021	2022
	(In thousands)		
2013	\$ 914	\$ 2,539	\$ 3,606
2014	1,329	3,209	4,212
2015	1,284	4,356	5,779
2016	2,036	6,391	7,117
2017	1,131	7,145	8,847
2018	—	8,630	11,315
2019	—	5,391	8,205
2020	—	—	4,284
2021	—	—	—
2022	—	—	—
Total cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance			\$ 53,365

Average Annual Percentage Payout

The following is supplementary information about average historical claims duration at December 31, 2022:

Years	Average Annual Percentage Payout of Incurred Claims by Age, Net of Reinsurance				
	1	2	3	4	5
Disability	—%	—%	11.9%	19%	10.7%

Life

Incurral Year	Incurred Claims and Allocated Claim Adjustment Expense, Net of Reinsurance						At December 31, 2022	
	Years Ended December 31,						Total IBNR Liabilities Plus Expected Development on Reported Claims	Cumulative Number of Reported Claims
	(Unaudited)							
	2018	2019	2020	2021	2022			
(Dollars in thousands)								
2013	\$ 43	\$ 109	\$ 604	\$ 580	\$ 1,080	\$ —	23	
2014	381	328	612	590	581	—	37	
2015	315	732	1,212	1,313	1,216	—	58	
2016	5,263	5,326	5,829	5,638	5,663	—	242	
2017	21,712	22,085	24,023	23,358	23,330	—	993	
2018	32,029	31,760	31,479	36,259	36,491	—	1,985	
2019		40,569	30,211	43,791	45,025	—	4,384	
2020			52,633	47,258	49,900	—	6,971	
2021				54,288	56,995	—	6,047	
2022					51,757	8,256	7,581	
Total					272,038			
Cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance					(136,604)			
All outstanding liabilities before 2013, net of reinsurance					1,712			
Total unpaid claims and claim adjustment expenses, net of reinsurance					\$ 137,146			

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

2. Reserves (continued)

Incurral Year	Cumulative Paid Claims and Paid Allocated Claim Adjustment Expenses, Net of Reinsurance		
	Years Ended December 31,		
	(Unaudited)		
	2020	2021	2022
	(In thousands)		
2013	\$ 22	\$ 86	\$ 152
2014	39	363	458
2015	280	702	720
2016	5,398	5,940	5,946
2017	16,062	24,670	25,198
2018	—	35,007	33,513
2019	—	31,852	29,853
2020	—	—	40,764
2021	—	—	—
2022	—	—	—
Total cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance			\$ 136,604

Average Annual Percentage Payout

The following is supplementary information about average historical claims duration at December 31, 2022:

Years	Average Annual Percentage Payout of Incurred Claims by Age, Net of Reinsurance				
	1	2	3	4	5
Life	—%	—%	63.5%	30%	(0.8)%

Medical

Incurral Year	Incurred Claims and Allocated Claim Adjustment Expense, Net of Reinsurance					At December 31, 2022	
	Years Ended December 31,					Total IBNR Liabilities Plus Expected Development on Reported Claims	Cumulative Number of Reported Claims
	(Unaudited)						
	2018	2019	2020	2021	2022		
(Dollars in thousands)							
2013	\$ 25	\$ 25	\$ 25	\$ 30	\$ 31	\$ —	97
2014	87	87	88	105	108	—	722
2015	889	922	903	976	1,006	—	3,376
2016	13,486	13,506	13,584	13,809	13,825	—	117,318
2017	69,185	69,786	69,255	69,992	70,097	—	729,578
2018	72,647	72,833	68,605	74,526	74,651	—	733,005
2019		90,232	62,329	85,506	85,821	—	696,355
2020			145,733	88,944	89,781	—	1,158,012
2021				128,566	129,473	—	1,455,026
2022					62,346	6,923	1,125,565
Total					527,139		
Cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance					(337,707)		
All outstanding liabilities before 2013, net of reinsurance					14		
Total unpaid claims and claim adjustment expenses, net of reinsurance					\$ 189,446		

Notes to the Financial Statements — (continued)

2. Reserves (continued)

Incurral Year	Cumulative Paid Claims and Paid Allocated Claim Adjustment Expenses, Net of Reinsurance		
	Years Ended December 31,		
	(Unaudited)		
	2020	2021	2022
	(In thousands)		
2013	\$ 18	\$ 8	\$ 9
2014	65	94	95
2015	479	25	3
2016	13,538	12,760	12,846
2017	65,543	78,183	77,552
2018	—	80,925	75,635
2019	—	82,144	62,282
2020	—	—	109,285
2021	—	—	—
2022	—	—	—
Total cumulative paid claims and paid allocated claim adjustment expenses, net of reinsurance	\$ 337,707		

Average Annual Percentage Payout

The following is supplementary information about average historical claims duration at December 31, 2022:

Years	Average Annual Percentage Payout of Incurred Claims by Age, Net of Reinsurance				
	1	2	3	4	5
Medical	—%	—%	89.6%	17.3%	(3.7)%

Significant Methodologies and Assumptions

IBNR liabilities are developed using a combination of loss ratio and development methods. The loss ratio method is used in the period in which the claims are neither sufficient nor credible. 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 reported. The end result is a triangle of known data that is used to develop known completion ratios and factors.

Open claims reserves for Disability are based on the present value of future disability payments, applying termination rate tables and discount rates that, depending on market practice, either vary by claim incurral year or for all as of the valuation date. Termination rate tables may be based on internal experience or applying those required by regulations. Calculations may also include provision for transition from short-term to long-term disability, as well as additional benefits such as waiver of premium.

Pending claim reserves are based on claims notified but not yet paid because of lack of information.

First year incurred claims decreased in 2022 compared to the 2021 incurral year as a result of adjustments from true-up of prior estimated to actual 2021 claims being put through the 2022 incurral year for all incurral years plus projection of 2022 first year claims being based off actual 2021 first year claims, which were lower than the projected 2021 first year claims.

The assumptions used in calculating the unpaid claims 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 Life and Medical unpaid claims are not discounted.

The liabilities for Disability unpaid claims were \$139.6 million and \$147.9 million at December 31, 2022 and 2021, respectively. These amounts were discounted using interest rates ranging from 0% to 7%, based on the incurral year.

Claim frequency was determined by the number of reported claims as identified by a unique claim number assigned to individual claimants. Claim counts initially include claims that do not ultimately result in a liability. These claims are omitted from the claim counts once it is determined that there is no liability.

Notes to the Financial Statements — (continued)

2. Reserves (continued)

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, 2022 (In thousands)
Short-Duration:	
Unpaid claims and allocated claims adjustment expenses, net of reinsurance:	
Affiliated:	
Group Life and Group Disability	\$ 119,028
Non-Affiliated:	
Disability	159,187
Life	137,146
Medical	189,446
Other insurance lines	31,610
Total unpaid claims and allocated claims adjustment expenses, net of reinsurance	636,417
Reinsurance recoverables on unpaid claims:	
Affiliated:	
Group Life and Group Disability	—
Non-Affiliated:	
Disability	—
Life	—
Medical	—
Other insurance lines	3,298
Total reinsurance recoverable on unpaid claims	3,298
Liability for unpaid claims and claim adjustment liabilities - short-duration	639,715
Unallocated claims adjustment expenses	—
Discounting	(4,953)
Liability for unpaid claims and claim adjustment liabilities - short-duration	634,762
Liability for unpaid claims and claim adjustment liabilities - all long-duration lines	43,365
Total liability for unpaid claims and claim adjustment expense (included in future policy benefits and other policy-related balances)	\$ 678,127

Notes to the Financial Statements — (continued)

2. Reserves (continued)

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,	
	2022	2021
	(In thousands)	
Balance at January 1,	\$ 705,291	\$ 821,401
Less: Reinsurance recoverables	1,950	1,913
Net balance at January 1,	703,341	819,488
Incurred related to:		
Current year	387,620	359,317
Prior years (1)	18,351	58,468
Total incurred	405,971	417,785
Paid related to:		
Current year	(177,603)	(163,735)
Prior years	(256,880)	(370,197)
Total paid	(434,483)	(533,932)
Net balance at December 31,	674,829	703,341
Add: Reinsurance recoverables	3,298	1,950
Balance at December 31,	\$ 678,127	\$ 705,291

- (1) For both the years ended December 31, 2022 and 2021, claims and claim adjustment expenses associated with prior years increased due to 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.

Variable Deferred Annuity Contracts

The Company amortizes DAC related to these contracts over the estimated lives of the contracts in proportion to actual and expected future gross profits. The amortization includes interest based on rates in effect at inception or acquisition of the contracts. The amount of future gross profits is dependent principally upon returns in excess of the amounts credited to policyholders, mortality, persistency, interest crediting rates, expenses to administer the business, creditworthiness of reinsurance counterparties, the effect of any hedges used and certain economic variables, such as inflation. Of these factors, the Company anticipates that investment returns, expenses and persistency are reasonably likely to significantly impact the rate of DAC amortization. Each reporting period, the Company updates the estimated gross profits with the actual gross profits for that period. When the actual gross profits change from previously estimated gross profits, the cumulative DAC amortization is re-estimated and adjusted by a cumulative charge or credit to current operations. When actual gross profits exceed those previously estimated, the DAC amortization will increase, resulting in a current period charge to earnings. The opposite result occurs when the actual gross profits are below the previously estimated gross profits. Each reporting period, the Company also updates the actual amount of business remaining in-force, which impacts expected future gross profits.

Notes to the Financial Statements - (continued)

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

When expected future gross profits are below those previously estimated, the DAC amortization will increase, resulting in a current period charge to earnings. The opposite result occurs when the expected future gross profits are above the previously estimated expected future gross profits. Each period, the Company also reviews the estimated gross profits for each block of business to determine the recoverability of DAC.

Information regarding DAC and VOBA was as follows:

	Years Ended December 31,	
	2022	2021
	(In thousands)	
DAC:		
Balance at January 1,	\$ 43,724	\$ 20,101
Capitalizations (1)	—	30,125
Amortization	(4,398)	(3,833)
Effect of foreign currency translation	(5,134)	(2,669)
Balance at December 31,	34,192	43,724
VOBA:		
Balance at January 1,	128,584	155,476
Amortization	(9,200)	(11,348)
Effect of foreign currency translation	(16,251)	(15,544)
Balance at December 31,	103,133	128,584
Total DAC and VOBA:		
Balance at December 31,	\$ 137,325	\$ 172,308

(1) Amounts transferred to the Company through an affiliated reinsurance transaction.

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

	VOBA	
	(In thousands)	
2023	\$	8,815
2024	\$	8,288
2025	\$	7,756
2026	\$	7,217
2027	\$	6,698

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.

MetLife Reinsurance Company of Bermuda, Inc.

Notes to the Financial Statements — (continued)

4. Reinsurance (continued)

Related Party Reinsurance Transactions

The Company has reinsurance agreements with certain of MetLife Inc. subsidiaries, MetLife Europe d.a.c. (“MEL”), MetLife Insurance K.K. (“MLJ”), MetLife Insurance Ltd., 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,	
	2022	2021
	(In thousands)	
Premiums		
Reinsurance assumed	\$ 170,887	\$ 170,501
Universal life and investment-type product policy fees		
Reinsurance assumed	\$ 43,872	\$ 45,454
Other revenues		
Reinsurance assumed	\$ (482,478)	\$ 286,563
Policyholder benefits and claims		
Reinsurance assumed	\$ (1,667,449)	\$ (342,728)
Interest credited to policyholder account balances		
Reinsurance assumed	\$ (490,549)	\$ 224,272
Other expenses		
Reinsurance assumed	\$ 74,797	\$ 72,163

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

	December 31,	
	2022	2021
	(In thousands)	
Assets		
Funds withheld at interest	\$ 2,901,438	\$ 4,413,234
Premiums, reinsurance and other receivables	326,180	205,280
Deferred policy acquisition costs and value of business acquired	137,325	172,308
Total assets	<u>\$ 3,364,943</u>	<u>\$ 4,790,822</u>
Liabilities		
Future policy benefits	\$ 515,035	\$ 445,426
Policyholder account balances	8,827,792	12,772,401
Other policy-related balances	188,646	182,279
Other liabilities	420,462	482,453
Total liabilities	<u>\$ 9,951,935</u>	<u>\$ 13,882,559</u>

In December 2022, the Company entered into a new reinsurance agreement to assume a 90% 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 \$132.1 million, FPBs of \$112.9 million, other policy-related balances of \$10.3 million and other liabilities of \$4.3 million at December 31, 2022.

4. Reinsurance (continued)

In January 2021, the Company amended and restated the reinsurance agreement with MEL to extend the current reinsurance agreement to include 100% Quota Share of the closed block of UK Wealth Management Variable Annuity & Horizon business issued by MEL. This agreement transfers significant insurance risk and therefore, is accounted for as reinsurance. The significant impacts to the Company were increases in funds withheld at interest of \$3.0 billion and \$4.5 billion, premiums, reinsurance and other receivables of \$105.6 million and \$96.2 million, DAC and VOBAs of \$20.8 million and \$27.1 million, PABs of \$2.9 billion and \$4.4 billion, FPBs of \$10.7 million and \$19.8 million, other policy-related balances of \$23.0 million and \$28.1 million and other liabilities of \$388.5 million and \$451.9 million at December 31, 2022 and December 31, 2021, respectively. The Company's statement of operations included an increase to universal life and investment-type product policy fees of \$43.9 million and \$45.5 million, other revenues of (\$487.5) million and \$283.9 million, interest credited to policyholder account balances of (\$490.5) million and \$224.3 million and other expenses of \$26.1 million and \$17.3 million offset by a decrease to policyholder benefits and claims of \$44.8 million and \$56.8 million, for the years ended December 31, 2022 and December 31, 2021, 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 ACL and 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.

The determination of ACL and impairments is highly subjective and is based upon quarterly 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.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

5. Investments (continued)

Fixed Maturity Securities AFS

Fixed Maturity Securities AFS by Sector

The following table presents fixed maturity securities AFS by sector. U.S. corporate and foreign corporate sectors include redeemable preferred stock. Municipals includes taxable revenue bonds, and to a much lesser extent, general obligations of states, municipalities and political subdivisions. Residential mortgage-backed securities (“RMBS”) includes agency, prime, prime investor, non-qualified residential mortgage, alternative, reperforming and sub-prime mortgage-backed securities. Commercial mortgage-backed securities (“CMBS”) primarily includes securities collateralized by multiple commercial mortgage loans. ABS includes securities collateralized by corporate loans and consumer loans. RMBS, CMBS, and ABS are collectively, “Structured Products”.

Sector	December 31, 2022					December 31, 2021				
	Amortized Cost	ACL	Gross Unrealized		Estimated Fair Value	Amortized Cost	ACL	Gross Unrealized		Estimated Fair Value
			Gains	Losses				Gains	Losses	
	(In thousands)									
U.S. corporate	\$ 3,123,146	\$ —	\$ —	\$ 580,149	\$ 2,542,997	\$ 3,381,388	\$ —	\$ 195,768	\$ 11,988	\$ 3,565,168
U.S. government and agency	1,746,407	—	114	440,884	1,305,637	1,841,066	—	182,837	232	2,023,671
Foreign corporate	829,220	—	4	134,960	694,264	1,014,296	—	42,924	2,442	1,054,778
Municipals	847,329	—	—	198,448	648,881	857,387	—	44,518	3,203	898,702
Foreign government	601,644	(9,157)	5	182,480	410,012	640,879	—	15,798	30,590	626,087
RMBS	431,550	—	4	67,354	364,200	380,016	—	18,175	1,063	397,128
CMBS	300,661	—	—	71,129	229,532	302,939	—	3,630	3,630	302,939
ABS	57,703	—	—	12,441	45,262	58,094	—	347	302	58,139
Total fixed maturity securities AFS	\$ 7,937,660	\$ (9,157)	\$ 127	\$ 1,687,845	\$ 6,240,785	\$ 8,476,065	\$ —	\$ 503,997	\$ 53,450	\$ 8,926,612

The Company held non-income producing fixed maturity securities AFS with an estimated fair value of \$4,720 thousand and unrealized gains (losses) of (\$5) thousand at December 31, 2022. The Company did not hold non-income producing fixed maturity securities AFS at December 31, 2021.

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

Amortization of premium and accretion of discount on Structured Products 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 Products 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 Products, the effective yield is recalculated on a prospective basis. For all other Structured Products, the effective yield is recalculated on a retrospective basis.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

5. Investments (continued)

Maturities of Fixed Maturity Securities AFS

The amortized cost, net of ACL and estimated fair value of fixed maturity securities AFS, by contractual maturity date, were as follows at December 31, 2022:

	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 Products	Total Fixed Maturity Securities AFS
(In thousands)						
Amortized cost, net of ACL	\$ 260,767	\$ 1,070,934	\$ 1,000,761	\$ 4,806,127	\$ 789,914	\$7,928,503
Estimated fair value	\$ 257,534	\$ 1,027,806	\$ 851,006	\$ 3,465,445	\$ 638,994	\$6,240,785

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 Products 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 without an ACL by sector and aggregated by length of time that the securities have been in a continuous unrealized loss position.

Sector & Credit Quality	December 31, 2022				December 31, 2021			
	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	\$ 2,308,709	\$ 492,709	\$ 234,288	\$ 87,440	\$ 319,168	\$ 7,678	\$ 15,181	\$ 4,310
U.S. government and agency	1,210,312	433,514	10,004	7,370	85,351	232	—	—
Foreign corporate	600,143	110,401	90,773	24,559	127,851	2,442	—	—
Municipals	561,243	167,519	87,638	30,929	101,144	2,421	14,605	782
Foreign government	179,633	30,698	224,247	151,777	367,221	27,789	24,823	2,801
RMBS	309,021	50,225	47,638	17,129	65,161	1,063	—	—
CMBS	103,589	28,651	125,943	42,478	166,136	3,630	—	—
ABS	8,637	2,526	36,625	9,915	46,939	302	—	—
Total fixed maturity securities AFS	<u>\$ 5,281,287</u>	<u>\$1,316,243</u>	<u>\$ 857,156</u>	<u>\$ 371,597</u>	<u>\$1,278,971</u>	<u>\$ 45,557</u>	<u>\$ 54,609</u>	<u>\$ 7,893</u>
Investment grade	\$ 5,176,950	\$1,296,228	\$ 791,601	\$ 346,371	\$1,194,444	\$ 42,504	\$ 46,995	\$ 4,157
Below investment grade	104,337	20,015	65,555	25,226	84,527	3,053	7,614	3,736
Total fixed maturity securities AFS	<u>\$ 5,281,287</u>	<u>\$1,316,243</u>	<u>\$ 857,156</u>	<u>\$ 371,597</u>	<u>\$1,278,971</u>	<u>\$ 45,557</u>	<u>\$ 54,609</u>	<u>\$ 7,893</u>
Total number of securities in an unrealized loss position	744		226		225		6	

5. Investments (continued)

Evaluation of Fixed Maturity Securities AFS for Credit Loss

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 credit loss evaluation process include, but are not limited to: (i) the extent to which the estimated fair value has been below amortized cost, (ii) adverse conditions specifically related to a security, an industry sector or sub-sector, or an economically depressed geographic area, adverse change in the financial condition of the issuer of the security, changes in technology, discontinuance of a segment of the business that may affect future earnings, and changes in the quality of credit enhancement, (iii) payment structure of the security and likelihood of the issuer being able to make payments, (iv) failure of the issuer to make scheduled interest and principal payments, (v) whether the issuer, or series of issuers or an 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 Products, changes in forecasted cash flows after considering the changes in the financial condition of the underlying loan obligors and 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) changes in the rating of the security by a rating agency, and (ix) other subjective factors, including concentrations and information obtained from regulators.

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 at the time of purchase for fixed-rate securities and the spot rate at the date of evaluation of credit loss for floating-rate securities.
- When determining collectability and the period over which value is expected to recover, the Company applies considerations utilized in its overall credit loss 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 single best estimate, the most likely outcome in a range of possible 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; any private and public sector programs to restructure foreign government securities and municipals; 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 Products including, but not limited to: the quality of underlying collateral, historical performance of the underlying loan obligors, historical rent and vacancy levels, changes in the financial condition of the underlying loan obligors, expected prepayment speeds, current and forecasted loss severity, consideration of the payment terms of the underlying loans or assets backing a particular security, changes in the quality of credit enhancement and the payment priority within the tranche structure of the security.

With respect to securities that have attributes of debt and equity ("perpetual hybrid securities"), consideration is given in the credit loss analysis as to whether there has been any deterioration in the credit of the issuer and the likelihood of recovery in value of the securities that are in a severe unrealized loss position. Consideration is also given as to whether any perpetual hybrid securities with an unrealized loss, regardless of credit rating, have deferred any dividend payments.

In periods subsequent to the recognition of an initial ACL on a security, the Company reassesses credit loss quarterly. Subsequent increases or decreases in the expected cash flow from the security result in corresponding decreases or increases in the ACL which are recognized in earnings and reported within net investment gains (losses); however, the previously recorded ACL is not reduced to an amount below zero. Full or partial write-offs are deducted from the ACL in the period the security, or a portion thereof, is considered uncollectible. Recoveries of amounts previously written off are recorded to the ACL in the period received. When the Company has the intent to sell the

5. Investments (continued)

security or it is more likely than not that the Company will be required to sell the security before recovery of its amortized cost, any ACL is written off and the amortized cost is written down to estimated fair value through a charge within net investment gains (losses), which becomes the new amortized cost of the security.

Evaluation of Fixed Maturity Securities AFS in an Unrealized Loss Position

Gross unrealized losses on securities without an ACL increased \$1.6 billion for the year ended December 31, 2022 to \$1.7 billion primarily due to increases in interest rates and widening credit spreads.

Gross unrealized losses on securities without an ACL that have been in a continuous gross unrealized loss position for 12 months or greater were \$371.6 million at December 31, 2022, or 22% of the total gross unrealized losses on securities without an ACL.

Investment Grade Fixed Maturity Securities AFS

Of the \$371.6 million of gross unrealized losses on securities without an ACL that have been in a continuous gross unrealized loss position for 12 months or greater, \$346.4 million, or 93%, were related to 210 investment grade securities. Unrealized losses on investment grade securities are principally related to widening credit spreads since purchase and, with respect to fixed-rate securities, rising interest rates since purchase.

Below Investment Grade Fixed Maturity Securities AFS

Of the \$371.6 million of gross unrealized losses on securities without an ACL that have been in a continuous gross unrealized loss position for 12 months or greater, \$25.2 million, or 7%, was related to 16 below investment grade securities. Unrealized losses on below investment grade securities are principally related to U.S. corporate securities (primarily industrial, communication and energy) and is a result of significantly wider credit spreads resulting from higher risk premiums since purchase, largely due to economic and market uncertainty, as well as with respect to fixed-rate securities, rising interest rates since purchase. Management evaluates U.S. corporate securities based on several factors such as expected cash flows, financial condition, and near-term and long-term prospects of the issuers.

Current Period Evaluation

At December 31, 2022, with respect to securities in an unrealized loss position without an ACL, the Company did not intend to sell these securities, and it was not more likely than not that the Company would be required to sell these securities before the anticipated recovery of the remaining amortized cost. Based on the Company's current evaluation of its securities in an unrealized loss position without an ACL, the Company concluded that these securities had not incurred a credit loss and should not have an ACL at December 31, 2022.

Future provisions for credit loss will depend primarily on economic fundamentals, issuer performance (including changes in the present value of future cash flows expected to be collected), changes in credit ratings and collateral valuation.

Cash Equivalents

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 \$386.8 million and \$375.4 million, principally at estimated fair value, at December 31, 2022 and 2021, respectively.

Concentrations of Credit Risk

Investments in any counterparty that were greater than 10% of the Company's equity, other than the U.S. government and its agencies, at estimated fair value, were in fixed income securities of the following 1) foreign governments and their agencies and 2) corporate and municipals issuers:

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

5. Investments (continued)

	December 31,	
	2022	2021
	(In thousands)	
Government		
United Kingdom of Great Britain and Northern Ireland	\$ 149,053	\$ 286,631
Japan	61,066	N/A
Qatar	30,121	N/A
Uruguay	29,725	N/A
Corporate & Municipals		
BASF SE	70,318	83,756
Electric Transmission Texas LLC	59,249	82,372
CH Robinson Worldwide Inc	49,023	N/A
International Business Machines Corp	48,036	N/A
McCain Foods Group Inc	47,953	N/A
Lottery Corporation LTD	47,226	N/A
Walmart Inc	47,117	N/A
American Electric Power Company Inc	46,190	N/A
Goldman Sachs Group Inc	45,403	N/A
Hendrickson Holdings LLC	41,043	N/A
Total Energies SE	39,495	N/A
Amazon.com Inc	35,975	N/A
Berkshire Hathaway Inc	34,050	N/A
CMS Energy Corp	33,619	N/A
CVS Health Corp	33,206	N/A
Invesco Core Real Estate USA LP	32,697	N/A
Microsoft Corp	30,596	N/A
Dallas Fort Worth - Texas Intl Airport	30,314	N/A
Apple Inc	30,160	N/A
Dominion Energy Inc	29,881	N/A

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,	
	2022	2021
	(In thousands)	
Invested assets held in trust (1)	132,744	147,056
Invested assets pledged as collateral (2)	216,873	138,203
Total invested assets held in trust and pledged as collateral	\$ 349,617	\$ 285,259

(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).

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

5. Investments (continued)

Variable Interest Entities

The Company has invested in legal entities that are VIEs. In certain instances, the Company holds 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 is deemed to be 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. There were no VIEs for which the Company has concluded that it is the primary beneficiary and which are consolidated at both December 31, 2022 and 2021.

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:

Asset Type	December 31,			
	2022		2021	
	Carrying Amount	Maximum Exposure to Loss (1)	Carrying Amount	Maximum Exposure to Loss (1)
	(In thousands)			
Fixed maturity securities AFS (2)	\$ 691,561	\$ 691,561	\$ 826,055	\$ 826,055

- (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 variable interests in Structured Products included within fixed maturity securities AFS, 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 composition of net investment income by asset type was as follows:

Asset Type	For the Years Ended December 31,	
	2022	2021
	(In thousands)	
Fixed maturity securities AFS	\$ 246,740	\$ 250,192
Cash, cash equivalents and short-term investments	7,890	560
Other	652	110
Subtotal investment income	255,282	250,862
Less: Investment expenses	4,808	5,040
Net investment income	<u>\$ 250,474</u>	<u>\$ 245,822</u>

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

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

5. Investments (continued)

Net Investment Gains (Losses)

The composition of net investment gains (losses) by asset type was as follows:

Asset Type	For the Years Ended December 31,	
	2022	2021
	(In thousands)	
Fixed maturity securities AFS	\$ (130,620)	\$ 19,774
Foreign currency transaction gains (losses)	(11,053)	(13,932)
Other	(2)	(1)
Total net investment gains (losses)	<u>\$ (141,675)</u>	<u>\$ 5,841</u>

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,	
	2022	2021
	(In thousands)	
Proceeds	<u>\$ 861,411</u>	<u>\$ 2,244,881</u>
Gross investment gains	\$ 401	\$ 54,122
Gross investment losses	(121,739)	(34,348)
Net credit loss (provision) release and impairment (loss)	(9,282)	—
Net investment gains (losses)	<u>\$ (130,620)</u>	<u>\$ 19,774</u>

Related Party Investment Transactions

The Company transfers invested assets, primarily consisting of fixed maturity securities AFS, to and from affiliates. There were no transfers for the year ended December 31, 2022. The estimated fair value of invested assets transferred from affiliates for the year ended December 31, 2021 was \$326 million.

The Company receives investment administrative services from affiliates. The related investment administrative service charges were \$3.6 million and \$3.4 million for the years ended December 31, 2022 and 2021, 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.

Derivatives are financial instruments with values 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.

6. Derivatives (continued)

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, foreign currency forwards, equity index options, interest rate options 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 to hedge interest rate risk associated with minimum guarantees embedded in certain variable annuity products assumed by the Company and to alter interest rate exposure arising from mismatches between assets and liabilities (duration mismatches). 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 hedge against the foreign currency exposure inherent in certain variable annuity products assumed by the Company. 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.

Equity Derivatives

The Company uses a variety of equity derivatives to reduce its exposure to equity market risk, including equity index options, equity 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 underlying 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.

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.

6. Derivatives (continued)

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 minimum guarantees 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,					
		2022			2021		
		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	\$ 6,013,161	\$ 7,372	\$ 142,112	\$ 5,740,121	\$ 47,005	\$ 14,681
Interest rate futures	Interest rate	595,396	1,524	87	1,022,075	3,346	38
Interest rate options	Interest rate	50,000	5,395	—	100,000	943	17
Foreign currency forwards	Foreign currency exchange rate	774,515	25,403	384	777,995	10	11,772
Equity futures	Equity market	1,309,150	5,964	2,702	1,624,331	5,753	4,633
Equity index options	Equity market	1,348,833	171,495	78,217	1,380,519	253,567	142,883
Equity variance swaps	Equity market	51,191	20	601	201,064	5,147	973
Total		<u>\$ 10,142,246</u>	<u>\$ 217,173</u>	<u>\$ 224,103</u>	<u>\$ 10,846,105</u>	<u>\$ 315,771</u>	<u>\$ 174,997</u>

The Company's derivatives were not designated or did not qualify as part of a hedging relationship at both December 31, 2022 and 2021. 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.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

6. Derivatives (continued)

The Effects of Derivatives on the Statements of Operations and Comprehensive Income (Loss)

The following table presents the financial statement location and amount of gain (loss) recognized on nonqualifying hedging relationships and embedded derivatives:

	Years Ended December 31,	
	2022	2021
	Net Derivative Gains (Losses)	
	(In thousands)	
Gain (Loss) on Derivatives Not Designated or Not Qualifying as Hedging Instruments:		
Interest rate derivatives (1)	\$ (184,717)	\$ 36,012
Foreign currency exchange rate derivatives (1)	(75,417)	(85,409)
Equity derivatives (1)	44,029	(145,861)
Subtotal	(216,105)	(195,258)
Earned income on derivatives	27,220	11,465
Embedded derivatives (2)	(81,819)	57,561
Total	\$ (270,704)	\$ (126,232)

(1) Excludes earned income on derivatives.

(2) 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 (\$1.7) million and (\$42.6) million for the year ended December 31, 2022 and 2021, respectively.

Credit Risk on Freestanding Derivatives

The Company may be exposed to credit-related losses in the event of nonperformance by its 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 in jurisdictions in which it understands that close-out netting should be enforceable and establishing and monitoring exposure limits. The Company's OTC-bilateral derivative transactions are governed by the International Swaps and Derivatives Association, Inc. ("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, close-out netting permits the Company (subject to financial regulations such as the Orderly Liquidation Authority under Title II of Dodd-Frank) to set off receivables from the counterparty against payables to the same counterparty arising out of all included transactions and to apply collateral to the obligations without application of the automatic stay, upon the counterparty's bankruptcy. 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 as required by applicable law. Additionally, effective September 1, 2021, the Company is required to pledge initial margin for certain new OTC-bilateral derivative transactions to third party custodians.

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 (both initial margin and variation margin), and the Company has minimal exposure to credit-related losses in the event of nonperformance by brokers and central clearinghouses to such derivatives.

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

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

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,			
	2022		2021	
	Assets	Liabilities	Assets	Liabilities
	(In thousands)			
Gross estimated fair value of derivatives:				
OTC-bilateral (1)	\$ 205,893	\$ 212,945	\$ 303,785	\$ 164,427
OTC-cleared (1)	3,766	7,677	2,832	5,364
Exchange-related	7,488	2,789	9,100	4,671
Total estimated fair value of derivatives presented on the balance sheets (1)	217,147	223,411	315,717	174,462
Gross amounts not offset on the balance sheets:				
Gross estimated fair value of derivatives: (2)				
OTC-bilateral	(31,861)	(31,861)	(48,192)	(48,192)
OTC-cleared	(3,766)	(3,766)	(2,832)	(2,832)
Exchange-traded	(99)	(99)	(1,739)	(1,739)
Cash collateral: (3), (4)				
OTC-bilateral	(146,453)	—	(232,462)	—
OTC-cleared	—	(3,911)	—	(2,532)
Exchange-traded	—	(2,649)	—	(2,924)
Securities collateral: (5)				
OTC-bilateral	(21,148)	(180,633)	(21,427)	(114,484)
Net amount after application of master netting agreements and collateral	<u>\$ 13,820</u>	<u>\$ 492</u>	<u>\$ 9,065</u>	<u>\$ 1,759</u>

- (1) At December 31, 2022 and 2021, derivative assets included income (expense) accruals reported in accrued investment income or in other liabilities of (\$26) thousand and (\$54) thousand, respectively, and derivative liabilities included (income) expense accruals reported in accrued investment income or in other liabilities of (\$692) thousand and (\$535) 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, where the centralized clearinghouse treats variation margin as collateral, is included in cash and cash equivalents, short-term investments or in fixed maturity securities AFS, and the obligation to return it is included in derivative collateral payable for reinsurance transactions on the balance sheet.
- (4) 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, 2022 and 2021, the Company received excess cash collateral of \$730 thousand and \$3.9 million, respectively, and provided excess cash collateral of \$80.8 million and \$78.0 million, respectively.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

6. Derivatives (continued)

- (5) 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, 2022, none of the collateral had been sold or re-pledged. Securities collateral pledged by the Company is reported in fixed maturity securities AFS 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, 2022 and 2021, the Company received excess securities collateral with an estimated fair value of \$252 thousand and \$16.9 million, respectively, for its OTC-bilateral derivatives, and provided excess securities collateral with an estimated fair value of \$36.2 million and \$23.7 million, respectively, which are not included in the table above due to foregoing limitations.

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 financial strength or credit rating from each of Moody's and S&P. If a party's financial strength rating or credit rating were to fall below that specific investment grade financial strength or 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.

	Estimated Fair Value of Derivatives in Net Liability (In thousands)	Estimated Fair Value of Collateral Provided Fixed Maturity Securities AFS
December 31, 2022		
Derivatives subject to credit-contingent provisions (1)	\$ 181,084	\$ 216,873
December 31, 2021		
Derivatives subject to credit-contingent provisions (1)	\$ 116,235	\$ 121,333

- (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, 2022 and 2021, derivative transactions with positive mark-to-market values (in-the-money) were \$174.0 million and \$255.4 million, respectively, and derivative transactions with negative mark-to-market values (out-of-the-money) were \$181.1 million and \$116.2 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 \$180.6 million and \$114.4 million, at December 31, 2022 and 2021, respectively. Accordingly, unsecured derivative liabilities of the Company guaranteed by MetLife were \$0.5 million and \$1.7 million, at December 31, 2022 and 2021, respectively.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

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:

	Balance Sheet Location	December 31,	
		2022	2021
(In thousands)			
Net embedded derivatives within asset host contracts:			
Funds withheld on assumed reinsurance	Funds withheld at interest	\$ (69,192)	\$ (43,052)
Embedded derivatives within liability host contracts:			
Assumed guaranteed minimum benefits	PABs	\$ 44,270	\$ 39,542

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 the market data used 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.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

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, 2022			
	Fair Value Hierarchy			Total Estimated Fair Value
	Level 1	Level 2	Level 3	
	(In thousands)			
Assets				
Fixed maturity securities AFS:				
U.S. corporate	\$ —	\$ 2,412,657	\$ 130,340	\$ 2,542,997
U.S. government and agency	589,322	716,315	—	1,305,637
Foreign corporate	—	679,994	14,270	694,264
Municipals	—	648,881	—	648,881
Foreign government	—	410,012	—	410,012
RMBS	—	364,200	—	364,200
CMBS	—	229,532	—	229,532
ABS	—	45,262	—	45,262
Total fixed maturity securities AFS	589,322	5,506,853	144,610	6,240,785
Short-term investments	—	—	—	—
Derivative assets: (1)				
Interest rate	1,524	12,767	—	14,291
Foreign currency exchange rate	—	25,403	—	25,403
Equity market	5,964	171,515	—	177,479
Total derivative assets	7,488	209,685	—	217,173
Embedded derivatives within asset host contracts (2)	—	—	(69,192)	(69,192)
Total assets	\$ 596,810	\$ 5,716,538	\$ 75,418	\$ 6,388,766
Liabilities				
Fair value option liabilities (3)	\$ —	\$ —	\$ 5,903,814	\$ 5,903,814
Derivative liabilities: (1)				
Interest rate	87	142,112	—	142,199
Foreign currency exchange rate	—	384	—	384
Equity market	2,702	78,818	—	81,520
Total derivative liabilities	2,789	221,314	—	224,103
Embedded derivatives within liability host contracts (2)	—	—	44,270	44,270
Total liabilities	\$ 2,789	\$ 221,314	\$ 5,948,084	\$ 6,172,187

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

7. Fair Value (continued)

	December 31, 2021							
	Fair Value Hierarchy			Total Estimated Fair Value				
	Level 1	Level 2	Level 3					
	(In thousands)							
Assets								
Fixed maturity securities AFS:								
U.S. corporate	\$	—	\$	3,403,269	\$	161,899	\$	3,565,168
U.S. government and agency		672,245		1,351,426		—		2,023,671
Foreign corporate		—		1,038,602		16,176		1,054,778
Municipals		—		898,702		—		898,702
Foreign government		—		626,087		—		626,087
RMBS		—		395,929		1,199		397,128
CMBS		—		302,939		—		302,939
ABS		—		58,139		—		58,139
Total fixed maturity securities AFS		672,245		8,075,093		179,274		8,926,612
Short-term investments		19,000		—		—		19,000
Derivative assets: (1)								
Interest rate		3,346		47,948		—		51,294
Foreign currency exchange rate		—		10		—		10
Equity market		5,753		258,714		—		264,467
Total derivative assets		9,099		306,672		—		315,771
Embedded derivatives within asset host contracts (2)		—		—		(43,052)		(43,052)
Total assets	\$	700,344	\$	8,381,765	\$	136,222	\$	9,218,331
Liabilities								
Fair value option liabilities (3)	\$	—	\$	—	\$	8,371,746	\$	8,371,746
Derivative liabilities: (1)								
Interest rate		38		14,698		—		14,736
Foreign currency exchange rate		—		11,772		—		11,772
Equity market		4,633		143,856		—		148,489
Total derivative liabilities		4,671		170,326		—		174,997
Embedded derivatives within liability host contracts (2)		—		—		39,542		39,542
Total liabilities	\$	4,671	\$	170,326	\$	8,411,288	\$	8,586,285

- (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 at estimated fair value on the balance sheets.

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

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

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 of securities 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. Unobservable inputs are based on management's assumptions about the inputs market participants would use in pricing such investments.

The estimated fair value of short-term investments is determined on a basis consistent with the methodologies described herein.

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 primary valuation approaches are the market approach, which considers recent prices from market transactions involving identical or similar assets or liabilities, and the income approach, which converts expected future amounts (e.g. cash flows) to a single current, discounted amount. 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.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

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: <ul style="list-style-type: none"> • quoted prices in markets that are not active • benchmark yields; spreads off benchmark yields; new issuances; issuer ratings • trades of identical or comparable securities; duration • privately-placed securities are valued using the additional key inputs: <ul style="list-style-type: none"> • 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 approach. Key Inputs: <ul style="list-style-type: none"> • illiquidity premium • delta spread adjustments to reflect specific credit-related issues • credit spreads • 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 • independent non-binding broker quotations
U.S. government and agency securities, Municipals and Foreign government securities		
	Valuation Approaches: Principally the market approach. Key Inputs: <ul style="list-style-type: none"> • 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 quotations • comparable securities that are actively traded 	<ul style="list-style-type: none"> • N/A
Structured Products		
	Valuation Approaches: Principally the market and income approaches. Key Inputs: <ul style="list-style-type: none"> • 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 • credit ratings • issuance-specific information, including, but not limited to: <ul style="list-style-type: none"> • collateral type; structure of the security; vintage of the loans • payment terms of the underlying assets • payment priority within the tranche; deal performance 	Valuation Approaches: Principally the market and income approaches. Key Inputs: <ul style="list-style-type: none"> • credit spreads • 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 • independent non-binding broker quotations • credit ratings

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.

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. Unobservable inputs are based on management's assumptions about the inputs market participants would use in pricing such derivatives.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

7. Fair Value (continued)

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	<ul style="list-style-type: none">• swap yield curves• basis curves• interest rate volatility (1)	<ul style="list-style-type: none">• swap yield curves• basis curves• currency spot rates• cross currency basis curves	<ul style="list-style-type: none">• swap yield curves• spot equity index levels• dividend yield curves• equity volatility (1)

(1) Option-based only.

Embedded Derivatives

Embedded derivatives principally include certain assumed variable annuity guarantees and investment risk within funds withheld related to certain reinsurance agreements. 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 is 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.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

7. Fair Value (continued)

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.

The estimated fair value of the embedded derivatives within funds withheld related to certain assumed reinsurance is determined based on the change in estimated fair value of the underlying assets held by the ceding company in a reference portfolio backing the funds withheld liability. The estimated fair value of the underlying assets is determined as described in "— Derivatives — Freestanding Derivatives." The estimated fair value of these embedded derivatives is included, along with their funds withheld hosts, in funds withheld at interest on the balance sheets with changes in estimated fair value recorded in net derivative gains (losses).

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.

Embedded derivatives within funds withheld related to certain assumed reinsurance

The valuations of these embedded derivatives are based on a similar approach as described in "— Derivatives — Freestanding Derivatives." 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.

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.

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:

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

7. Fair Value (continued)

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:

			December 31, 2022			December 31, 2021			Impact of Increase in Input on Estimated Fair Value (2)		
			Range			Weighted Average (1)	Range			Weighted Average (1)	
Fixed maturity securities AFS (3)											
U.S. corporate and foreign corporate	• Matrix pricing	• Offered quotes (4)	77	-	99	90	97	-	123	114	Increase
	• Market pricing	• Quoted prices (4)	43	-	43	43	75	-	75	75	Increase
Embedded derivatives											
Assumed guaranteed minimum benefits	• Option pricing techniques	• Mortality rates									
		Ages 0 - 40	0%	-	0.15%	0.04%	0%	-	0.15%	0.04%	Decrease (5)
		Ages 41 - 60	0.03%	-	0.75%	0.23%	0.03%	-	0.75%	0.25%	Decrease (5)
		Ages 61 - 115	0.17%	-	100%	2.59%	0.17%	-	100%	2.49%	Decrease (5)
		• Lapse rates									
		Durations 1 - 10	0.40%	-	15%	2.35%	0.40%	-	15%	2.40%	Decrease (6)
		Durations 11 - 20	2%	-	15%	3.34%	2%	-	15%	3.52%	Decrease (6)
		Durations 21 - 116	1%	-	15%	3.34%	1%	-	15%	3.52%	Decrease (6)
		• Withdrawal rates	0%	-	20%	4.25%	0%	-	20%	4.35%	(7)
		• Long-term equity volatilities	15.01%	-	20.24%	17.96%	15.31%	-	20.6%	18.30%	Increase (8)
		• Nonperformance risk spread	0.34%	-	1.77%	1.5%	0.13%	-	1.45%	1.21%	Decrease (9)
Interest Sensitive Whole Life											
	• Fair value pricing	• Mortality rates									
		Ages 0 - 40	0%	-	0.24%	0.04%	0%	-	0.24%	0.03%	Increase (10)
		Ages 41 - 60	0.01%	-	1.17%	0.14%	0.02%	-	1.17%	0.14%	Increase (10)
		Ages 61 - 115	0.04%	-	100%	1.23%	0.06%	-	100%	1.10%	Increase (10)
		• Lapse rates									
		Durations 1	—%	-	—%	—%	—%	-	—%	—%	Increase (11)
		Durations 2 - 116	1.70%	-	13.70%	2.63%	1.40%	-	18.80%	5.86%	Increase (11)
• Nonperformance risk spread	0.22%	-	1.51%	1.42%	0.12%	-	1.19%	1.11%	Decrease (12)		

- (1) The weighted average for fixed maturity securities AFS and derivatives is determined based on the estimated fair value of the securities and derivatives. The weighted average for embedded derivatives and interest sensitive whole life is determined based on a combination of account values and experience data.
- (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.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

7. Fair Value (continued)

- (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) 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.
- (6) 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.
- (7) 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.
- (8) 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.
- (9) 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.
- (10) 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.
- (11) For ISWL dynamic lapse increased lapsation occurs when the USD cash surrender value converted to JPY at the spot rate exceeds the premium paid at issue expressed in JPY at issue. This allows the policyholder to lock in his gain in JPY.
- (12) Nonperformance risk spread is calculated by using 100% of the MetLife cash 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.

Generally, all other classes of assets and liabilities classified within Level 3 that are not included in the preceding table use the same valuation techniques and significant unobservable inputs as previously described for Level 3.

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

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

7. Fair Value (continued)

	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)				
	Fixed Maturity Securities AFS				
	Corporate (6)	Structured Products	Net Derivatives (7)	Net Embedded Derivatives (8)	Fair Value Option Liabilities
	(In thousands)				
Balance, January 1, 2021	\$ 189,241	\$ 1,228	\$ 3,903	\$ (117,919)	\$ 9,131,119
Total realized/unrealized gains (losses) included in net income (loss) (1), (2)	(750)	(10)	—	57,561	(389,884)
Total realized/unrealized gains (losses) included in AOCI	(7,968)	(19)	—	38,205	86,244
Purchases (3)	—	—	—	—	—
Sales (3)	(2,448)	—	—	—	—
Issuances (3)	—	—	—	—	—
Settlements (3)	—	—	—	(60,441)	(455,733)
Transfers into Level 3 (4)	—	—	—	—	—
Transfers out of Level 3 (4)	—	—	(3,903)	—	—
Balance, December 31, 2021	<u>\$ 178,075</u>	<u>\$ 1,199</u>	<u>\$ —</u>	<u>\$ (82,594)</u>	<u>\$ 8,371,746</u>
Total realized/unrealized gains (losses) included in net income (loss) (1), (2)	(914)	—	—	(81,819)	(1,937,418)
Total realized/unrealized gains (losses) included in AOCI	(38,465)	—	—	95,395	131,059
Purchases (3)	129	—	—	—	—
Sales (3)	(4,683)	—	—	—	—
Issuances (3)	—	—	—	—	—
Settlements (3)	—	—	—	(44,444)	(661,573)
Transfers into Level 3 (4)	10,468	—	—	—	—
Transfers out of Level 3 (4)	—	(1,199)	—	—	—
Balance, December 31, 2022	<u>\$ 144,610</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (113,462)</u>	<u>\$ 5,903,814</u>
Changes in unrealized gains (losses) included in net income (loss) for the instruments still held at December 31, 2020: (5)	<u>\$ (740)</u>	<u>\$ (8)</u>	<u>\$ (2,467)</u>	<u>\$ 228,543</u>	<u>\$ —</u>
Changes in unrealized gains (losses) included in net income (loss) for the instruments still held at December 31, 2021: (5)	<u>\$ (750)</u>	<u>\$ (10)</u>	<u>\$ —</u>	<u>\$ 54,828</u>	<u>\$ —</u>
Changes in unrealized gains (losses) included in net income (loss) for the instruments still held at December 31, 2022: (5)	<u>\$ (920)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (90,011)</u>	<u>\$ —</u>
Changes in unrealized gains (losses) included in AOCI for the instruments still held at December 31, 2020: (5)	<u>\$ 10,620</u>	<u>\$ 64</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Changes in unrealized gains (losses) included in AOCI for the instruments still held at December 31, 2021: (5)	<u>\$ (7,968)</u>	<u>\$ (19)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Changes in unrealized gains (losses) included in AOCI for the instruments still held at December 31, 2022: (5)	<u>\$ (38,386)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Gains (Losses) Data for the year ended December 31, 2020:					
Total realized/unrealized gains (losses) included in net income (loss) (1), (2)	<u>\$ (740)</u>	<u>\$ (7)</u>	<u>\$ (2,468)</u>	<u>\$ 232,715</u>	<u>\$ 1,476,889</u>
Total realized/unrealized gains (losses) included in AOCI	<u>\$ 10,620</u>	<u>\$ 64</u>	<u>\$ 217</u>	<u>\$ (130,610)</u>	<u>\$ (136,215)</u>

- (1) 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).

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

7. Fair Value (continued)

- (2) Interest and dividend accruals, as well as cash interest coupons and dividends received, are excluded from the rollforward.
- (3) 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.
- (4) Items transferred into and then out of Level 3 in the same period are excluded from the rollforward.
- (5) Changes in unrealized gains (losses) included in net income (loss) and included in accumulated other comprehensive income (loss) ("AOCI") 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).
- (6) Comprised of U.S. and foreign corporate securities.
- (7) Freestanding derivative assets and liabilities are presented net for purposes of the rollforward.
- (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 Company believes that due to the short-term nature of these excluded assets, which are primarily classified in Level 2, the estimated fair value approximates carrying value. 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, 2022						
Carrying Value	Fair Value Hierarchy			Total Estimated Fair Value		
	Level 1	Level 2	Level 3			
(In thousands)						
Assets						
Premiums, reinsurance and other receivables	\$ 88,442	\$ —	\$ 88,442	\$ —	\$	88,442
Liabilities						
Other liabilities	\$ 230	\$ —	\$ 230	\$ —	\$	230
December 31, 2021						
Carrying Value	Fair Value Hierarchy			Total Estimated Fair Value		
	Level 1	Level 2	Level 3			
(In thousands)						
Assets						
Premiums, reinsurance and other receivables	\$ 83,992	\$ —	\$ 83,992	\$ —	\$	83,992
Liabilities						
Other liabilities	\$ 180	\$ —	\$ 180	\$ —	\$	180

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

8. Letters of Credit

At December 31, 2022, 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, 2022, the Company had \$14 million in outstanding LOCs.

LOCs outstanding and available to MetLife and its affiliates at December 31, 2022 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.	February 2026 (1)	\$ 3,000,000 (1)	\$ 14,419	\$ 248,215	\$ 2,737,366

- (1) All borrowings under the unsecured revolving credit facility must be repaid by February 26, 2026, except that letters of credit outstanding upon termination may remain outstanding until February 26, 2027.

9. Stockholder's Equity

Stock Repurchase

For both the years ended December 31, 2022 and 2021, the Company did not repurchase any shares of common stock from its parent, Swiss II. At both December 31, 2022 and 2021, the Company had 800 shares outstanding remaining.

Additional Paid in Capital

During 2022, the Company had a return of capital of \$85 million in the form of cash to its parent, Swiss II. The Company had no return of capital in 2021.

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.

9. Stockholder's Equity (continued)

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.

Since the Company is registered under the Act, amendments thereto and related regulations, the Company is required to maintain minimum levels of solvency. For the years ended December 31, 2022 and 2021, these requirements have also been met. The minimum required statutory capital and surplus was \$165 million and \$231 million and actual statutory capital and surplus was \$310 million and \$917 million at December 31, 2022 and 2021, respectively.

No cash dividends were paid during the years ended December 31, 2022 and 2021.

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 (accumulated deficit) 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, 2020	\$ 819,128	\$ 43,072	\$ 862,200
OCI before reclassifications	(634,968)	(2,215)	(637,183)
AOCI before reclassifications	184,160	40,857	225,017
Amounts reclassified from AOCI	(19,606)	—	(19,606)
Balance at December 31, 2021	164,554	40,857	205,411
OCI before reclassifications	(2,210,176)	(3,185)	(2,213,361)
AOCI before reclassifications	(2,045,622)	37,672	(2,007,950)
Amounts reclassified from AOCI	121,400	—	121,400
Balance at December 31, 2022	\$ (1,924,222)	\$ 37,672	\$ (1,886,550)

9. Stockholder's Equity (continued)

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

AOCI Components	Years Ended December 31,		Statements of Operations Locations
	2022	2021	
	Amounts Reclassified from AOCI		
	(In thousands)		
Net unrealized investment gains (losses):			
Net unrealized investment gains (losses)	\$ (121,465)	\$ 19,773	Net investment gains (losses)
Net unrealized investment gains (losses)	65	(167)	Net investment income
Total reclassifications	<u>\$ (121,400)</u>	<u>\$ 19,606</u>	

Net Unrealized Investment Gains (Losses)

The components of net unrealized investment gains (losses), included in AOCI, were as follows:

	December 31,	
	2022	2021
	(In thousands)	
Fixed maturity securities AFS	\$ (1,687,704)	\$ 450,547
Amounts allocated from:		
Policyholder liabilities	(236,518)	(285,993)
Net unrealized investment gains (losses)	<u>\$ (1,924,222)</u>	<u>\$ 164,554</u>

MetLife Reinsurance Company of Bermuda, Ltd.
Notes to the Financial Statements — (continued)

10. Other Expenses

Information on other expenses was as follows:

	Years Ended December 31,	
	2022	2021
	(In thousands)	
General and administrative expenses	\$ 3,899	\$ 3,248
Premium taxes, other taxes, and licenses & fees	226	235
Commissions and other variable expenses	90,499	137,456
Capitalization of DAC	—	(30,125)
Amortization of DAC and VOBA	13,598	15,181
Interest expense	22	936
Total other expenses	<u>\$ 108,244</u>	<u>\$ 126,931</u>

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.

Affiliated Expenses

See Notes 4 and 13 for a discussion of affiliated expenses related to reinsurance and service agreement transactions, respectively, included in the table above.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

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, 2022 and 2021, 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.

MetLife Reinsurance Company of Bermuda, Ltd.

Notes to the Financial Statements — (continued)

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 (excluding the related investment service charges referenced in Note 5) 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 \$3.0 million and \$2.7 million for the years ended December 31, 2022 and 2021, respectively.

The Company had net receivables (payables) to affiliates, related to the items discussed above, of \$605 thousand and \$586 thousand at December 31, 2022 and 2021, respectively. These receivables exclude affiliated reinsurance balances discussed in Note 4.

See Note 4 and Note 5 for additional related party transactions.

14. Subsequent Event

The Company has evaluated events subsequent to December 31, 2022, and through May 23, 2023, which is the date these financial statements were available to be issued, has determined there are no material subsequent events requiring adjustment to or disclosure in the financial statements.

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