UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

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

For the quarterly period endedJune 30, 2024

Or

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

Commission file number: 001-16209

Arch

ARCH CAPITAL GROUP LTD.

(Exact name of registrant as specified in its charter)

Bermuda	**98-0374481**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
Waterloo House, Ground Floor	
100 Pitts Bay Road, Pembroke HM 08, Bermuda	**(441) 278-9250**
(Address of principal executive offices)	(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol (s)	Name of each exchange on which registered
Common shares, $0.0011 par value per share	ACGL	NASDAQ Stock Market
Depositary shares, each representing a 1/1000th interest in a 5.45% Series F preferred share	ACGLO	NASDAQ Stock Market
Depositary shares, each representing a 1/1000th interest in a 4.55% Series G preferred share	ACGLN	NASDAQ Stock Market

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

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

Large Accelerated Filer ☑ Accelerated Filer ☐ Non-accelerated Filer ☐ Smaller reporting company ☐ Emerging growth company ☐

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

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

As of August 2, 2024, there were 376,057,841 common shares, $0.0011 par value per share, of the registrant outstanding.

ARCH CAPITAL GROUP LTD.

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PART I. FINANCIAL INFORMATION

Cautionary Note Regarding Forward-Looking Statements

The Private Securities Litigation Reform Act of 1995 (“PSLRA”) provides a “safe harbor” for forward-looking statements. This report or any other written or oral statements made by or on behalf of us may include forward-looking statements, which reflect our current views with respect to future events and financial performance. All statements other than statements of historical fact included in or incorporated by reference in this report are forward-looking statements. Forward-looking statements, for purposes of the PSLRA or otherwise, can generally be identified by the use of forward-looking terminology such as “may,” “will,” “expect,” “intend,” “estimate,” “anticipate,” “believe” or “continue” and similar statements of a future or forward-looking nature or their negative or variations or similar terminology.

Forward-looking statements involve our current assessment of risks and uncertainties. Actual events and results may differ materially from those expressed or implied in these statements. Important factors that could cause actual events or results to differ materially from those indicated in such statements are discussed below and elsewhere in this report and in our periodic reports filed with the Securities and Exchange Commission (“SEC”), and include:

- our ability to successfully implement our business strategy during “soft” as well as “hard” markets;
- acceptance of our business strategy, security and financial condition by rating agencies and regulators, as well as by brokers and our insureds and reinsureds;
- our ability to consummate acquisitions and integrate the business we have acquired or may acquire into our existing operations;
- our ability to maintain or improve our ratings, which may be affected by our ability to raise additional equity or debt financings, by ratings agencies’ existing or new policies and practices, as well as other factors described herein;
- general economic and market conditions (including inflation, interest rates, unemployment, housing prices, foreign currency exchange rates, prevailing credit terms and the depth and duration of a recession, including those resulting from COVID-19) and conditions specific to the reinsurance and insurance markets in which we operate;
- competition, including increased competition, on the basis of pricing, capacity (including alternative sources of capital), coverage terms, or other factors;
- developments in the world’s financial and capital markets and our access to such markets;
- our ability to successfully enhance, integrate and maintain operating procedures (including information technology) to effectively support our current and new business;
- the loss and addition of key personnel;
- material differences between actual and expected assessments for guaranty funds and mandatory pooling arrangements;
- accuracy of those estimates and judgments utilized in the preparation of our financial statements, including those related to revenue recognition, insurance and other reserves, reinsurance recoverables, investment valuations, intangible assets, bad debts, income taxes, deferred income tax assets, contingencies and litigation, and any determination to use the deposit method of accounting;
- greater than expected loss ratios on business written by us and adverse development on claim and/or claim expense liabilities related to business written by our insurance, reinsurance and mortgage subsidiaries;
- the adequacy of the Company’s loss reserves;
- severity and/or frequency of losses;
- greater frequency or severity of unpredictable natural and man-made catastrophic events;
- claims for natural or man-made catastrophic events or severe economic events in our insurance, reinsurance and mortgage businesses could cause large losses and substantial volatility in our results of operations;
- the effect of climate change on our business;
- the effect of contagious diseases (including COVID-19) on our business;

- acts of terrorism, political unrest and other hostilities or other unforecasted and unpredictable events;
- availability to us of reinsurance to manage our gross and net exposures and the cost of such reinsurance;
- the failure of reinsurers, managing general agents, third party administrators or others to meet their obligations to us;
- the timing of loss payments being faster or the receipt of reinsurance recoverables being slower than anticipated by us;
- our investment performance, including legislative or regulatory developments that may adversely affect the fair value of our investments;
- changes in general economic conditions, including sovereign debt concerns or downgrades of U.S. securities by credit rating agencies, which could affect our business, financial condition and results of operations;
- the volatility of our shareholders' equity from foreign currency fluctuations, which could increase due to us not matching portions of our projected liabilities in foreign currencies with investments in the same currencies;
- changes in accounting principles or policies or in our application of such accounting principles or policies;
- changes in the political environment of certain countries in which we operate or underwrite business;
- an incident, disruption in operations or other cyber event caused by cyber attacks, the use of artificial intelligence technologies or other technology on our systems or those of our business partners and service providers, which could negatively impact our business and/or expose us to litigation;
- statutory or regulatory developments, including as to tax matters and insurance and other regulatory matters such as the adoption of legislation that affects Bermuda-headquartered companies and/or Bermuda-based insurers or reinsurers and/or changes in regulations or tax laws applicable to us, our subsidiaries, brokers or customers, including the implementation of the Organization for Economic Cooperation and Development ("OECD") Pillar I and Pillar II initiatives and the enactment of Bermuda corporate income tax; and
- the other matters set forth under Item 1A "Risk Factors," Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" and other sections of our Annual Report on Form 10-K for the year ended December 31, 2023, as well as the other factors set forth in our other documents on file with the SEC, and management's response to any of the aforementioned factors.

All subsequent written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by these cautionary statements. The foregoing review of important factors should not be construed as exhaustive and should be read in conjunction with other cautionary statements that are included herein or elsewhere. The Company's forward-looking statements speak only as of the date of this report or as of the date they are made, and we undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

ITEM 1. CONSOLIDATED FINANCIAL STATEMENTS

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(U.S. dollars and shares in millions)

	(Unaudited) June 30, 2024	December 31, 2023
Assets		
Investments:		
Fixed maturities available for sale, at fair value (amortized cost: $ 25,882 and $ 24,131 ; net of allowance for credit losses: $ 27 and $ 28)	$ 25,202	$ 23,553
Short-term investments available for sale, at fair value (amortized cost: $ 2,296 and $ 2,064 ; net of allowance for credit losses: $ 0 and $ 0)	2,297	2,063
Equity securities, at fair value	1,397	1,186
Other investments, at fair value	3,206	2,488
Investments accounted for using the equity method	4,983	4,566
Total investments	37,085	33,856
Cash	1,020	917
Accrued investment income	287	236
Investment in operating affiliates	1,143	1,119
Premiums receivable (net of allowance for credit losses: $ 36 and $ 34)	6,268	4,644
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses (net of allowance for credit losses: $ 20 and $ 21)	7,473	7,064
Contractholder receivables (net of allowance for credit losses: $ 4 and $ 3)	2,016	1,814
Ceded unearned premiums	2,981	2,170
Deferred acquisition costs	1,635	1,531
Receivable for securities sold	116	63
Goodwill and intangible assets	725	731
Other assets	4,716	4,761
Total assets	$ 65,465	$ 58,906
Liabilities		
Reserve for losses and loss adjustment expenses	$ 24,466	$ 22,752
Unearned premiums	10,452	8,808
Reinsurance balances payable	2,591	2,000
Contractholder payables	2,020	1,817
Collateral held for insured obligations	263	259
Senior notes	2,727	2,726
Payable for securities purchased	410	247
Other liabilities	1,871	1,942
Total liabilities	44,800	40,551
Commitments and contingencies (refer to Note 10)		
Redeemable noncontrolling interests	—	2
Shareholders' Equity		
Non-cumulative preferred shares	830	830
Common shares ($ 0.0011 par, shares issued: 595.0 and 591.9)	1	1
Additional paid-in capital	2,443	2,327
Retained earnings	22,664	20,295
Accumulated other comprehensive income (loss), net of deferred income tax	(810)	(676)
Common shares held in treasury, at cost (shares: 219.0 and 218.5)	(4,463)	(4,424)
Total shareholders' equity available to Arch	20,665	18,353
Total liabilities, noncontrolling interests and shareholders' equity	$ 65,465	$ 58,906

See Notes to Consolidated Financial Statements

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ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(U.S. dollars and shares in millions, except per share data)

	(Unaudited) Three Months Ended June 30,		(Unaudited) Six Months Ended June 30,	
	2024	**2023**	**2024**	**2023**
Revenues				
Net premiums earned	$ 3,565	$ 2,965	6,987	5,848
Net investment income	364	242	691	441
Net realized gains (losses)	122	(123)	189	(106)
Other underwriting income	3	6	15	16
Equity in net income (loss) of investment funds accounted for using the equity method	167	69	266	117
Other income (loss)	8	3	22	14
Total revenues	4,229	3,162	8,170	6,330
Expenses				
Losses and loss adjustment expenses	1,827	1,491	3,555	2,962
Acquisition expenses	633	561	1,240	1,094
Other operating expenses	346	313	709	632
Corporate expenses	41	21	94	51
Amortization of intangible assets	27	24	48	47
Interest expense	35	33	69	65
Net foreign exchange (gains) losses	(1)	5	(32)	23
Total expenses	2,908	2,448	5,683	4,874
Income (loss) before income taxes and income (loss) from operating affiliates	1,321	714	2,487	1,456
Income tax (expense) benefit	(97)	(67)	(198)	(131)
Income (loss) from operating affiliates	45	22	100	61
Net income (loss)	$ 1,269	$ 669	$ 2,389	$ 1,386
Net (income) loss attributable to noncontrolling interests	—	2	—	—
Net income (loss) available to Arch	1,269	671	2,389	1,386
Preferred dividends	(10)	(10)	(20)	(20)
Net income (loss) available to Arch common shareholders	$ 1,259	$ 661	$ 2,369	$ 1,366
Net income per common share and common share equivalent				
Basic	$ 3.38	$ 1.79	$ 6.37	$ 3.71
Diluted	$ 3.30	$ 1.75	$ 6.22	$ 3.62
Weighted average common shares and common share equivalents outstanding				
Basic	372.7	368.7	371.8	368.0
Diluted	381.6	378.4	380.9	377.8

See Notes to Consolidated Financial Statements

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(U.S. dollars in millions)

	(Unaudited) Three Months Ended June 30,		(Unaudited) Six Months Ended June 30,	
	2024	2023	2024	2023
Comprehensive Income				
Net income (loss)	$ 1,269	$ 669	$ 2,389	$ 1,386
Other comprehensive income (loss), net of deferred income tax				
Unrealized appreciation (decline) in value of available-for-sale investments:				
Unrealized holding gains (losses) arising during period	(26)	(173)	(167)	72
Reclassification of net realized (gains) losses, included in net income (loss)	53	149	82	248
Foreign currency translation adjustments	(16)	2	(49)	7
Comprehensive income (loss)	1,280	647	2,255	1,713
Net (income) loss attributable to noncontrolling interests	—	2	—	—
Comprehensive income (loss) available to Arch	$ 1,280	$ 649	$ 2,255	$ 1,713

See Notes to Consolidated Financial Statements

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(U.S. dollars in millions)

	(Unaudited) Three Months Ended June 30,		(Unaudited) Six Months Ended June 30,	
	2024	**2023**	**2024**	**2023**
Non-cumulative preferred shares				
Balance at beginning and end of period	$ 830	$ 830	$ 830	$ 830
Common shares				
Balance at beginning and end of period	1	1	1	1
Additional paid-in capital				
Balance at beginning of period	2,401	2,260	2,327	2,211
Amortization of share-based compensation	16	17	84	58
Other changes	26	1	32	9
Balance at end of period	2,443	2,278	2,443	2,278
Retained earnings				
Balance at beginning of period	21,405	16,597	20,295	15,892
Net income (loss)	1,269	669	2,389	1,386
Net (income) loss attributable to noncontrolling interests	—	2	—	—
Preferred share dividends	(10)	(10)	(20)	(20)
Balance at end of period	22,664	17,258	22,664	17,258
Accumulated other comprehensive income (loss), net of deferred income tax				
Balance at beginning of period	(821)	(1,297)	(676)	(1,646)
Unrealized appreciation (decline) in value of available-for-sale investments, net of deferred income tax:				
Balance at beginning of period	(677)	(1,168)	(565)	(1,512)
Unrealized holding gains (losses) during period, net of reclassification adjustment	27	(24)	(85)	320
Balance at end of period	(650)	(1,192)	(650)	(1,192)
Foreign currency translation adjustments, net of deferred income tax:				
Balance at beginning of period	(144)	(129)	(111)	(134)
Foreign currency translation adjustments	(16)	2	(49)	7
Balance at end of period	(160)	(127)	(160)	(127)
Balance at end of period	(810)	(1,319)	(810)	(1,319)
Common shares held in treasury, at cost				
Balance at beginning of period	(4,461)	(4,403)	(4,424)	(4,378)
Shares repurchased for treasury	(2)	(4)	(39)	(29)
Balance at end of period	(4,463)	(4,407)	(4,463)	(4,407)
Total shareholders' equity	$ 20,665	$ 14,641	$ 20,665	$ 14,641

See Notes to Consolidated Financial Statements

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(U.S. dollars in millions)

	(Unaudited) Six Months Ended June 30,	
	2024	**2023**
Operating Activities		
Net income (loss)	$ 2,389	$ 1,386
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Net realized (gains) losses	(196)	110
Equity in net (income) or loss of investment funds accounted for using the equity method and other income or loss	(174)	(49)
Amortization of intangible assets	48	47
Share-based compensation	84	58
Changes in:		
Reserve for losses and loss adjustment expenses, net of unpaid losses and loss adjustment expenses recoverable	1,369	1,020
Unearned premiums, net of ceded unearned premiums	879	1,004
Premiums receivable	(1,682)	(1,648)
Deferred acquisition costs	(80)	(152)
Reinsurance balances payable	616	652
Deferred income tax assets, net	45	58
Other items, net	(216)	(372)
Net cash provided by operating activities	3,082	2,114
Investing Activities		
Purchases of fixed maturity investments	(14,123)	(8,840)
Purchases of equity securities	(654)	(104)
Purchases of other investments	(1,369)	(557)
Proceeds from sales of fixed maturity investments	11,220	7,079
Proceeds from sales of equity securities	547	161
Proceeds from sales, redemptions and maturities of other investments	619	201
Proceeds from redemptions and maturities of fixed maturity investments	878	368
Net settlements of derivative instruments	12	46
Net (purchases) sales of short-term investments	(25)	(333)
Purchases of fixed assets	(26)	(26)
Other	3	4
Net cash used for investing activities	(2,918)	(2,001)
Financing Activities		
Proceeds from common shares issued, net	(8)	—
Change in third party investment in redeemable noncontrolling interests	—	(22)
Other	—	(3)
Preferred dividends paid	(20)	(20)
Net cash used for financing activities	(28)	(45)
Effects of exchange rate changes on foreign currency cash and restricted cash	(7)	12
Increase (decrease) in cash and restricted cash	129	80
Cash and restricted cash, beginning of year	1,498	1,273
Cash and restricted cash, end of period	$ 1,627	$ 1,353
Income taxes paid (received)	145	73
Interest paid	63	63

See Notes to Consolidated Financial Statements

1. Basis of Presentation and Recent Accounting Pronouncements

General

Arch Capital Group Ltd. ("Arch Capital") is a publicly listed Bermuda exempted company which provides insurance, reinsurance and mortgage insurance on a worldwide basis through its wholly-owned subsidiaries. As used herein, the "Company" means Arch Capital and its subsidiaries.

Basis of Presentation

The interim consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"). All significant intercompany transactions and balances have been eliminated in consolidation. The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates and assumptions. In the opinion of management, the accompanying unaudited interim consolidated financial statements reflect all adjustments (consisting of normally recurring accruals) necessary for a fair statement of results on an interim basis. The results of any interim period are not necessarily indicative of the results for a full year or any future periods. Certain information and footnote disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted; however, management believes that the disclosures are adequate to make the information presented not misleading. This report should be read in conjunction with the Company's Annual Report on Form 10-K for the year ended December 31, 2023 ("2023 Form 10-K"), including the Company's audited consolidated financial statements and related notes.

The Company has reclassified the presentation of certain prior year information to conform to the current presentation. Such reclassifications had no effect on the Company's net income, comprehensive income, shareholders' equity or cash flows. All amounts are in millions, except per share amounts, unless otherwise noted.

Recent Accounting Pronouncements

For information regarding additional accounting standards that the Company has not yet adopted, see note 3(t), "Significant Accounting Policies—Recent Accounting Pronouncements," of the notes to consolidated financial statements in the Company's 2023 Form 10-K .

2. Share Transactions

Share Repurchases

The Board of Directors of Arch Capital has authorized the investment in Arch Capital's common shares through a share repurchase program. At June 30, 2024, $ 1.0 billion of share repurchases were available under the program. Repurchases under the program may be effected from time to time in open market or privately negotiated transactions through December 31, 2024. The timing and amount of the repurchase transactions under this program will depend on a variety of factors, including market conditions and corporate and regulatory considerations.

3. Earnings Per Common Share

The following table sets forth the computation of basic and diluted earnings per common share:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Numerator:				
Net income (loss)	$ 1,269	$ 669	$ 2,389	$ 1,386
Net (income) loss attributable to noncontrolling interests	—	2	—	—
Net income (loss) available to Arch	1,269	671	2,389	1,386
Preferred dividends	(10)	(10)	(20)	(20)
Net income (loss) available to Arch common shareholders	$ 1,259	$ 661	$ 2,369	$ 1,366
Denominator:				
Weighted average common shares and common share equivalents outstanding — basic	372.7	368.7	371.8	368.0
Effect of dilutive common share equivalents:				
Nonvested restricted shares	1.8	2.3	1.9	2.4
Stock options (1)	7.1	7.4	7.2	7.4
Weighted average common shares and common share equivalents outstanding — diluted	381.6	378.4	380.9	377.8
Earnings per common share:				
Basic	$ 3.38	$ 1.79	$ 6.37	$ 3.71
Diluted	$ 3.30	$ 1.75	$ 6.22	$ 3.62

(1) Certain stock options were not included in the computation of diluted earnings per share where the exercise price of the stock options exceeded the average market price and would have been anti-dilutive or where, when applying the treasury stock method to in-the-money options, the sum of the proceeds, including unrecognized compensation, exceeded the average market price and would have been anti-dilutive. For the 2024 second quarter and 2023 second quarter, the number of stock options excluded were 0.2 million and 0.3 million, respectively. For the six months ended June 30, 2024 and 2023, the number of stock options excluded were 0.4 million and 0.5 million, respectively.

4. Segment Information

The Company’s insurance, reinsurance and mortgage segments each have managers who are responsible for the overall profitability of their respective segments and who are directly accountable to the Company’s chief operating decision makers. The Chief Executive Officer, the Chief Financial Officer and Treasurer and the President and Chief Underwriting Officer are the Company’s chief operating decision makers. They do not assess performance, measure return on equity or make resource allocation decisions on a line of business basis. Management measures segment performance for its three underwriting segments based on underwriting income or loss. The Company does not manage its assets by underwriting segment, with the exception of goodwill and intangible assets, and accordingly, investment income is not allocated to each underwriting segment.

The Company determined its reportable segments using the management approach described in accounting guidance regarding disclosures about segments of an enterprise and related information. The accounting policies of the segments are the same as those used for the preparation of the Company’s consolidated financial statements. Intersegment business is allocated to the segment accountable for the underwriting results.

The insurance segment consists of the Company’s insurance underwriting units which offer specialty product lines on a worldwide basis. Product lines include: construction and national accounts; excess and surplus casualty; professional lines; programs; property, energy, marine and aviation; travel, accident and health; warranty and lenders solutions; and other (consisting of alternative markets, excess workers' compensation and surety business).

The reinsurance segment consists of the Company’s reinsurance underwriting units which offer specialty product lines on a worldwide basis. Product lines include: casualty; marine and aviation; other specialty; property catastrophe; property excluding property catastrophe (losses on a single risk, both excess of loss and pro rata); and other (consisting of life reinsurance, casualty clash and other).

The mortgage segment includes the Company’s U.S. primary mortgage insurance business, investment and services related to U.S. credit-risk transfer (“CRT”) which are predominately with government sponsored enterprises (“GSEs”) and international mortgage insurance and reinsurance operations. Arch Mortgage Insurance Company and United Guaranty Residential Insurance Company (combined “Arch MI U.S.”) are approved as eligible mortgage insurers by Federal National Mortgage Association (“Fannie Mae”) and Federal Home Loan Mortgage Corporation (“Freddie Mac”), each a GSE. Arch MI U.S. also includes Arch Mortgage Guaranty Company, which is not a GSE-approved entity.

The Company’s results also include net investment income, net realized gains or losses (which includes realized and unrealized changes in the fair value of equity securities and assets accounted for using the fair value option, realized and unrealized gains or losses on derivative instruments, changes in the allowance for credit losses on financial assets and gains or losses realized from the acquisition or disposition of subsidiaries), equity in net income or loss of investment funds accounted for using the equity method, other income (loss), corporate expenses, transaction costs and other, amortization of intangible assets, interest expense, net foreign exchange gains or losses, income tax items, income or loss from operating affiliates and items related to the Company’s non-cumulative preferred shares.

The following tables summarize the Company’s underwriting income or loss by segment, together with a reconciliation of underwriting income or loss to net income available to Arch common shareholders:

	Three Months Ended June 30, 2024			
	Insurance	Reinsurance	Mortgage	Total
Gross premiums written (1)	$ 2,102	$ 2,941	$ 340	$ 5,382
Premiums ceded (1)	(544)	(994)	(64)	(1,601)
Net premiums written	1,558	1,947	276	3,781
Change in unearned premiums	(80)	(167)	31	(216)
Net premiums earned	1,478	1,780	307	3,565
Other underwriting income (loss)	—	1	2	3
Losses and loss adjustment expenses	(848)	(1,006)	27	(1,827)
Acquisition expenses	(288)	(345)	—	(633)
Other operating expenses	(233)	(64)	(49)	(346)
Underwriting income (loss)	$ 109	$ 366	$ 287	762
Net investment income				364
Net realized gains (losses)				122
Equity in net income (loss) of investment funds accounted for using the equity method				167
Other income (loss)				8
Corporate expenses (2)				(23)
Transaction costs and other (2)				(18)
Amortization of intangible assets				(27)
Interest expense				(35)
Net foreign exchange gains (losses)				1
Income (loss) before income taxes and income (loss) from operating affiliates				1,321
Income tax (expense) benefit				(97)
Income (loss) from operating affiliates				45
Net income (loss) available to Arch				1,269
Preferred dividends				(10)
Net income (loss) available to Arch common shareholders				$ 1,259
Underwriting Ratios				
Loss ratio	57.3 %	56.5 %	(8.6) %	51.2 %
Acquisition expense ratio	19.5 %	19.4 %	0.1 %	17.8 %
Other operating expense ratio	15.8 %	3.6 %	15.9 %	9.7 %
Combined ratio	92.6 %	79.5 %	7.4 %	78.7 %
Goodwill and intangible assets	$ 255	$ 114	$ 356	$ 725

(1) Certain assumed and ceded amounts related to intersegment transactions are included in individual segment results. Accordingly, the sum of such transactions for each segment does not agree to the total due to eliminations.

(2) Certain expenses have been excluded from ‘corporate expenses’ and reflected in ‘transaction costs and other.’

	Three Months Ended June 30, 2023			
	Insurance	**Reinsurance**	**Mortgage**	**Total**
Gross premiums written (1)	$ 1,955	$ 2,544	$ 347	$ 4,845
Premiums ceded (1)	(501)	(835)	(82)	(1,417)
Net premiums written	1,454	1,709	265	3,428
Change in unearned premiums	(126)	(366)	29	(463)
Net premiums earned	1,328	1,343	294	2,965
Other underwriting income (loss)	—	3	3	6
Losses and loss adjustment expenses	(761)	(743)	13	(1,491)
Acquisition expenses	(264)	(290)	(7)	(561)
Other operating expenses	(195)	(68)	(50)	(313)
Underwriting income (loss)	$ 108	$ 245	$ 253	606
Net investment income				242
Net realized gains (losses)				(123)
Equity in net income (loss) of investment funds accounted for using the equity method				69
Other income (loss)				3
Corporate expenses (2)				(20)
Transaction costs and other (2)				(1)
Amortization of intangible assets				(24)
Interest expense				(33)
Net foreign exchange gains (losses)				(5)
Income (loss) before income taxes and income (loss) from operating affiliates				714
Income tax (expense) benefit				(67)
Income (loss) from operating affiliates				22
Net income (loss)				669
Net (income) loss attributable to noncontrolling interests				2
Net income (loss) available to Arch				671
Preferred dividends				(10)
Net income (loss) available to Arch common shareholders				$ 661
Underwriting Ratios				
Loss ratio	57.3 %	55.3 %	(4.5) %	50.3 %
Acquisition expense ratio	19.9 %	21.6 %	2.4 %	18.9 %
Other operating expense ratio	14.7 %	5.0 %	17.1 %	10.6 %
Combined ratio	91.9 %	81.9 %	15.0 %	79.8 %
Goodwill and intangible assets	$ 228	$ 146	$ 401	$ 775

(1) Certain assumed and ceded amounts related to intersegment transactions are included in individual segment results. Accordingly, the sum of such transactions for each segment does not agree to the total due to eliminations.

(2) Certain expenses have been excluded from ‘corporate expenses’ and reflected in ‘transaction costs and other.’

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

		Six Months Ended June 30, 2024			
		Insurance	Reinsurance	Mortgage	Total
oss premiums written (1)	$	4,228	$ 6,408	$ 681	$ 11,315
emiums ceded (1)		(1,128)	(2,195)	(128)	(3,449)
t premiums written		3,100	4,213	553	7,866
ange in unearned premiums		(171)	(767)	59	(879)
t premiums earned		2,929	3,446	612	6,987
ier underwriting income (loss)		—	3	12	15
sses and loss adjustment expenses		(1,702)	(1,889)	36	(3,555)
quisition expenses		(564)	(676)	—	(1,240)
ier operating expenses		(468)	(139)	(102)	(709)
derwriting income (loss)	$	195	$ 745	$ 558	$ 1,498
t investment income					691
t realized gains (losses)					189
uity in net income (loss) of investment funds accounted for using the equity method					266
ier income (loss)					22
rporate expenses (2)					(69)
insaction costs and other (2)					(25)
iortization of intangible assets					(48)
erest expense					(69)
t foreign exchange gains (losses)					32
ome (loss) before income taxes and income (loss) from operating affiliates					2,487
ome tax (expense) benefit					(198)
ome (loss) from operating affiliates					100
t income (loss) available to Arch					2,389
eferred dividends					(20)
t income (loss) available to Arch common shareholders				$	2,369
derwriting Ratios					
ss ratio		58.1 %	54.8 %	(5.8)%	50.9 %
quisition expense ratio		19.2 %	19.6 %	0.1 %	17.7 %
ier operating expense ratio		16.0 %	4.0 %	16.7 %	10.1 %
mbined ratio		93.3 %	78.4 %	11.0 %	78.7 %

(1) Certain assumed and ceded amounts related to intersegment transactions are included in individual segment results. Accordingly, the sum of such transactions for each segment does not agree to the total due to eliminations.

(2) Certain expenses have been excluded from ‘corporate expenses’ and reflected in ‘transaction costs and other.’

	Six Months Ended June 30, 2023			
	Insurance	Reinsurance	Mortgage	Total
oss premiums written (1)	$ 3,934	$ 5,004	$ 690	$ 9,625
emiums ceded (1)	(1,043)	(1,569)	(164)	(2,773)
t premiums written	2,891	3,435	526	6,852
ange in unearned premiums	(306)	(762)	64	(1,004)
t premiums earned	2,585	2,673	590	5,848
ner underwriting income (loss)	—	7	9	16
sses and loss adjustment expenses	(1,464)	(1,509)	11	(2,962)
quisition expenses	(509)	(571)	(14)	(1,094)
ner operating expenses	(390)	(142)	(100)	(632)
derwriting income (loss)	$ 222	$ 458	$ 496	1,176
t investment income				441
t realized gains (losses)				(106)
uity in net income (loss) of investment funds accounted for using the equity method				117
ner income (loss)				14
rporate expenses (2)				(49)
ansaction costs and other (2)				(2)
ortization of intangible assets				(47)
erest expense				(65)
t foreign exchange gains (losses)				(23)
ome (loss) before income taxes and income (loss) from operating affiliates				1,456
ome tax (expense) benefit				(131)
ome (loss) from operating affiliates				61
t income (loss) available to Arch				1,386
eferred dividends				(20)
t income (loss) available to Arch common shareholders				$ 1,366
derwriting Ratios				
ss ratio	56.6 %	56.5 %	(1.9)%	50.6 %
quisition expense ratio	19.7 %	21.3 %	2.4 %	18.7 %
ner operating expense ratio	15.1 %	5.3 %	17.0 %	10.8 %
mbined ratio	91.4 %	83.1 %	17.5 %	80.1 %

(1) Certain assumed and ceded amounts related to intersegment transactions are included in individual segment results. Accordingly, the sum of such transactions for each segment does not agree to the total due to eliminations.

(2) Certain expenses have been excluded from ‘corporate expenses’ and reflected in ‘transaction costs and other.’

5. Reserve for Losses and Loss Adjustment Expenses

The following table represents an analysis of losses and loss adjustment expenses and a reconciliation of the beginning and ending reserve for losses and loss adjustment expenses:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Reserve for losses and loss adjustment expenses at beginning of period	$ 23,705	$ 20,758	$ 22,752	$ 20,032
Unpaid losses and loss adjustment expenses recoverable	7,069	6,347	6,690	6,280
Net reserve for losses and loss adjustment expenses at beginning of period	16,636	14,411	16,062	13,752
Net incurred losses and loss adjustment expenses relating to losses occurring in:				
Current year	1,948	1,612	3,800	3,219
Prior years	(121)	(121)	(245)	(257)
Total net incurred losses and loss adjustment expenses	1,827	1,491	3,555	2,962
Net losses and loss adjustment expense reserves of acquired business (1)	50	—	50	—
Net foreign exchange (gains) losses and other	(10)	44	(94)	99
Net paid losses and loss adjustment expenses relating to losses occurring in:				
Current year	(193)	(215)	(285)	(355)
Prior years	(927)	(857)	(1,905)	(1,584)
Total net paid losses and loss adjustment expenses	(1,120)	(1,072)	(2,190)	(1,939)
Net reserve for losses and loss adjustment expenses at end of period	17,383	14,874	17,383	14,874
Unpaid losses and loss adjustment expenses recoverable	7,083	6,394	7,083	6,394
Reserve for losses and loss adjustment expenses at end of period	$ 24,466	$ 21,268	$ 24,466	$ 21,268

(1) The 2024 second quarter amount related to the acquisition of RMIC Companies, Inc., and its wholly-owned subsidiaries (“RMIC”) that, together, comprise the run-off mortgage insurance business of Old Republic International Corporation.

Development on Prior Year Loss Reserves

2024 Second Quarter

During the 2024 second quarter, the Company recorded net favorable development on prior year loss reserves of $ 121 million, which consisted of $ 5 million from the insurance segment, $ 34 million from the reinsurance segment and $ 82 million from the mortgage segment.

The insurance segment’s net favorable development of $ 5 million, or 0.3 loss ratio points, for the 2024 second quarter consisted of $ 45 million of net favorable development in short-tailed lines and $ 40 million of net adverse development in medium and long-tailed lines. Net favorable development in short-tailed lines included $ 36 million of favorable development in property (excluding marine), primarily from the 2022 and 2023 accident years (*i.e.*, the year in which a loss occurred), and $ 8 million of favorable development related to travel and accident business, primarily from the 2023 accident year. Net adverse development in medium and long tailed lines included $ 52 million of adverse development in marine business, primarily from the 2022 accident year, and $ 9 million of adverse development in programs business, primarily from the 2022 and 2023 accident years, partially offset by $ 20 million of net favorable development in surety business, primarily from the 2007 and 2021 to 2023 accident years.

The reinsurance segment’s net favorable development of $ 34 million, or 1.9 loss ratio points, for the 2024 second quarter consisted of $ 51 million of net favorable development in short-tailed lines and $ 17 million of net adverse development in medium and long-tailed lines. Net favorable development in short-tailed lines included $ 30 million of favorable development related to property other than property catastrophe business, primarily from the 2022 and 2023 underwriting years (*i.e.*, all premiums and losses attributable to contracts having an inception or renewal date within the given 12 month period), and $ 18 million of favorable development from property catastrophe business, primarily from the 2021 to 2023 underwriting years. Net adverse development in medium and long-tailed lines reflected $ 14 million of adverse development in casualty business, primarily from the 2011, 2017, 2020 and 2021 underwriting years.

The mortgage segment's net favorable development was $ 82 million, or 26.9 loss ratio points, for the 2024 second quarter. Such amounts were primarily related to reductions on reserves for delinquent loans associated with the U.S. first lien portfolio from the 2023 accident year. The Company's credit risk transfer and international businesses also contributed to the favorable development.

2023 Second Quarter

During the 2023 second quarter, the Company recorded net favorable development on prior year loss reserves of $ 121 million, which consisted of $ 12 million from the insurance segment, $ 29 million from the reinsurance segment and $ 80 million from the mortgage segment.

The insurance segment's net favorable development of $ 12 million, or 0.9 loss ratio points, for the 2023 second quarter consisted of $ 30 million of net favorable development in short-tailed and long-tailed lines and $ 18 million of net adverse development in medium-tailed lines. Net favorable development in short-tailed lines included $ 16 million of favorable development in property (excluding marine), primarily from the 2022 accident year, and $ 7 million of favorable development in warranty and lenders solutions, primarily from the 2022 accident year. Net favorable development in long-tailed lines included $ 6 million of favorable development in executive assurance business, primarily from the 2016 and 2021 accident years. Net adverse development in medium-tailed lines included $ 8 million of adverse development in programs business, primarily from 2020 accident year, $ 5 million of adverse development in professional liability, across multiple accident years, and $ 4 million of adverse development in marine business, primarily from the 2022 accident year.

The reinsurance segment's net favorable development of $ 29 million, or 2.2 loss ratio points, for the 2023 second quarter consisted of $ 51 million of net favorable development in short-tailed and medium-tailed lines and $ 22 million of net adverse development in long-tailed lines. Net favorable development in short-tailed lines included $ 23 million of favorable development related to property other than property catastrophe business, primarily from the 2021 underwriting year, and $ 21 million of favorable development related to other specialty and other short-tailed lines, primarily from the 2020 and 2021 underwriting years. Net favorable development in medium-tailed lines included $ 7 million in marine and aviation lines, primarily from the 2019 to 2022 underwriting years. Net adverse development in long-tailed lines reflected $ 22 million of adverse development in casualty business, primarily from the 2013 to 2019 underwriting years.

The mortgage segment's net favorable development was $ 80 million, or 27.2 loss ratio points, for the 2023 second quarter. Such amounts were primarily related to reductions on reserves for delinquent loans associated with the U.S. first lien portfolio from the 2020 to 2022 accident years. The Company's credit risk transfer and international businesses also contributed to the favorable development.

Six Months Ended June 30, 2024

During the six months ended June 30, 2024, the Company recorded net favorable development on prior year loss reserves of $ 245 million, which consisted of $ 15 million from the insurance segment, $ 74 million from the reinsurance segment and $ 156 million from the mortgage segment.

The insurance segment's net favorable development of $ 15 million, or 0.5 loss ratio points, for the 2024 period consisted of $ 74 million of net favorable development in short-tailed lines and $ 59 million of net adverse development in medium and long-tailed lines. Net favorable development in short-tailed lines reflected $ 54 million of favorable development in property (excluding marine), primarily from the 2022 and 2023 accident years, and $ 18 million of favorable development related to travel and accident business, primarily from the 2021 to 2023 accident years. Net adverse development in medium-tailed lines included $ 69 million of adverse development in marine business, primarily from the 2022 accident year, and $ 17 million of adverse development in programs business, primarily from the 2020 to 2023 accident years. Such amounts were partially offset by $ 25 million of favorable development in surety business, primarily from 2007 and 2022 accident years.

The reinsurance segment's net favorable development of $ 74 million, or 2.2 loss ratio points, for the 2024 period consisted of $ 95 million of net favorable development from short tailed lines, partially offset by $ 21 million of net adverse development from medium and long-tailed lines. Net favorable development in short-tailed lines reflected $ 51 million of favorable development from property other than property catastrophe business, primarily from the 2022 and 2023 underwriting years, $ 37 million of favorable development from other specialty business, primarily from the 2021 and 2022 underwriting years, and $ 10 million of favorable development from property catastrophe, primarily from the 2020 to 2022 underwriting years. Net adverse development in medium-tailed lines included $ 5 million of adverse development in marine and aviation lines, primarily from the 2023 underwriting year, while net adverse development in long-tailed lines included $ 17 million of adverse development in casualty, primarily from the 2017 and prior underwriting years.

The mortgage segment's net favorable development was $ 156 million, or 25.6 loss ratio points, for the 2024 period, with the largest contributor being reserve releases associated with the U.S. first lien portfolio from the 2022 and 2023 accident years. The Company's credit risk transfer and international businesses also contributed to the favorable development.

Six Months Ended June 30, 2023

During the six months ended June 30, 2023, the Company recorded net favorable development on prior year loss reserves of $ 257 million, which consisted of $ 24 million from the insurance segment, $ 82 million from the reinsurance segment, $ 151 million from the mortgage segment.

The insurance segment's net favorable development of $ 24 million, or 0.9 loss ratio points, for the 2023 period consisted of $ 55 million of net favorable development in short and long-tailed lines and $ 31 million of net adverse development in medium-tailed lines. Net favorable development in short-tailed lines reflected $ 25 million of favorable development in property (excluding marine), primarily from the 2022 accident year, and $ 14 million of favorable development related to warranty and lenders solutions business, primarily from the 2022 accident year. Net favorable development in long-tailed lines included $ 16 million of favorable development in executive assurance business, primarily from the 2019 to 2022 accident years, and $ 5 million of favorable development in alternative markets business, primarily from 2021 and prior accident years, partially offset by $ 5 million of adverse development in healthcare, primarily from the 2018 and 2021 accident years. Net adverse development in medium-tailed lines included $ 24 million of adverse development in professional liability business, primarily from the 2017 and 2020 accident years, and $ 6 million of adverse development in programs business, primarily from the 2020 accident year.

The reinsurance segment's net favorable development of $ 82 million, or 3.0 loss ratio points, for the 2023 period consisted of $ 103 million of net favorable development from short and medium-tailed lines, partially offset by $ 21 million of net adverse development from long-tailed lines. Net favorable development in short-tailed lines reflected $ 46 million of favorable development from property other than property catastrophe business, primarily from the 2018 to 2022 underwriting years, $ 7 million of favorable development from property catastrophe, primarily from the 2019 underwriting year, $ 27 million from other specialty business, primarily from the 2021 underwriting year, and $ 13 million of favorable development from other lines of business, primarily from the 2020 underwriting year. Net favorable development in medium-tailed lines included $ 9 million in marine and aviation lines, primarily from the 2016 to 2021 underwriting years. Net adverse development in long-tailed lines primarily reflected $ 19 million in casualty, primarily from the 2013 to 2019 underwriting years.

The mortgage segment's net favorable development was $ 151 million, or 25.6 loss ratio points, for the 2023 period, with the largest contributor being reserve releases associated with the U.S. first lien portfolio from the 2020 to 2022 accident years. The Company's credit risk transfer, international, second lien and student loan businesses also contributed to the favorable development.

6. Allowance for Expected Credit Losses

Premiums Receivable

The following table provides a roll forward of the allowance for expected credit losses of the Company's premium receivables:

	Premium Receivables, Net of Allowance	Allowance for Expected Credit Losses
Three Months Ended June 30, 2024		
Balance at beginning of period	$ 5,765	$ 32
Change for provision of expected credit losses (1)		$ 4
Balance at end of period	$ 6,268	$ 36
Three Months Ended June 30, 2023		
Balance at beginning of period	$ 4,513	$ 36
Change for provision of expected credit losses (1)		$ (2)
Balance at end of period	$ 5,296	$ 34
Six Months Ended June 30, 2024		
Balance at beginning of period	$ 4,644	$ 34
Change for provision of expected credit losses (1)		2
Balance at end of period	$ 6,268	$ 36
Six Months Ended June 30, 2023		
Balance at beginning of period	$ 3,625	$ 35
Change for provision of expected credit losses (1)		(1)
Balance at end of period	$ 5,296	$ 34

(1) Amounts deemed uncollectible are written-off in operating expenses. For the 2024 second quarter and 2023 second quarter, amounts written off were nil and $ 1 million, respectively. For the six months ended June 30, 2024 and 2023 period, amounts written off were nil and $ 2 million, respectively.

Reinsurance Recoverables

The following table provides a roll forward of the allowance for expected credit losses of the Company's reinsurance recoverables:

	Reinsurance Recoverables, Net of Allowance		Allowance for Expected Credit Losses	
Three Months Ended June 30, 2024				
Balance at beginning of period	$	7,509	$	16
Change for provision of expected credit losses				4
Balance at end of period	$	7,473	$	20
Three Months Ended June 30, 2023				
Balance at beginning of period	$	6,612	$	21
Change for provision of expected credit losses				1
Balance at end of period	$	6,717	$	22
Six Months Ended June 30, 2024				
Balance at beginning of period	$	7,064	$	21
Change for provision of expected credit losses				(1)
Balance at end of period	$	7,473	$	20
Six Months Ended June 30, 2023				
Balance at beginning of period	$	6,564	$	22
Change for provision of expected credit losses				—
Balance at end of period	$	6,717	$	22

The following table summarizes the Company's reinsurance recoverables on paid and unpaid losses (not including ceded unearned premiums):

	June 30, 2024		December 31 2023	
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses $	7,473	$	7,064	
% due from carriers with A.M. Best rating of "A-" or better	66.5	%	66.8	%
% due from all other rated carriers	0.0	%	0.1	%
% due from all other carriers with no A.M. Best rating (1)	33.5	%	33.1	%
Largest balance due from any one carrier as % of total shareholders' equity	6.9	%	7.2	%

(1) At June 30, 2024 and December 31, 2023 over 94 % and 95 % of such amount were collateralized through reinsurance trusts, funds withheld arrangements, letters of credit or other, respectively .

Contractholder Receivables

The following table provides a roll forward of the allowance for expected credit losses of the Company's contractholder receivables:

	Contract-holder Receivables, Net of Allowance		Allowance for Expected Credit Losses	
Three Months Ended June 30, 2024				
Balance at beginning of period	$	1,907	$	3
Change for provision of expected credit losses				1
Balance at end of period	$	2,016	$	4
Three Months Ended June 30, 2023				
Balance at beginning of period	$	1,750	$	2
Change for provision of expected credit losses				1
Balance at end of period		1,761	$	3
Six Months Ended June 30, 2024				
Balance at beginning of period	$	1,814	$	3
Change for provision of expected credit losses				1
Balance at end of period	$	2,016	$	4
Six Months Ended June 30, 2023				
Balance at beginning of period	$	1,731	$	3
Change for provision of expected credit losses				—
Balance at end of period		1,761	$	3

7. Investment Information

Available For Sale Investments

The following table summarizes the fair value and cost or amortized cost of the Company’s securities classified as available for sale:

	Estimated Fair Value	Gross Unrealized Gains	Gross Unrealized Losses	Allowance for Expected Credit Losses	Cost or Amortized Cost
June 30, 2024					
Fixed maturities:					
Corporate bonds	$ 12,043	$ 84	$ (430)	$ (16)	$ 12,405
U.S. government and government agencies	5,287	10	(106)	—	5,383
Asset backed securities	2,800	20	(35)	(8)	2,823
Non-U.S. government securities	2,487	21	(110)	(1)	2,577
Commercial mortgage backed securities	1,160	3	(26)	(2)	1,185
Residential mortgage backed securities	1,186	4	(71)	—	1,253
Municipal bonds	239	1	(18)	—	256
Total	25,202	143	(796)	(27)	25,882
Short-term investments	2,297	2	(1)	—	2,296
Total	$ 27,499	$ 145	$ (797)	$ (27)	$ 28,178
December 31, 2023					
Fixed maturities:					
Corporate bonds	$ 10,855	$ 157	$ (464)	$ (20)	$ 11,182
U.S. government and government agencies	5,814	63	(86)	—	5,837
Asset backed securities	2,250	11	(55)	(5)	2,299
Non-U.S. government securities	2,062	33	(100)	(1)	2,130
Commercial mortgage backed securities	1,213	3	(34)	(2)	1,246
Residential mortgage backed securities	1,103	7	(66)	—	1,162
Municipal bonds	256	1	(20)	—	275
Total	23,553	275	(825)	(28)	24,131
Short-term investments	2,063	1	(2)	—	2,064
Total	$ 25,616	$ 276	$ (827)	$ (28)	$ 26,195

The following table summarizes, for all available for sale securities in an unrealized loss position, the fair value and gross unrealized loss by length of time the security has been in a continual unrealized loss position:

	Less than 12 Months		12 Months or More		Total	
	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses
June 30, 2024						
Fixed maturities:						
Corporate bonds	$ 4,542	$ (65)	$ 4,006	$ (365)	$ 8,548	$ (430)
U.S. government and government agencies	3,251	(36)	763	(70)	4,014	(106)
Non-U.S. government securities	1,131	(12)	813	(98)	1,944	(110)
Residential mortgage backed securities	236	(3)	547	(68)	783	(71)
Asset backed securities	104	(1)	494	(34)	598	(35)
Commercial mortgage backed securities	187	(1)	773	(25)	960	(26)
Municipal bonds	22	—	181	(18)	203	(18)
Total	9,473	(118)	7,577	(678)	17,050	(796)
Short-term investments	377	(1)	—	—	377	(1)
Total	$ 9,850	$ (119)	$ 7,577	$ (678)	$ 17,427	$ (797)
December 31, 2023						
Fixed maturities:						
Corporate bonds	$ 1,559	$ (45)	$ 4,959	$ (419)	$ 6,518	$ (464)
U.S. government and government agencies	1,066	(10)	941	(76)	2,007	(86)
Non-U.S. government securities	365	(4)	897	(96)	1,262	(100)
Residential mortgage backed securities	221	(3)	522	(63)	743	(66)
Asset backed securities	234	(1)	1,112	(54)	1,346	(55)
Commercial mortgage backed securities	100	(1)	909	(33)	1,009	(34)
Municipal bonds	20	(1)	215	(19)	235	(20)
Total	3,565	(65)	9,555	(760)	13,120	(825)
Short-term investments	302	(2)	—	—	302	(2)
Total	$ 3,867	$ (67)	$ 9,555	$ (760)	$ 13,422	$ (827)

At June 30, 2024, on a lot level basis, approximately 9,510 security lots out of a total of approximately 18,390 security lots were in an unrealized loss position and the largest single unrealized loss from a single lot in the Company's fixed maturity portfolio was $ 5 million. At December 31, 2023, on a lot level basis, approximately 7,100 security lots out of a total of approximately 15,720 security lots were in an unrealized loss position and the largest single unrealized loss from a single lot in the Company's fixed maturity portfolio was $ 6 million.

The contractual maturities of the Company's fixed maturities are shown in the following table. Expected maturities, which are management's best estimates, will differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties.

	June 30, 2024		December 31, 2023	
Maturity	Estimated Fair Value	Amortized Cost	Estimated Fair Value	Amortized Cost
Due in one year or less	$ 600	$ 618	$ 480	$ 499
Due after one year through five years	13,426	13,711	12,924	13,101
Due after five years through 10 years	5,673	5,899	5,249	5,450
Due after 10 years	357	393	334	374
	20,056	20,621	18,987	19,424
Residential mortgage backed securities	1,186	1,253	1,103	1,162
Commercial mortgage backed securities	1,160	1,185	1,213	1,246
Asset backed securities	2,800	2,823	2,250	2,299
Total	$ 25,202	$ 25,882	$ 23,553	$ 24,131

Equity Securities, at Fair Value

At June 30, 2024, the Company held $ 1.4 billion of equity securities, at fair value, compared to $ 1.2 billion at December 31, 2023. Such holdings include publicly traded common stocks primarily in the consumer cyclical and non-cyclical, technology, communication and financial sectors and exchange-traded funds in fixed income, equity and other sectors.

Other Investments, at Fair Value

The following table summarizes the Company's other investments:

	June 30, 2024	December 31, 2023
Other investments	$ 2,189	$ 1,777
Fixed maturities	973	683
Short term investments	37	21
Equity securities	7	7
Total	$ 3,206	$ 2,488

The following table summarizes the Company's other investments, as detailed in the previous table, by strategy:

	June 30, 2024	December 31, 2023
Lending	$ 401	$ 427
Investment grade fixed income	848	754
Term loan investments	599	272
Private equity	208	182
Credit related funds	114	124
Energy	19	18
Total	$ 2,189	$ 1,777

Net Investment Income

The components of net investment income were derived from the following sources:

	June 30, 2024	June 30, 2023
Three Months Ended		
Fixed maturities	$ 306	$ 214
Short term investments	35	15
Equity securities	10	6
Other (1)	35	25
Gross investment income	386	260
Investment expenses	(22)	(18)
Net investment income	$ 364	$ 242
Six Months Ended		
Fixed maturities	$ 586	$ 402
Short term investments	64	29
Equity securities	18	10
Other (1)	68	38
Gross investment income	736	479
Investment expenses	(45)	(38)
Net investment income	$ 691	$ 441

(1) Amounts include dividends and other distributions on investment funds, term loan investments, funds held balances, cash balances and other items.

Net Realized Gains (Losses)

Net realized gains (losses), which include changes in the allowance for credit losses on financial assets and net impairment losses recognized in earnings were as follows:

	June 30, 2024	June 30, 2023
Three Months Ended		
Available for sale securities:		
Gross gains on investment sales	$ 13	$ 22
Gross losses on investment sales	(77)	(169)
Change in fair value of assets and liabilities accounted for using the fair value option:		
Fixed maturities	(4)	(2)
Other investments	(28)	5
Equity securities, at fair value:		
Net realized gains (losses) on sales during the period	5	17
Net unrealized gains (losses) on equity securities still held at reporting date	7	25
Allowance for credit losses:		
Investments related	4	(7)
Underwriting related	(3)	(1)
Derivative instruments (1)	1	(15)
Other (2)	204	2
Net realized gains (losses)	$ 122	$ (123)
Six Months Ended		
Available for sale securities:		
Gross gains on investment sales	$ 63	$ 39
Gross losses on investment sales	(155)	(280)
Change in fair value of assets and liabilities accounted for using the fair value option:		
Fixed maturities	(2)	4
Other investments	(30)	14
Equity securities	—	1
Equity securities, at fair value:		
Net realized gains (losses) on sales during the period	16	36
Net unrealized gains (losses) on equity securities still held at reporting date	89	63
Allowance for credit losses:		
Investments related	(2)	(23)
Underwriting related	(2)	(1)
Derivative instruments (1)	(9)	41
Other (2)	221	—
Net realized gains (losses)	$ 189	$ (106)

(1) See note 9 for information on the Company’s derivative instruments.

(2) Amounts include benefits from the sale of Castel Underwriting Agencies Limited. and the acquisition of RMIC.

Investments Accounted For Using the Equity Method

The following table summarizes the Company’s investments accounted for using the equity method, by strategy:

	June 30, 2024	December 31, 2023
Private equity	$ 1,562	$ 1,175
Credit related funds	1,350	1,258
Real estate	693	666
Lending	483	597
Fixed income	339	277
Infrastructure	320	320
Equities	162	178
Energy	74	95
Total	$ 4,983	$ 4,566

Certain of the Company’s other investments are in investment funds for which the Company has the option to redeem at agreed upon values as described in each investment fund’s subscription agreement. Depending on the terms of the various subscription agreements, investments in investment funds may be redeemed daily, monthly, quarterly or on other terms. Two common redemption restrictions which may impact the Company’s ability to redeem these investment funds are gates and lockups. A gate is a suspension of redemptions which may be implemented by the general partner or investment manager of the fund in order to defer, in whole or in part, the redemption request in the event the aggregate amount of redemption requests exceeds a predetermined percentage of the investment fund’s net assets which may otherwise hinder the general partner or investment manager’s ability to liquidate holdings in an orderly fashion in order to generate the cash necessary to fund extraordinarily large redemption payouts. A lockup period is the initial amount of time an investor is contractually required to hold the security before having the ability to redeem. If the investment funds are eligible to be redeemed, the time to redeem such fund can take weeks or months following the notification.

Limited Partnership Interests

In the normal course of its activities, the Company invests in limited partnerships as part of its overall investment strategy. Such amounts are included in ‘investments accounted for using the equity method’ and ‘investments accounted for using the fair value option.’ The Company has determined that it is not required to consolidate these investments because it is not the primary beneficiary of the funds. The Company’s maximum exposure to loss with respect to these investments is limited to the investment carrying amounts reported in the Company’s consolidated balance sheet and any unfunded commitment.

The following table summarizes investments in limited partnership interests where the Company has a variable interest by balance sheet line item:

	June 30, 2024	December 31, 2023
Investments accounted for using the equity method (1)	$ 4,983	$ 4,566
Investments accounted for using the fair value option (2)	82	114
Total	$ 5,065	$ 4,680

(1) Aggregate unfunded commitments were $ 3.5 billion at June 30, 2024, compared with $ 3.4 billion at December 31, 2023.

(2) Aggregate unfunded commitments were $ 21 million at June 30, 2024, compared to $ 32 million at December 31, 2023 .

Equity in Net Income (Loss) of Investment Funds Accounted for Using the Equity Method

Income from investment funds accounted for using the equity method for the 2024 second quarter was $ 167 million, compared to $ 69 million for the 2023 second quarter and an income of $ 266 million for the six months ended June 30, 2024, compared to income of $ 117 million for six months ended June 30, 2023. In applying the equity method, investments are initially recorded at cost and are subsequently adjusted based on the Company's proportionate share of the net income or loss of the funds (which include changes in the market value of the underlying securities in the funds). Such investments are generally recorded on a one to three month lag based on the availability of reports from the investment funds.

Investments in Operating Affiliates

Investments in which the Company has significant influence over the operating and financial policies are classified as 'investments in operating affiliates' on the Company's balance sheets and are accounted for under the equity method. Such investments primarily include the Company's investment in Coface SA ("Coface"), Greysbridge Holdings Ltd., ("Greysbridge") and Premia Holdings Ltd. Investments in Coface and Premia Holdings Ltd. are generally recorded on a three month lag, while the Company's investment in Greysbridge is not recorded on a lag.

As of June 30, 2024, the Company owned approximately 29.9 % of the issued shares of Coface, or 30 % excluding treasury shares, with a carrying value of $ 543 million, compared to $ 570 million at December 31, 2023.

As of June 30, 2024, the Company owned 40 % of Greysbridge with a carrying value of $ 484 million, compared to $ 430 million at December 31, 2023.

Income from operating affiliates for the 2024 second quarter was $ 45 million, compared to $ 22 million for the 2023 second quarter and income of $ 100 million for the six months ended June 30, 2024, compared to income of $ 61 million for six months ended June 30, 2023

See note 15 for information on Company's transactions with related parties.

Allowance for Expected Credit Losses

The following table provides a roll forward of the allowance for expected credit losses of the Company's securities classified as available for sale:

	Structured Securities (1)	Corporate Bonds	Non-U.S. Government Securities	Total
Three Months Ended June 30, 2024				
Balance at beginning of period	$ 7	$ 24	$ 1	$ 32
Additions for current-period provision for expected credit losses	—	—	—	—
Additions (reductions) for previously recognized expected credit losses	3	(6)	—	(3)
Reductions due to disposals	—	(2)	—	(2)
Balance at end of period	$ 10	$ 16	$ 1	$ 27
Three Months Ended June 30, 2023				
Balance at beginning of period	$ 8	$ 45	$ 3	$ 56
Additions for current-period provision for expected credit losses	—	—	—	—
Additions (reductions) for previously recognized expected credit losses	—	6	—	6
Reductions due to disposals	—	(1)	—	(1)
Balance at end of period	$ 8	$ 50	$ 3	$ 61
Six Months Ended June 30, 2024				
Balance at beginning of period	$ 7	$ 20	$ 1	$ 28
Additions for current-period provision for expected credit losses	—	—	—	—
Additions (reductions) for previously recognized expected credit losses	3	(1)	—	2
Reductions due to disposals	—	(3)	—	(3)
Balance at end of period	$ 10	$ 16	$ 1	$ 27
Six Months Ended June 30, 2023				
Balance at beginning of period	$ 9	$ 30	$ 2	$ 41
Additions for current-period provision for expected credit losses	—	1	—	1
Additions (reductions) for previously recognized expected credit losses	(1)	21	1	21
Reductions due to disposals	—	(2)	—	(2)
Balance at end of period	$ 8	$ 50	$ 3	$ 61

(1) Includes asset backed securities, residential mortgage backed securities and commercial mortgage backed securities.

Restricted Assets

The Company is required to maintain assets on deposit, which primarily consist of fixed maturities, with various regulatory authorities to support its underwriting operations. The Company's subsidiaries maintain assets in trust accounts as collateral for transactions with affiliated companies and also have investments in segregated portfolios primarily to provide collateral or guarantees for letters of credit to third parties. See note 18, "Commitments and Contingencies," of the notes to consolidated financial statements in the Company's 2023 Form 10-K.

The following table details the value of the Company's restricted assets:

	June 30, 2024	December 31, 2023
Assets used for collateral or guarantees:		
Affiliated transactions	$ 5,092	$ 4,854
Third party agreements	2,778	2,869
Deposits with U.S. regulatory authorities	849	833
Other (1)	1,367	1,376
Total restricted assets	$ 10,086	$ 9,932

(1) Primarily includes Funds at Lloyds, deposits with non-U.S. regulatory authorities and other restricted assets .

Reconciliation of Cash and Restricted Cash

The following table details reconciliation of cash and restricted cash within the Consolidated Balance Sheets:

	June 30, 2024	December 31, 2023
Cash	$ 1,020	$ 917
Restricted cash (included in 'other assets')	607	581
Cash and restricted cash	$ 1,627	$ 1,498

8. Fair Value

Accounting guidance regarding fair value measurements addresses how companies should measure fair value when they are required to use a fair value measure for recognition or disclosure purposes under GAAP and provides a common definition of fair value to be used throughout GAAP. It defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly fashion between market participants at the measurement date. In addition, it establishes a three-level valuation hierarchy for the disclosure of fair value measurements. The valuation hierarchy is based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date. The level in the hierarchy within which a given fair value measurement falls is determined based on the lowest level input that is significant to the measurement (Level 1 being the highest priority and Level 3 being the lowest priority).

The levels in the hierarchy are defined as follows:

Level 1:	Inputs to the valuation methodology are observable inputs that reflect quoted prices (unadjusted) for *identical* assets or liabilities in *active markets*
Level 2:	Inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument
Level 3:	Inputs to the valuation methodology are unobservable and significant to the fair value measurement

Following is a description of the valuation methodologies used for securities measured at fair value, as well as the general classification of such securities pursuant to the valuation hierarchy. The Company reviews its securities measured at fair value and discusses the proper classification of such investments with investment advisers and others.

The Company determines the existence of an active market based on its judgment as to whether transactions for the financial instrument occur in such market with sufficient frequency and volume to provide reliable pricing information. The independent pricing sources obtain market quotations and actual transaction prices for securities that have quoted prices in active markets. The Company uses quoted values and other data provided by nationally recognized independent pricing sources as inputs into its process for determining fair values of its fixed maturity investments. To validate the techniques or models used by pricing sources, the Company's review process includes, but is not limited to: (i) quantitative analysis (*e.g.,* comparing the quarterly return for each managed portfolio to its target benchmark, with significant differences identified and investigated); (ii) a review of the average number of prices obtained in the pricing process and the range of resulting fair values; (iii) initial and ongoing evaluation of methodologies used by outside parties to calculate fair value; (iv) a comparison of the fair value estimates to the Company’s knowledge of the current market; (v) a comparison of the pricing services' fair values to other pricing services' fair values for the same investments; and (vi) periodic back-testing, which includes randomly selecting purchased or sold securities and comparing the executed prices to the fair value estimates from the pricing service. A price source hierarchy was maintained in order to determine which price source would be used *(i.e.*, a price obtained from a pricing service with more seniority in the hierarchy will be used over a less senior one in all cases). The hierarchy prioritizes pricing services based on availability and reliability and assigns the highest priority to index providers. Based on the above review, the Company will challenge any prices for a security or portfolio which are considered not to be representative of fair value. The Company did not adjust any of the prices obtained from the independent pricing sources at June 30, 2024.

In certain circumstances, when fair values are unavailable from these independent pricing sources, quotes are obtained directly from broker-dealers who are active in the corresponding markets. Such quotes are subject to the validation procedures noted above. Where quotes are unavailable, fair value is determined by the Investment Manager using quantitative and qualitative assessments such as internally modeled values. Of the $ 32.3 billion of financial assets and liabilities measured at fair value at June 30, 2024, approximately $ 73 million, or 0.2 %, were priced using non-binding broker-dealer quotes or modeled valuations. Of the $ 29.6 billion of financial assets and liabilities measured at fair value at December 31, 2023, approximately $ 14 million, or 0.0 %, were priced using non-binding broker-dealer quotes or modeled valuations.

Fixed maturities

The Company uses the market approach valuation technique to estimate the fair value of its fixed maturity securities, when possible. The market approach includes obtaining prices from independent pricing services, such as index providers and pricing vendors, as well as to a lesser extent quotes from broker-dealers. The independent pricing sources obtain market quotations and actual transaction prices for securities that have quoted prices in active markets. Each source has its own proprietary method for determining the fair value of securities that are not actively traded. In general, these methods involve the use of “matrix pricing” in which the independent pricing source uses observable market inputs including, but not limited to, investment yields, credit risks and spreads, benchmarking of like securities, broker-dealer quotes, reported trades and sector groupings to determine a reasonable fair value.

The following describes the significant inputs generally used to determine the fair value of the Company's fixed maturity securities by asset class:

U.S. government and government agencies – valuations provided by independent pricing services, with all prices provided through index providers and pricing vendors. The Company determined that all U.S. Treasuries would be classified as Level 1 securities due to observed levels of trading activity, the high number of strongly correlated pricing quotes received on U.S. Treasuries and other factors. The fair values of U.S. government agency securities are generally determined using the spread above the risk-free yield curve. As the yields for the risk-free yield curve and the spreads for these securities are observable market inputs, the fair values of U.S. government agency securities are classified within Level 2.

Corporate bonds – valuations provided by independent pricing services, substantially all through index providers and pricing vendors with a small amount through broker-dealers. The fair values of these securities are generally determined using the spread above the risk-free yield curve. These spreads are generally obtained from the new issue market, secondary trading and from broker-dealers who trade in the relevant security market. As the significant inputs used in the pricing process for corporate bonds are observable market inputs, the fair value of these securities are classified within Level 2. A small number of securities are included in Level 3 due to a low level of transparency on the inputs used in the pricing process.

Municipal bonds – valuations provided by independent pricing services, with all prices provided through index providers and pricing vendors. The fair values of these securities are generally determined using spreads obtained from broker-dealers who trade in the relevant security market, trade prices and the new issue market. As the significant inputs used in the pricing process for municipal bonds are observable market inputs, the fair value of these securities are classified within Level 2.

Residential mortgage-backed securities – valuations provided by independent pricing services, substantially all through pricing vendors and index providers with a small amount through broker-dealers. The fair values of these securities are generally determined through the use of pricing models (including Option Adjusted Spread) which use spreads to determine the expected average life of the securities. These spreads are generally obtained from the new issue market, secondary trading and from broker-dealers who trade in the relevant security market. The pricing services also review prepayment speeds and other indicators, when applicable. As the significant inputs used in the pricing process for mortgage-backed securities are observable market inputs, the fair value of these securities are classified within Level 2. A small number of securities are included in Level 3 due to a low level of transparency on the inputs used in the pricing process.

Commercial mortgage-backed securities – valuations provided by independent pricing services, substantially all through index providers and pricing vendors with a small amount through broker-dealers. The fair values of these securities are generally determined through the use of pricing models which use spreads to determine the appropriate average life of the securities. These spreads are generally obtained from the new issue market, secondary trading and from broker-dealers who trade in the relevant security market. The pricing services also review prepayment speeds and other indicators, when applicable. As the significant inputs used in the pricing process for commercial mortgage-backed securities are observable market inputs, the fair value of these securities are classified within Level 2.

Non-U.S. government securities – valuations provided by independent pricing services, with all prices provided through index providers and pricing vendors. The fair values of these securities are generally based on international indices or valuation models which include daily observed yield curves, cross-currency basis index spreads and country credit spreads. As the significant inputs used in the pricing process for non-U.S. government securities are observable market inputs, the fair value of these securities are classified within Level 2.

Asset-backed securities – valuations provided by independent pricing services, substantially all through index providers and pricing vendors with a small amount through broker-dealers. The fair values of these securities are generally determined through the use of pricing models (including Option Adjusted Spread) which use spreads to determine the appropriate average life of the securities. These spreads are generally obtained from the new issue market, secondary trading and from broker-dealers who trade in the relevant security market. The pricing services also review prepayment speeds and other indicators, when applicable. As the significant inputs used in the pricing process for asset-backed securities are observable market inputs, the fair value of these securities are classified within Level 2.

Equity securities

The Company determined that exchange-traded equity securities would be included in Level 1 as their fair values are based on quoted market prices in active markets. Certain equity securities are included in Level 2 of the valuation hierarchy as the significant inputs used in the pricing process for such securities are observable market inputs. Other equity securities are included in Level 3 due to the lack of an available independent price source for such securities. As the significant inputs used to price these securities are unobservable, the fair value of such securities are classified as Level 3.

Other investments

The Company's other investments include term loan investments for which fair values are estimated by using quoted prices of term loan investments with similar characteristics, pricing models or matrix pricing. Such investments are generally classified within Level 2. The fair values for certain of the Company's other investments are determined using net asset values as advised by external fund managers. The net asset value is based on the fund manager's valuation of the underlying holdings in accordance with the fund's governing documents. In accordance with applicable accounting guidance, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. A small number of securities are included in Level 3 due to the lack of an available independent price source for such securities.

Derivative instruments

The Company's futures contracts, foreign currency forward contracts, interest rate swaps and other derivatives trade in the over-the-counter derivative market. The Company uses the market approach valuation technique to estimate the fair value for these derivatives based on significant observable market inputs from third party pricing vendors, non-binding broker-dealer quotes and/or recent trading activity. As the significant inputs used in the pricing process for these derivative instruments are observable market inputs, the fair value of these securities are classified within Level 2.

Short-term investments

The Company determined that certain of its short-term investments held in highly liquid money market-type funds, Treasury bills and commercial paper would be included in Level 1 as their fair values are based on quoted market prices in active markets. The fair values of certain short-term investments are generally determined using the spread above the risk-free yield curve and are classified within Level 2. Other short-term investments are included in Level 3 due to the lack of an available independent price source for such securities. As the significant inputs used to price these short-term securities are unobservable, the fair value of such securities are classified as Level 3.

Residential mortgage loans

The Company's residential mortgage loans (included in 'other assets' in the consolidated balance sheets) include amounts related to the Company's whole mortgage loan purchase and sell program. Fair values of residential mortgage loans are generally determined based on market prices. As significant inputs used in pricing process for these residential mortgage loans are observable market inputs, the fair value of these securities are classified within Level 2.

Other liabilities

The Company's other liabilities include contingent and deferred consideration liabilities related to the Company's acquisitions. Contingent consideration liabilities are remeasured at fair value at each balance sheet date with changes in fair value recognized in 'net realized gains (losses).' To determine the fair value of contingent consideration liabilities, the Company estimates the future payments using an income approach based on modeled inputs which include a weighted average cost of capital. Deferred consideration liabilities are measured at fair value on the transaction date. The Company determined that contingent and deferred consideration liabilities would be included within Level 3.

The following table presents the Company’s financial assets and liabilities measured at fair value by level at June 30, 2024:

		Estimated Fair Value Measurements Using:		
	Estimated Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets measured at fair value:				
Available for sale securities:				
Fixed maturities:				
Corporate bonds	$ 12,043	$ —	$ 11,883	$ 160
U.S. government and government agencies	5,287	5,274	13	—
Asset backed securities	2,800	—	2,800	—
Non-U.S. government securities	2,487	—	2,487	—
Commercial mortgage backed securities	1,160	—	1,160	—
Residential mortgage backed securities	1,186	—	1,186	—
Municipal bonds	239	—	239	—
Total	25,202	5,274	19,768	160
Short-term investments	2,297	2,095	105	97
Equity securities, at fair value	1,397	1,363	28	6
Derivative instruments (2)	116	—	116	—
Residential mortgage loans	2	—	2	—
Fair value option:				
Corporate bonds	952	—	952	—
Non-U.S. government bonds	10	—	10	—
Asset backed securities	—	—	—	—
U.S. government and government agencies	11	11	—	—
Short-term investments	37	2	21	14
Equity securities	7	3	—	4
Other investments	679	—	535	144
Other investments measured at net asset value (1)	1,510			
Total	3,206	16	1,518	162
Total assets measured at fair value	$ 32,220	$ 8,748	$ 21,537	$ 425
Liabilities measured at fair value:				
Other liabilities	$ (35)	$ —	$ —	$ (35)
Derivative instruments (2)	(60)	—	(60)	—
Total liabilities measured at fair value	$ (95)	$ —	$ (60)	$ (35)

(1) In accordance with applicable accounting guidance, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheets.

(2) See note 9.

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The following table presents the Company’s financial assets and liabilities measured at fair value by level at December 31, 2023:

		Estimated Fair Value Measurements Using:		
	Estimated Fair Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets measured at fair value:				
Available for sale securities:				
Fixed maturities:				
Corporate bonds	$ 10,855	$ —	$ 10,708	$ 147
U.S. government and government agencies	5,814	5,792	22	—
Asset backed securities	2,250	—	2,250	—
Non-U.S. government securities	2,062	—	2,062	—
Commercial mortgage backed securities	1,213	—	1,213	—
Residential mortgage backed securities	1,103	—	1,103	—
Municipal bonds	256	—	256	—
Total	23,553	5,792	17,614	147
Short-term investments	2,063	1,786	193	84
Equity securities, at fair value	1,186	1,151	30	5
Derivative instruments (2)	197	—	197	—
Residential mortgage loans	2	—	2	—
Fair value option:				
Corporate bonds	662	—	662	—
Non-U.S. government bonds	6	—	6	—
Asset backed securities	2	—	2	—
U.S. government and government agencies	13	13	—	—
Short-term investments	21	—	11	10
Equity securities	7	3	—	4
Other investments	316	—	210	106
Other investments measured at net asset value (1)	1,461			
Total	2,488	16	891	120
Total assets measured at fair value	$ 29,489	$ 8,745	$ 18,927	$ 356
Liabilities measured at fair value:				
Other liabilities	$ (22)	$ —	$ —	$ (22)
Derivative instruments (2)	(119)	—	(119)	—
Total liabilities measured at fair value	$ (141)	$ —	$ (119)	$ (22)

(1) In accordance with applicable accounting guidance, certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated balance sheets.

(2) See note 9.

The following table presents a reconciliation of the beginning and ending balances for all financial assets and liabilities measured at fair value on a recurring basis using Level 3 inputs:

	Assets						Liabilities
	Available For Sale		Fair Value Option			Fair Value	
	Corporate Bonds	Short-term Investments	Other Investments	Short-term Investments	Equity Securities	Equity Securities	Other Liabilities
Three Months Ended June 30, 2024							
Balance at beginning of period	$ 160	$ 97	$ 126	$ 17	$ 4	$ 5	$ (22)
Total gains or (losses) (realized/unrealized)							
Included in earnings (1)	—	—	—	—	—	—	—
Included in other comprehensive income	—	—	—	—	—	—	—
Purchases, issuances, sales and settlements							
Purchases	—	—	30	3	—	1	—
Issuances	—	—	—	—	—	—	(13)
Sales	—	—	(2)	—	—	—	—
Settlements	—	—	(10)	(6)	—	—	—
Transfers in and/or out of Level 3	—	—	—	—	—	—	—
Balance at end of period	$ 160	$ 97	$ 144	$ 14	$ 4	$ 6	$ (35)
Three Months Ended June 30, 2023							
Balance at beginning of period	$ 69	$ —	$ 46	$ —	$ 4	$ 5	$ (14)
Total gains or (losses) (realized/unrealized)							
Included in earnings (1)	—	—	—	—	—	—	—
Included in other comprehensive income	—	—	—	—	—	—	—
Purchases, issuances, sales and settlements							
Purchases	43	—	40	—	—	—	—
Issuances	—	—	—	—	—	—	(5)
Sales	—	—	—	—	—	—	—
Settlements	(12)	—	—	—	—	—	—
Transfers in and/or out of Level 3	—	—	—	—	—	—	—
Balance at end of period	$ 100	$ —	$ 86	$ —	$ 4	$ 5	$ (19)
Six Months Ended June 30, 2024							
Balance at beginning of year	$ 147	$ 84	$ 106	$ 10	$ 4	$ 5	$ (22)
Total gains or (losses) (realized/unrealized)							
Included in earnings (1)	—	—	(4)	—	—	—	(1)
Included in other comprehensive income	2	1	—	—	—	—	1
Purchases, issuances, sales and settlements							
Purchases	98	12	60	10	—	1	—
Issuances	—	—	—	—	—	—	(13)
Sales	—	—	(2)	—	—	—	—
Settlements	(87)	—	(16)	(6)	—	—	—
Transfers in and/or out of Level 3	—	—	—	—	—	—	—
Balance at end of period	$ 160	$ 97	$ 144	$ 14	$ 4	$ 6	$ (35)
Six Months Ended June 30, 2023							
Balance at beginning of year	$ 121	$ —	$ 33	$ —	$ 4	$ 4	$ (14)
Total gains or (losses) (realized/unrealized)							
Included in earnings (1)	1	—	(1)	—	—	—	—
Included in other comprehensive income	—	—	—	—	—	—	—
Purchases, issuances, sales and settlements							
Purchases	43	—	58	—	—	1	—
Issuances	—	—	—	—	—	—	(5)
Sales	—	—	(4)	—	—	—	—
Settlements	(65)	—	—	—	—	—	—
Transfers in and/or out of Level 3	—	—	—	—	—	—	—
Balance at end of period	$ 100	$ —	$ 86	$ —	$ 4	$ 5	$ (19)

(1) Gains or losses were included in net realized gains (losses).

Financial Instruments Disclosed, But Not Carried, At Fair Value

The Company uses various financial instruments in the normal course of its business. The carrying values of cash, accrued investment income, receivable for securities sold, certain other assets, payable for securities purchased and certain other liabilities approximated their fair values at June 30, 2024, due to their respective short maturities. As these financial instruments are not actively traded, their respective fair values are classified within Level 2.

At June 30, 2024, the Company's senior notes were carried at their cost, net of debt issuance costs, of $ 2.7 billion and had a fair value of $ 2.4 billion. At December 31, 2023, the Company's senior notes were carried at their cost, net of debt issuance costs, of $ 2.7 billion and had a fair value of $ 2.5 billion. The fair values of the senior notes were obtained from a third party pricing service and are based on observable market inputs. As such, the fair values of the senior notes are classified within Level 2.

9. Derivative Instruments

The Company's investment strategy allows for the use of derivative instruments. The Company's derivative instruments are recorded on its consolidated balance sheets at fair value. The Company utilizes exchange traded U.S. Treasury note, Eurodollar and other futures contracts and commodity futures to manage portfolio duration or replicate investment positions in its portfolios and the Company routinely utilizes foreign currency forward contracts, currency options, index futures contracts and other derivatives as part of its total return objective. In addition, certain of the Company's investments are managed in portfolios which incorporate the use of foreign currency forward contracts which are intended to provide an economic hedge against foreign currency movements.

From time to time, the Company purchases to-be-announced mortgage backed securities ("TBAs") as part of its investment strategy. TBAs represent commitments to purchase a future issuance of agency mortgage backed securities. For the period between purchase of a TBA and issuance of the underlying security, the Company's position is accounted for as a derivative. The Company purchases TBAs in both long and short positions to enhance investment performance and as part of its overall investment strategy.

The following table summarizes information on the fair values and notional values of the Company's derivative instruments:

	Estimated Fair Value		
	Asset Derivatives (1)	Liability Derivatives (1)	Notional Value (2)
June 30, 2024			
Futures contracts	$ 68	$ (11)	$ 3,395
Foreign currency forward contracts	8	(12)	1,281
Other (3)	40	(37)	420
Total	$ 116	$ (60)	
December 31, 2023			
Futures contracts	$ 139	$ (61)	$ 3,746
Foreign currency forward contracts	27	(32)	1,224
Other (3)	31	(26)	512
Total	$ 197	$ (119)	

(1) The fair value of asset derivatives are included in ' other assets' and the fair value of liability derivatives are included in ' other liabilities.'
(2) Represents the absolute notional value of all outstanding contracts, consisting of long and short positions.
(3) Includes swaps, options and other derivatives contracts.

The Company did not hold any derivatives which were designated as hedging instruments at June 30, 2024 or December 31, 2023.

The Company's derivative instruments can be traded under master netting agreements, which establish terms that apply to all derivative transactions with a counterparty. In the event of a bankruptcy or other stipulated event of default, such agreements provide that the non-defaulting party may elect to terminate all outstanding derivative transactions, in which case all individual derivative positions (loss or gain) with a counterparty are closed out and netted and replaced with a single amount, usually referred to as the termination amount, which is expressed in a single currency. The resulting single net amount, where positive, is payable to the party "in-the-money" regardless of whether or not it is the defaulting party,
unless the parties have agreed that only the non-defaulting party is entitled to receive a termination payment where the net amount is positive and is in its favor. Contractual close-out netting reduces derivatives credit exposure from gross to net exposure.

At June 30, 2024, asset derivatives and liability derivatives of $ 116 million and $ 60 million, respectively, were subject to a master netting agreement, compared to $ 197 million and $ 119 million, respectively, at December 31, 2023.

Realized and unrealized contract gains or losses on the Company's derivative instruments are reflected in 'net realized gains (losses)' in the consolidated statements of income, as summarized in the following table:

Derivatives not designated as hedging instruments:	June 30, 2024	June 30, 2023
Three Months Ended		
Net realized gains (losses):		
Futures contracts	$ (3)	$ (25)
Foreign currency forward contracts	2	15
Other (1)	2	(5)
Total	$ 1	$ (15)
Six Months Ended		
Net realized gains (losses):		
Futures contracts	$ (17)	$ 14
Foreign currency forward contracts	1	24
Other (1)	7	3
Total	$ (9)	$ 41

(1) Includes realized gains or losses on swaps, options and other derivatives contracts.

10. Commitments and Contingencies

Investment Commitments

The Company's investment commitments, which are primarily related to agreements entered into by the Company to invest in funds and separately managed accounts when called upon, were approximately $ 3.7 billion at June 30, 2024, compared to $ 3.6 billion at December 31, 2023.

Interest Paid

Interest paid on the Company's senior notes and other borrowings was $ 63 million for the six months ended June 30, 2024, consistent with $ 63 million for the 2023 period.

11. Variable Interest Entities

Bellemeade Re

The Company has entered into aggregate excess of loss mortgage reinsurance agreements with various special purpose reinsurance companies domiciled in Bermuda (the "Bellemeade Agreements"). At the time the Bellemeade Agreements were entered into, the applicability of the accounting guidance that addresses VIEs was evaluated. As a result of the evaluation of the Bellemeade Agreements, the Company concluded that these entities are VIEs. However, given that the ceding insurers do not have the unilateral power to direct those activities that are significant to their economic performance, the Company does not consolidate such entities in its consolidated financial statements. The reinsurance premium paid in regard to the Bellemeade Agreements is calculated by multiplying the outstanding reinsurance coverage amount at the beginning of the period by the coupon rate, which is the SOFR plus a contractual risk margin, less the actual investment income collected during the preceding month on the assets included in the underlying reinsurance trusts. In the event the assets included in the underlying reinsurance trusts became severely impaired or worthless and the special purpose reinsurance companies were unable to meet their future obligations, the Company's mortgage insurance subsidiaries would be liable to fulfill claim payments to policyholders. The Company's maximum exposure to loss associated with these VIEs is determined as the amount of mortgage insurance claim payments on the insured policies, net of aggregate reinsurance payments previously received, up to the full aggregate excess of loss reinsurance coverage amounts.

The following table summarizes the total assets of the Bellemeade entities:

Bellemeade Entities (Issue Date)	June 30, 2024 Total VIE Assets	June 30, 2024 Coverage Remaining from Reinsurers (1)	December 31, 2023 Total VIE Assets
2019-1 Ltd. (Mar-19)	$ —	$ —	$ 71
2019-3 Ltd. (Jul-19)	—	—	99
2021-3 Ltd. (Sep-21)	395	104	429
2022-1 Ltd. (Jan-22)	230	20	256
2022-2 Ltd. (Sep-22)	201	126	201
2023-1 Ltd. (Oct-23)	186	47	186
Total	$ 1,012	$ 297	$ 1,242

(1) Coverage from a separate panel of reinsurers remaining at June 30, 2024.

12. Other Comprehensive Income (Loss)

The following tables present details about amounts reclassified from accumulated other comprehensive income and the tax effects allocated to each component of other comprehensive income (loss):

Details About AOCI Components	Consolidated Statement of Income Line Item That Includes Reclassification	Amounts Reclassified from AOCI: Three Months Ended June 30, 2024	2023	Six Months Ended June 30, 2024	2023
Unrealized appreciation (decline) on available-for-sale investments					
	Net realized gains (losses)	$ (64)	$ (147)	$ (92)	$ (241)
	Provision for credit losses	4	(7)	(2)	(23)
	Total before tax	(60)	(154)	(94)	(264)
	Income tax (expense) benefit	7	5	12	16
	Net of tax	$ (53)	$ (149)	$ (82)	$ (248)

	Before Tax Amount	Tax Expense (Benefit)	Net of Tax Amount
Three Months Ended June 30, 2024			
Unrealized appreciation (decline) in value of investments:			
Unrealized holding gains (losses) arising during period	$ (36)	$ (10)	$ (26)
Less reclassification of net realized gains (losses) included in net income	(60)	(7)	(53)
Foreign currency translation adjustments	(16)	—	(16)
Other comprehensive income (loss)	$ 8	$ (3)	$ 11
Three Months Ended June 30, 2023			
Unrealized appreciation (decline) in value of investments:			
Unrealized holding gains (losses) arising during period	$ (204)	$ (31)	$ (173)
Less reclassification of net realized gains (losses) included in net income	(154)	(5)	(149)
Foreign currency translation adjustments	2	—	2
Other comprehensive income (loss)	$ (48)	$ (26)	$ (22)
Six Months Ended June 30, 2024			
Unrealized appreciation (decline) in value of investments:			
Unrealized holding gains (losses) arising during period	$ (187)	$ (20)	$ (167)
Less reclassification of net realized gains (losses) included in net income	(94)	(12)	(82)
Foreign currency translation adjustments	(49)	—	(49)
Other comprehensive income (loss)	$ (142)	$ (8)	$ (134)
Six Months Ended June 30, 2023			
Unrealized appreciation (decline) in value of investments:			
Unrealized holding gains (losses) arising during period	$ 77	$ 5	$ 72
Less reclassification of net realized gains (losses) included in net income	(264)	(16)	(248)
Foreign currency translation adjustments	7	—	7
Other comprehensive income (loss)	$ 348	$ 21	$ 327

13. Income Taxes

The Company's income tax provision on income before income taxes, including income (loss) from operating affiliates, resulted in an effective tax rate of 7.7 % for the six months ended June 30, 2024, compared to 8.6 % for the six months ended June 30, 2023. The Company's effective tax rate, which is based upon the expected annual effective tax rate, may fluctuate from period to period based on the relative mix of income or loss reported by jurisdiction and the varying tax rates in each jurisdiction.

The Company had a net deferred tax asset of $ 1.6 billion at June 30, 2024, consistent with a net deferred tax asset of $ 1 . 6 billion at December 31, 2023. In addition, the Company paid $ 145 million of income taxes for the six months ended June 30, 2024, compared to $ 73 million of income taxes paid for the six months ended June 30, 2023 .

14. Legal Proceedings

The Company, in common with the insurance industry in general, is subject to litigation and arbitration in the normal course of its business. As of June 30, 2024, the Company was not a party to any litigation or arbitration which is expected by management to have a material adverse effect on the Company's results of operations and financial condition and liquidity.

15. Transactions with Related Parties

Premia Reinsurance Ltd. is a multi-line Bermuda reinsurance company (and its affiliates together with Premia Holdings Ltd., "Premia"). The Company has entered into certain reinsurance transactions with Premia. For the six months ended June 30, 2024, the Company recorded an immaterial amount of net premiums written and earned, compared to $ 75 million for the six months ended June 30, 2023. At June 30, 2024, the Company recorded a funds held asset from Premia of $ 140 million, compared to $ 158 million at December 31, 2023.

Somers Group Holdings Ltd. and its wholly owned subsidiaries (collectively, "Somers") are wholly owned by Greysbridge. The Company has entered into certain reinsurance transactions with Somers. For the six months ended June 30, 2024, the Company's net premiums written was reduced by $ 428 million, compared to $ 314 million for the six months ended June 30, 2023. In addition, Somers paid certain acquisition costs and administrative fees to the Company. At June 30, 2024, the Company recorded a reinsurance recoverable on unpaid and paid losses from Somers of $ 1.4 billion and a reinsurance balance payable to Somers of $ 542 million, compared to $ 1.3 billion and $ 475 million, respectively, at December 31, 2023.

16. Subsequent Events

Business Acquired

On August 1, 2024, the Company announced that it has completed the acquisition of Allianz's U.S Middle Market Property & Casualty Insurance and U.S. Entertainment Property and Casualty Insurance Business written by Fireman's Fund Insurance Company, an affiliate of Allianz ("FFIC"), and its subsidiaries (together with FFIC, collectively, the "Business Entities"), in each case, relating to relevant policies with accident years 2016 and onwards (collectively, the "Business"), as well as certain assets of Allianz and its affiliates related to the Business. In connection with the acquisition of the Business, affiliates of the Company also entered into certain reinsurance agreements relating to the Business and the Business Entities and other agreements providing for administration and other services for the Business Entities by affiliates of the Company for the applicable policies being reinsured following the closing. Aggregate cash consideration for the transaction was $ 450 million. The new business acquired will be included within the Company's insurance segment.

Due to the limited time between the closing date of the acquisition and the Company's filing of this Quarterly Report on Form 10-Q for the period ended June 30, 2024, the initial accounting for the business combination is incomplete. As a result, at this time the Company is unable to disclose certain information including the provisional amounts recognized as of the acquisition date for fair value of consideration transferred, each major class of assets acquired and liabilities assumed, and goodwill.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following is a discussion and analysis of our financial condition and results of operations. This should be read in conjunction with our consolidated financial statements included in Item 1 of this report and also our Management's Discussion and Analysis of Financial Condition and Results of Operations contained in our Annual Report on Form 10-K for the year ended December 31, 2023 ("2023 Form 10-K"). In addition, readers should review "Risk Factors" set forth in Item 1A of Part I of our 2023 Form 10-K and "ITEM 1A—Risk Factors" of this Form 10-Q. All amounts are in millions, except per share amounts, unless otherwise noted.

Arch Capital Group Ltd. ("Arch Capital" and, together with its subsidiaries, "Arch", "we", "our" or "us") is a publicly listed Bermuda exempted company with approximately $23.4 billion in capital at June 30, 2024 and, through operations in Bermuda, the United States, Europe, Canada and Australia, writes insurance, reinsurance and mortgage insurance on a worldwide basis.

CURRENT OUTLOOK

We reported a strong 2024 second quarter, with $1.3 billion of net income and 6.9% growth in book value per share. Overall, rate changes continued to exceed loss trends in the quarter and absolute returns remained above our long-term targets, positive indicators in our continued efforts to deliver superior results to our shareholders. We continue to execute our cycle management strategy by actively allocating capital to the segments and lines of business with the best risk-adjusted returns, while retaining the flexibility to invest in our platform when we find attractive opportunities.

Our property and casualty underwriting teams continued to lean into attractive market conditions, delivering $475 million of underwriting income and writing $5 billion of gross premiums written, up 12% from the 2023 second quarter.

Our reinsurance segment contributed $366 million of underwriting income in the 2024 second quarter, despite higher frequency of catastrophic events. Due to our view of heightened overall storm risk this year, we chose to not grow our property catastrophe writings at mid-year renewals. While we have significantly expanded our property catastrophe portfolio in recent years, we strive to have the right balance across our overall portfolio. Casualty lines remain an area of interest that we will continue to monitor as we observe rate increases and ongoing reserve development taking place across the industry.

Our insurance segment contributed $109 million of underwriting income in the 2024 second quarter. We found growth opportunities in several lines, including programs business and excess and surplus casualty lines, where rates are improving. Our international insurance unit continues to benefit from its position as a lead underwriter at Lloyd's, where a disciplined market is providing attractive growth opportunities in specialty lines. As the supply and demand for risk more broadly reaches an equilibrium, we continue to selectively seize opportunities with the most attractive risk adjusted returns. On August 1, 2024, our insurance segment completed the acquisition of Allianz's U.S. MidCorp and Entertainment insurance businesses.

Approximately 70% of our catastrophe losses in the 2024 second quarter were related to U.S. secondary perils with the rest coming from a series of international events. Our peak zone natural catastrophe PML for a 1-in-250 single event exposure to property catastrophe risk remains well below our self-imposed threshold (see "Catastrophic and Severe Economic Events").

Our mortgage segment continues to deliver a steady level of earnings for our shareholders. New originations remain tempered by high mortgage interest rates. The persistency of our in force U.S. primary mortgage insurance portfolio remains a healthy 83.3% and the delinquency rate remains low. On June 3, 2024, we completed the acquisition of RMIC Companies, Inc., and its wholly-owned subsidiaries that, together, comprise the run-off mortgage insurance business of Old Republic International Corporation.

FINANCIAL MEASURES

Management uses the following three key financial indicators in evaluating our performance and measuring the overall growth in value generated for Arch Capital's common shareholders:

Book Value per Share

Book value per share represents total common shareholders' equity available to Arch divided by the number of common shares outstanding. Management uses growth in book value per share as a key measure of the value generated for our common shareholders each period and believes that book value per share is the key driver of Arch Capital's share price over time. Book value per share is impacted by, among other factors, our underwriting results, investment returns and share repurchase activity, which has an accretive or dilutive impact on book value per share depending on the purchase price. Book value per share was $52.75 at June 30, 2024, compared to $49.36 at March 31, 2024, and $37.04 at June 30, 2023. The 6.9% increase in book value per share for the 2024 second quarter reflected strong underwriting and investment results.

Operating Return on Average Common Equity

Operating return on average common equity ("Operating ROAE") represents annualized after-tax operating income available to Arch common shareholders divided by the average of beginning and ending common shareholders' equity available to Arch during the period. After-tax operating income available to Arch common shareholders, a non-GAAP financial measure as defined in Regulation G, represents net income available to Arch common shareholders, excluding net realized gains or losses (which includes realized and unrealized changes in the fair value of equity securities and assets accounted for using the fair value option, realized and unrealized gains or losses on derivative instruments, changes in the allowance for credit losses on financial assets and gains or losses realized from the acquisition or disposition of subsidiaries), equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses, transaction costs and other and income taxes. Management uses Operating ROAE as a key measure of the return generated to common shareholders. See "Comment on Non-GAAP Financial Measures."

Our annualized net income return on average common equity was 26.3% for the 2024 second quarter, compared to 19.6% for the 2023 second quarter, and 25.4% for the six months ended June 30, 2024, compared to 21.1% for the 2023 period. Our Operating ROAE was 20.5% for the 2024 second quarter, compared to 21.5% for the 2023 second quarter, and 20.5% for the six months ended June 30, 2024, compared to 21.3% for the 2023 period. Operating ROAE for the 2024 periods reflected strong underwriting results along with growth in net investment income.

Total Return on Investments

Total return on investments, a non-GAAP financial measure as defined in Regulation G, includes investment income, equity in net income or loss of investment funds accounted for using the equity method, net realized gains or losses attributable to the investment portfolio and the change in unrealized gains or losses generated by Arch's investment portfolio. Total return is calculated on a pre-tax basis and before investment expenses and reflects the effect of financial market conditions along with foreign currency fluctuations. In addition, total return incorporates the timing of investment returns during the periods. The following table summarizes our total return compared to the benchmark return against which we measured our portfolio during the periods. See "Comment on Non-GAAP Financial Measures."

	Arch Portfolio	Benchmark Return
Pre-tax total return (before investment expenses):		
2024 Second Quarter	1.33 %	1.22 %
2023 Second Quarter	0.56 %	0.68 %
Six Months Ended June 30, 2024	2.14 %	2.07 %
Six Months Ended June 30, 2023	3.10 %	3.33 %

Total return for both periods primarily reflected the effects of sustained higher interest rates available in the market, along with growth in invested assets due in part to strong operating cash flows. We continue to maintain a relatively short duration on our portfolio of 2.83 years at June 30, 2024, with average credit ratings of "AA-" from Standard & Poor's Rating Services ("S&P") and "Aa3" from Moody's Investors Service ("Moody's).

The benchmark return index is a customized combination of indices intended to approximate a target portfolio by asset mix and average credit quality while also matching the approximate estimated duration and currency mix of our insurance and reinsurance liabilities. Although the estimated duration and average credit quality of this index will move as the duration and rating of its constituent securities change, generally we do not adjust the composition of the benchmark return index except to incorporate changes to the mix of liability currencies and durations noted above. The benchmark return index should not be interpreted as expressing a preference for or aversion to any particular sector or sector weight. The index is intended solely to provide a relatively stable basket of investable indices, unlike many master indices that change based on the size of their constituent indices. At June 30, 2024, the benchmark return index had an estimated duration of 2.51 years and an average credit quality of "A1" by Moody's.

The benchmark return index included weightings to the following indices:

	%
ICE BofA 1-10 Year U.S. Corporate Index	27.00
Yield on 3-5 Year U.S. Treasury Index plus 6%	17.00
ICE BofA 1-10 Year U.S. Treasury Index	15.00
JPM CLOIE Investment Grade	6.00
ICE BofA U.S. High Yield Constrained Index	6.00
ICE BofA 1-5 Year U.K. Gilt Index	5.50
S&P 500 Total Return Index	4.75
ICE BofA U.S. ABS & CMBS Index	4.50
ICE BofA German Government 1-5 Year Index	3.40
ICE BofA German Government 5-7 Year Index	0.60
ICE BofA 0-3 Month U.S. Treasury Index	3.00
ICE BofA 1-5 Year Canada Government Index	2.70
ICE BofA 15+ Year Canada Government Index	0.30
ICE BofA 1-5 Year Australia Government Index	2.50
ICE BofA U.S. Mortgage Backed Securities Index	1.50
ICE BofA 1-5 Year Japan Government Index	0.25
Total	100.00 %

COMMENT ON NON-GAAP FINANCIAL MEASURES

Throughout this filing, we present our operations in the way that we believe will be the most meaningful and useful to investors, analysts, rating agencies and others who use our financial information in evaluating the performance of our company. This presentation includes the use of after-tax operating income available to Arch common shareholders, which is defined as net income available to Arch common shareholders, excluding net realized gains or losses (which includes realized and unrealized changes in the fair value of equity securities and assets accounted for using the fair value option, realized and unrealized gains or losses on derivative instruments, changes in the allowance for credit losses on financial assets and gains or losses realized from the acquisition or disposition of subsidiaries), equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses, transaction costs and other, income taxes, and the use of annualized operating return on average common equity. The presentation of after-tax operating income available to Arch common shareholders and annualized operating return on average common equity are non-GAAP financial measures as defined in Regulation G. The reconciliation of such measures to net income available to Arch common shareholders and annualized net income return on average common equity (the most directly comparable GAAP financial measures) in accordance with Regulation G is included under “Results of Operations” below.

We believe that net realized gains or losses, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses, transaction costs and other in any particular period are not indicative of the performance of, or trends in, our business. Although net realized gains or losses, equity in net income or loss of investment funds accounted for using the equity method and net foreign exchange gains or losses are an integral part of our operations, the decision to realize these items, are independent of the insurance underwriting process and result, in large part, from general economic and financial market conditions. Certain users of our financial information believe that, for many companies, the timing of the realization of investment gains or losses is largely opportunistic. In addition, changes in the allowance for credit losses and net impairment losses recognized in earnings on our investments represent other-than-temporary declines in expected recovery values on securities without actual realization. Furthermore, we exclude net realized gains or losses from the acquisition or disposition of subsidiaries, due to their non-recurring nature, such items are not indicative of the performance of, or trends in, our business performance.

The use of the equity method on certain of our investments is driven by the ownership structure of such funds (either limited partnerships or limited liability companies). In applying the equity method, these investments are initially recorded at cost and are subsequently adjusted based on our proportionate share of the net income or loss of the funds (which include changes in the market value of the underlying securities in the funds). This method of accounting is different from the way that we account for our other investments and the timing of the recognition of equity in net income or loss of investment funds accounted for using the equity method may differ from gains or losses in the future upon sale or maturity of such investments.

Transaction costs and other include advisory, financing, legal, severance, incentive compensation and other transaction costs related to acquisitions. We believe that transaction costs and other, due to their non-recurring nature, are not indicative of the performance of, or trends in, our business performance.

We believe that showing net income available to Arch common shareholders exclusive of the items referred to above reflects the underlying fundamentals of our business since we evaluate the performance of and manage our business to produce an underwriting profit. In addition to presenting the net income available to Arch common shareholders, we believe that this presentation enables investors and other users of our financial information to analyze our performance in a manner similar to how management analyzes performance. We also believe that this measure follows industry practice and, therefore, allows the users of financial information to compare our performance with our industry peer group. We believe that the equity analysts and certain rating agencies which follow us and the insurance industry as a whole generally exclude these items from their analyses for the same reasons.

Our segment information includes the presentation of consolidated underwriting income or loss. Such measures represent the pre-tax profitability of our underwriting operations and include net premiums earned plus other underwriting income, less losses and loss adjustment expenses, acquisition expenses and other operating expenses. Other operating expenses include those operating expenses that are incremental and/or directly attributable to our individual underwriting operations. Underwriting income or loss does not include certain income and expense items which are included in corporate. While these measures are presented in note 4, “Segment Information,” of the notes accompanying our consolidated financial statements, they are considered non-GAAP financial measures when presented elsewhere on a consolidated basis. The reconciliations of underwriting income or loss to income before income taxes (the most directly comparable GAAP financial measure) on a consolidated basis, in accordance with Regulation G, is shown in note 4, “Segment Information” of the notes accompanying our consolidated financial statements.

We measure segment performance for our three underwriting segments based on underwriting income or loss. We do not manage our assets by underwriting segment, with the exception of goodwill and intangibles and, accordingly, investment income and other non-underwriting related items are not allocated to each underwriting segment.

Our presentation of segment information includes the use of a current year loss ratio which excludes favorable or adverse development in prior year loss reserves. This ratio is a non-GAAP financial measure as defined in Regulation G. The reconciliation of such measure to the loss ratio (the most directly comparable GAAP financial measure) in accordance with Regulation G is shown on the individual segment pages. Management utilizes the current year loss ratio in its analysis of the underwriting performance of each of our underwriting segments.

Total return on investments includes investment income, equity in net income or loss of investment funds accounted for using the equity method, net realized gains or losses (excluding changes in the allowance for credit losses on non-investment related financial assets) and the change in unrealized gains or losses generated by Arch’s investment portfolio. Total return is calculated on a pre-tax basis and before investment expenses, and reflects the effect of financial market conditions along with foreign currency fluctuations. In addition, total return incorporates the timing of investment returns during the periods. There is no directly comparable GAAP financial measure for total return. Management uses total return on investments as a key measure of the return generated to Arch common shareholders, and compares the return generated by our investment portfolio against benchmark returns during the periods.

RESULTS OF OPERATIONS

The following table summarizes our consolidated financial data, including a reconciliation of net income or loss available to Arch common shareholders to after-tax operating income or loss available to Arch common shareholders. See "Comment on Non-GAAP Financial Measures."

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Net income available to Arch common shareholders	$ 1,259	$ 661	$ 2,369	$ 1,366
Net realized (gains) losses (1)	(122)	123	(189)	106
Equity in net (income) loss of investment funds accounted for using the equity method	(167)	(69)	(266)	(117)
Net foreign exchange (gains) losses	(1)	6	(32)	24
Transaction costs and other	18	2	25	1
Income tax expense (benefit) (2)	(6)	3	7	—
After-tax operating income available to Arch common shareholders	$ 981	$ 726	$ 1,914	$ 1,380
Beginning common shareholders' equity	$ 18,525	$ 13,158	$ 17,523	$ 12,080
Ending common shareholders' equity	19,835	13,811	19,835	13,811
Average common shareholders' equity	$ 19,180	$ 13,485	$ 18,679	$ 12,946
Annualized net income return on average common equity %	26.3	19.6	25.4	21.1
Annualized operating return on average common equity %	20.5	21.5	20.5	21.3

(1) Net realized gains or losses include realized and unrealized changes in the fair value of equity securities and assets accounted for using the fair value option, realized and unrealized gains or losses on derivative instruments, changes in the allowance for credit losses on financial assets and gains or losses realized from the acquisition or disposition of subsidiaries.

(2) Income tax expense on net realized gains or losses, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses and transaction costs and other reflects the relative mix reported by jurisdiction and the varying tax rates in each jurisdiction.

Segment Information

We classify our businesses into three underwriting segments: insurance, reinsurance and mortgage. Our insurance, reinsurance and mortgage segments each have managers who are responsible for the overall profitability of their respective segments and who are directly accountable to our chief operating decision makers. The Chief Executive Officer, the Chief Financial Officer and Treasurer, and the President and Chief Underwriting Officer are the Company's chief operating decision makers. They do not assess performance, measure return on equity or make resource allocation decisions on a line of business basis. Management measures segment performance for our three underwriting segments based on underwriting income or loss. We do not manage our assets by underwriting segment, with the exception of goodwill and intangible assets, and accordingly, investment income is not allocated to each underwriting segment.

We determined our reportable segments using the management approach described in accounting guidance regarding disclosures about segments of an enterprise and related information. The accounting policies of the segments are the same as those used for the preparation of our consolidated financial statements. Intersegment business is allocated to the segment accountable for the underwriting results.

Insurance Segment

The following tables set forth our insurance segment's underwriting results:

	Three Months Ended June 30,		
	2024	2023	% Change
Gross premiums written	$ 2,102	$ 1,955	7.5
Premiums ceded	(544)	(501)	
Net premiums written	1,558	1,454	7.2
Change in unearned premiums	(80)	(126)	
Net premiums earned	1,478	1,328	11.3
Losses and loss adjustment expenses	(848)	(761)	
Acquisition expenses	(288)	(264)	
Other operating expenses	(233)	(195)	
Underwriting income (loss)	$ 109	$ 108	0.9
Underwriting Ratios			**% Point Change**
Loss ratio	57.3 %	57.3 %	—
Acquisition expense ratio	19.5 %	19.9 %	(0.4)
Other operating expense ratio	15.8 %	14.7 %	1.1
Combined ratio	92.6 %	91.9 %	0.7

	Six Months Ended June 30,		
	2024	2023	% Change
Gross premiums written	$ 4,228	$ 3,934	7.5
Premiums ceded	(1,128)	(1,043)	
Net premiums written	3,100	2,891	7.2
Change in unearned premiums	(171)	(306)	
Net premiums earned	2,929	2,585	13.3
Losses and loss adjustment expenses	(1,702)	(1,464)	
Acquisition expenses	(564)	(509)	
Other operating expenses	(468)	(390)	
Underwriting income (loss)	$ 195	$ 222	(12.2)
Underwriting Ratios			% Point Change
Loss ratio	58.1 %	56.6 %	1.5
Acquisition expense ratio	19.2 %	19.7 %	(0.5)
Other operating expense ratio	16.0 %	15.1 %	0.9
Combined ratio	93.3 %	91.4 %	1.9

The insurance segment consists of our insurance underwriting units which offer specialty product lines on a worldwide basis. Product lines include:

Construction and national accounts: primary and excess casualty coverages for middle market and large construction accounts, a comprehensive range of products for middle market accounts in specialty industries and casualty solutions for large national accounts, including loss sensitive primary insurance programs (large deductible, self-insured retention and retrospectively rated programs).

Excess and surplus casualty: primary and excess casualty insurance coverages written primarily on a non-admitted basis.

Professional lines: directors' and officers' liability, errors and omissions liability, employment practices liability, fiduciary liability, crime, professional indemnity and other financial related coverages for corporate, private equity, venture capital, real estate investment trust, limited partnership, financial institution and not-for-profit clients of all sizes, cyber insurance, and medical professional and general liability insurance coverages for the healthcare industry. The business is predominately written on a claims-made basis.

Programs: primarily targeting program managers with unique expertise and niche products offering some combination of general liability, commercial automobile, property, inland marine, umbrella and workers' compensation.

Property, energy, marine and aviation: primary and excess general property insurance coverages, including catastrophe-exposed property coverage, for commercial clients. Coverages for marine include hull, cargo, war, specie and liability. Aviation, stand-alone terrorism and political risks are also offered. Coverage may be provided for operational and construction risk.

Travel, accident and health: specialty travel and accident and related insurance products for individual, group travelers, travel agents and suppliers, as well as accident and health, which provides accident, disability and medical plan insurance coverages for employer groups, medical plan members, students and other participant groups.

Warranty and lenders solutions: collateral protection, debt cancellation and service contract reimbursement products to banks, credit unions, automotive dealerships and original equipment manufacturers and other specialty programs that pertain to automotive lending and leasing.

Other: includes alternative market risks (including captive insurance programs), excess workers' compensation and employer's liability insurance coverages for qualified self-insured groups, associations and trusts, and contract, commercial and transactional surety coverages.

Premiums Written.

The following tables set forth our insurance segment's net premiums written by major line of business:

	Three Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
Professional lines	$ 345	22.1	$ 342	23.5
Property, energy, marine and aviation	342	22.0	320	22.0
Programs	242	15.5	210	14.4
Excess and surplus casualty	162	10.4	135	9.3
Construction and national accounts	160	10.3	144	9.9
Travel, accident and health	132	8.5	126	8.7
Warranty and lenders solutions	42	2.7	42	2.9
Other	133	8.5	135	9.3
Total	$ 1,558	100.0	$ 1,454	100.0

2024 Second Quarter versus 2023 Period. Gross premiums written by the insurance segment in the 2024 second quarter were 7.5% higher than in the 2023 second quarter, while net premiums written were 7.2% higher. Growth in net premiums written reflected increases in most lines of business due in part to new business opportunities and rate changes.

	Six Months Ended June 30,						
	2024			2023			
	Amount		%	Amount		%	
Professional lines	$	714	23.0	$	670	23.2
Property, energy, marine and aviation		653	21.1		595	20.6
Programs		429	13.8		351	12.1
Excess and surplus casualty		310	10.0		266	9.2
Construction and national accounts		339	10.9		317	11.0
Travel, accident and health		311	10.0		306	10.6
Warranty and lenders solutions		81	2.6		131	4.5
Other		263	8.5		255	8.8
Total	$	3,100	100.0	$	2,891	100.0

Six Months Ended June 30, 2024 versus 2023 period . Gross premiums written by the insurance segment for the six months ended June 30, 2024 were 7.5% higher than in the 2023 period, while net premiums written were 7.2% higher than in the 2023 period. Growth in net premiums written reflected increases in most lines of business due in part to new business opportunities and rate changes.

Net Premiums Earned.

The following tables set forth our insurance segment's net premiums earned by major line of business:

	Three Months Ended June 30,					
	2024			2023		
	Amount		%	Amount		%
Professional lines	$	347	23.5	$	355	26.7
Property, energy, marine and aviation		303	20.5		237	17.8
Programs		198	13.4		162	12.2
Excess and surplus casualty		134	9.1		116	8.7
Construction and national accounts		158	10.7		133	10.0
Travel, accident and health		153	10.4		147	11.1
Warranty and lenders solutions		47	3.2		49	3.7
Other		138	9.3		129	9.7
Total	$	1,478	100.0	$	1,328	100.0

	Six Months Ended June 30,					
	2024			2023		
	Amount		%	Amount		%
Professional lines	$	694	23.7	$	704	27.2
Property, energy, marine and aviation		604	20.6		464	17.9
Programs		393	13.4		306	11.8
Excess and surplus casualty		268	9.1		227	8.8
Construction and national accounts		315	10.8		259	10.0
Travel, accident and health		286	9.8		275	10.6
Warranty and lenders solutions		96	3.3		99	3.8
Other		273	9.3		251	9.7
Total	$	2,929	100.0	$	2,585	100.0

Net premiums written are primarily earned on a pro rata basis over the terms of the policies for all products, usually 12 months. Net premiums earned reflect changes in net premiums written over the previous five quarters. Net premiums earned for the 2024 second quarter were 11.3% higher than in the 2023 second quarter while net premiums earned for the six months ended June 30, 2024 were 13.3% higher than in the 2023 period.

Losses and Loss Adjustment Expenses.

The table below shows the components of the insurance segment's loss ratio:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Current year	57.6 %	58.2 %	58.6 %	57.5 %
Prior period reserve development	(0.3) %	(0.9) %	(0.5)%	(0.9)%
Loss ratio	57.3 %	57.3 %	58.1 %	56.6 %

Current Year Loss Ratio.

2024 Second Quarter versus 2023 Period. The insurance segment's current year loss ratio in the 2024 second quarter was 0.6 points lower than in the 2023 second quarter. The 2024 second quarter loss ratio reflected 2.0 points of current year catastrophic activity, spread across a series of global events, compared to 2.7 points of catastrophic activity for the 2023 second quarter. The current year loss ratio for the 2024 second quarter also reflected the impact of rate increases and changes in mix of business.

Six Months Ended June 30, 2024 versus 2023 Period. The insurance segment's current year loss ratio for the six months ended June 30, 2024 was 1.1 points higher than in the 2023 period and reflected 1.9 points of current year catastrophic activity, spread across series of global events, compared to 2.1 points in the 2023 period. The current year loss ratio for the 2024 period included activity related to the Baltimore bridge collapse and also reflected the impact of rate increases and changes in mix of business.

Prior Period Reserve Development.

The insurance segment's net favorable development was $5 million, or 0.3 points, for the 2024 second quarter, compared to $12 million, or 0.9 points, for the 2023 second quarter, and $15 million, or 0.5 points, for the six months ended June 30, 2024, compared to $24 million, or 0.9 points, for the 2023 period. See note 5, "Reserve for Losses and Loss Adjustment Expenses," to our consolidated financial statements for information about the insurance segment's prior year reserve development.

Underwriting Expenses.

2024 Second Quarter versus 2023 Period. The insurance segment's underwriting expense ratio was 35.3% in the 2024 second quarter, compared to 34.6% in the 2023 second quarter, with the increase reflecting a higher level of aggregate operating expenses.

Six Months Ended June 30, 2024 versus 2023 period. The insurance segment's underwriting expense ratio was 35.2% for the six months ended June 30, 2024, compared to 34.8% for the 2023 period, with the increase reflecting a higher level of aggregate operating expenses.

Reinsurance Segment

The following tables set forth our reinsurance segment's underwriting results:

	Three Months Ended June 30,		
	2024	2023	% Change
Gross premiums written	$ 2,941	$ 2,544	15.6
Premiums ceded	(994)	(835)	
Net premiums written	1,947	1,709	13.9
Change in unearned premiums	(167)	(366)	
Net premiums earned	1,780	1,343	32.5
Other underwriting income (loss)	1	3	
Losses and loss adjustment expenses	(1,006)	(743)	
Acquisition expenses	(345)	(290)	
Other operating expenses	(64)	(68)	
Underwriting income (loss)	$ 366	$ 245	49.4
Underwriting Ratios			% Point Change
Loss ratio	56.5 %	55.3 %	1.2
Acquisition expense ratio	19.4 %	21.6 %	(2.2)
Other operating expense ratio	3.6 %	5.0 %	(1.4)
Combined ratio	79.5 %	81.9 %	(2.4)

	Six Months Ended June 30,		
	2024	2023	% Change
Gross premiums written	$ 6,408	$ 5,004	28.1
Premiums ceded	(2,195)	(1,569)	
Net premiums written	4,213	3,435	22.6
Change in unearned premiums	(767)	(762)	
Net premiums earned	3,446	2,673	28.9
Other underwriting income (loss)	3	7	
Losses and loss adjustment expenses	(1,889)	(1,509)	
Acquisition expenses	(676)	(571)	
Other operating expenses	(139)	(142)	
Underwriting income (loss)	$ 745	$ 458	62.7
Underwriting Ratios			% Point Change
Loss ratio	54.8 %	56.5 %	(1.7)
Acquisition expense ratio	19.6 %	21.3 %	(1.7)
Other operating expense ratio	4.0 %	5.3 %	(1.3)
Combined ratio	78.4 %	83.1 %	(4.7)

The reinsurance segment consists of our reinsurance underwriting units which offer specialty product lines on a worldwide basis. Reinsurance agreements are typically offered on a proportional and/or excess of loss basis and provide coverage to ceding company clients for specific underlying written policies. Product lines include:

Casualty: provides coverage on third party liability exposures including, among others, executive assurance, professional liability, excess and umbrella liability, excess motor and healthcare business, and workers' compensation. Business is assumed primarily on a treaty basis, with some facultative coverages also offered.

Marine and aviation: provides coverage for energy, hull, cargo, specie, liability and transit, and aviation business, including airline and general aviation risks. Business written may also include space business, which includes coverages for satellite assembly, launch and operation for commercial space programs.

Other specialty: provides coverage for proportional motor reinsurance, whole account multi-line treaties, cyber, trade credit and surety, accident and health, workers' compensation catastrophe, agriculture and political risk, among others.

Property catastrophe: provides protection for most types of catastrophic losses, including hurricane, earthquake, flood, tornado, hail and fire, and for other perils on a case-by-case basis. Excess of loss coverages are triggered when aggregate losses and loss adjustment expense from a single occurrence or aggregation of losses from a covered peril exceed the retention specified in the contract.

Property excluding property catastrophe: provides coverage for personal lines and/or commercial property exposures and principally covers buildings, structures, equipment and contents. The primary perils in this business include fire, explosion, collapse, riot, vandalism, wind, tornado, flood and earthquake. Business is assumed on either a treaty basis or facultative basis.

Other: primarily includes life reinsurance business.

Premiums Written.

The following tables set forth our reinsurance segment's net premiums written by major line of business:

	Three Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
Property excluding property catastrophe	$ 585	30.0	$ 457	26.7
Other specialty	539	27.7	479	28.0
Property catastrophe	472	24.2	469	27.4
Casualty	261	13.4	231	13.5
Marine and aviation	59	3.0	55	3.2
Other	31	1.6	18	1.1
Total	$ 1,947	100.0	$ 1,709	100.0

2024 Second Quarter versus 2023 Period. Gross premiums written by the reinsurance segment in the 2024 second quarter were 15.6% higher than in the 2023 second quarter, while net premiums written were 13.9% higher. The growth in net premiums written reflected increases in all lines of business due in part to rate increases, new business opportunities and growth in existing accounts.

	Six Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
Property excluding property catastrophe	$ 1,152	27.3	$ 903	26.3
Other specialty	1,379	32.7	1,098	32.0
Property catastrophe	822	19.5	726	21.1
Casualty	604	14.3	514	15.0
Marine and aviation	188	4.5	154	4.5
Other	68	1.6	40	1.2
Total	$ 4,213	100.0	$ 3,435	100.0

Six Months Ended June 30, 2024 versus 2023 period. Gross premiums written by the reinsurance segment for the six months ended June 30, 2024 were 28.1% higher than in the 2023 period, while net premiums written were 22.6% higher than in the 2023 period. The growth in net premiums written reflected increases in all lines of business due in part to rate increases, new business opportunities and growth in existing accounts.

Net Premiums Earned.

The following tables set forth our reinsurance segment's net premiums earned by major line of business:

	Three Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
Property excluding property catastrophe	$ 520	29.2	$ 358	26.7
Other specialty	659	37.0	483	36.0
Property catastrophe	246	13.8	169	12.6
Casualty	269	15.1	258	19.2
Marine and aviation	60	3.4	56	4.2
Other	26	1.5	19	1.4
Total	$ 1,780	100.0	$ 1,343	100.0

	Six Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
Property excluding property catastrophe	$ 1,006	29.2	$ 712	26.6
Other specialty	1,246	36.2	994	37.2
Property catastrophe	480	13.9	308	11.5
Casualty	516	15.0	511	19.1
Marine and aviation	134	3.9	107	4.0
Other	64	1.9	41	1.5
Total	$ 3,446	100.0	$ 2,673	100.0

Net premiums written, irrespective of the class of business, are generally earned on a pro rata basis over the terms of the underlying policies or reinsurance contracts. Net premiums earned reflect changes in net premiums written over the previous five quarters. Net premiums earned for the 2024 second quarter were 32.5% higher than in the 2023 second quarter, while net premiums earned for the six months ended June 30, 2024 were 28.9% higher than in the 2023 period.

Other Underwriting Income (Loss).

Other underwriting income for the 2024 second quarter was $1 million, compared to $3 million for the 2023 second quarter, and $3 million for the six months ended June 30, 2024, compared to $7 million for the 2023 period.

Losses and Loss Adjustment Expenses.

The table below shows the components of the reinsurance segment's loss ratio:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Current year	58.4 %	57.5 %	57.0 %	59.5 %
Prior period reserve development	(1.9) %	(2.2) %	(2.2)%	(3.0)%
Loss ratio	56.5 %	55.3 %	54.8 %	56.5 %

Current Year Loss Ratio.

2024 Second Quarter versus 2023 Period. The reinsurance segment's current year loss ratio in the 2024 second quarter was 0.9 points higher than in the 2023 second quarter. The 2024 second quarter loss ratio reflected 10.0 points of current year catastrophic activity, spread across a series of global events, compared to 6.7 points of catastrophic activity in the 2023 second quarter. The current year loss ratio for the 2024 second quarter also reflected the impact of rate increases and changes in mix of business.

Six Months Ended June 30, 2024 versus 2023 Period. The reinsurance segment's current year loss ratio for the six months ended June 30, 2024 was 2.5 points lower than in the 2023 period and reflected 6.1 points of current year catastrophic activity, consistent with 6.1 points in the 2023 period. The current year loss ratio for the 2024 period included activity related to the Baltimore bridge collapse and also reflected the impact of rate increases and changes in mix of business.

Prior Period Reserve Development.

The reinsurance segment's net favorable development was $34 million, or 1.9 points, for the 2024 second quarter, compared to $29 million, or 2.2 points, for the 2023 second quarter, and $74 million, or 2.2 points, for the six months ended June 30, 2024, compared to $82 million, or 3.0 points, for the 2023 period. See note 5, "Reserve for Losses and Loss Adjustment Expenses," to our consolidated financial statements for information about the reinsurance segment's prior year reserve development.

Underwriting Expenses.

2024 Second Quarter versus 2023 Period. The underwriting expense ratio for the reinsurance segment was 23.0% in the 2024 second quarter, compared to 26.6% in the 2023 second quarter, with the decrease primarily due to a lower acquisition expense ratio and the beneficial effect of growth in net premiums earned.

Six Months Ended June 30, 2024 versus 2023 period. The underwriting expense ratio for the reinsurance segment was 23.6% for the six months ended June 30, 2024, compared to 26.6% for the 2023 period, with the decrease primarily due to a lower acquisition expense ratio and the beneficial effect of growth in net premiums earned.

Mortgage Segment

Our mortgage operations include U.S. and international mortgage insurance and reinsurance operations as well as participation in GSE credit risk-sharing transactions.

The following tables set forth our mortgage segment's underwriting results:

	Three Months Ended June 30,		
	2024	2023	% Change
Gross premiums written	$ 340	$ 347	(2.0)
Premiums ceded	(64)	(82)	
Net premiums written	276	265	4.2
Change in unearned premiums	31	29	
Net premiums earned	307	294	4.4
Other underwriting income	2	3	
Losses and loss adjustment expenses	27	13	
Acquisition expenses	—	(7)	
Other operating expenses	(49)	(50)	
Underwriting income	$ 287	$ 253	13.4
Underwriting Ratios			**% Point Change**
Loss ratio	(8.6)%	(4.5)%	(4.1)
Acquisition expense ratio	0.1 %	2.4 %	(2.3)
Other operating expense ratio	15.9 %	17.1 %	(1.2)
Combined ratio	7.4 %	15.0 %	(7.6)

	Six Months Ended June 30,		
	2024	2023	% Change
Gross premiums written	$ 681	$ 690	(1.3)
Premiums ceded	(128)	(164)	
Net premiums written	553	526	5.1
Change in unearned premiums	59	64	
Net premiums earned	612	590	3.7
Other underwriting income	12	9	
Losses and loss adjustment expenses	36	11	
Acquisition expenses	—	(14)	
Other operating expenses	(102)	(100)	
Underwriting income	$ 558	$ 496	12.5
Underwriting Ratios			**% Point Change**
Loss ratio	(5.8)%	(1.9)%	(3.9)
Acquisition expense ratio	0.1 %	2.4 %	(2.3)
Other operating expense ratio	16.7 %	17.0 %	(0.3)
Combined ratio	11.0 %	17.5 %	(6.5)

Premiums Written.

The following tables set forth our mortgage segment’s net premiums written by major line of business:

	Three Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
U.S. primary mortgage insurance	$ 201	72.8	$ 186	70.2
U.S. credit risk transfer (CRT) and other	51	18.5	54	20.4
International mortgage insurance/ reinsurance	24	8.7	25	9.4
Total	$ 276	100.0	$ 265	100.0

2024 Second Quarter versus 2023 Period. Gross premiums written by the mortgage segment in the 2024 second quarter were 2.0% lower than in the 2023 second quarter, while net premiums written were 4.2% higher. The increase in net premiums written in the 2024 second quarter primarily reflected a lower level of Bellemeade premiums ceded, due in part to the termination of certain Bellemeade agreements in the 2023 fourth quarter.

	Six Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
U.S. primary mortgage insurance	$ 403	72.9	$ 372	70.7
U.S. credit risk transfer (CRT) and other	107	19.3	107	20.3
International mortgage insurance/ reinsurance	43	7.8	47	8.9
Total	$ 553	100.0	$ 526	100.0

Six Months Ended June 30, 2024 versus 2023 Period . Gross premiums written by the mortgage segment for the six months ended June 30, 2024 were 1.3% lower than in the 2023 period, while net premiums written for the six months ended June 30, 2024 were 5.1% higher than in the 2023 period. The increase in net premiums written in the 2024 period primarily reflected a lower level of Bellemeade premiums ceded, due in part to the termination of certain Bellemeade agreements in the 2023 fourth quarter.

The persistency rate was 83.3% for the Arch MI U.S. portfolio of primary mortgage insurance policies at June 30, 2024, compared to 83.0% at June 30, 2023. The persistency rate represents the percentage of mortgage insurance in force at the beginning of a 12-month period that remains in force at the end of such period.

The following tables provide details on the new insurance written (“NIW”) generated by Arch MI U.S. NIW represents the original principal balance of all loans that received coverage during the period.

	Three Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
Total new insurance written (NIW) (1)	$ 13,799		$ 12,292	
Credit quality (FICO):				
>=740	$ 9,726	70.5	$ 8,151	66.3
680-739	3,641	26.4	3,832	31.2
620-679	430	3.1	308	2.5
<620	2	0.0	1	0.0
Total	$ 13,799	100.0	$ 12,292	100.0
Loan-to-value (LTV):				
95.01% and above	$ 1,014	7.3	$ 635	5.2
90.01% to 95.00%	7,234	52.4	6,855	55.8
85.01% to 90.00%	4,047	29.3	3,516	28.6
85.00% and below	1,504	10.9	1,286	10.5
Total	$ 13,799	100.0	$ 12,292	100.0
Monthly vs. single:				
Monthly	$ 12,764	92.5	$ 11,870	96.6
Single	1,035	7.5	422	3.4
Total	$ 13,799	100.0	$ 12,292	100.0
Purchase vs. refinance:				
Purchase	$ 13,588	98.5	$ 12,063	98.1
Refinance	211	1.5	229	1.9
Total	$ 13,799	100.0	$ 12,292	100.0

(1) Represents the original principal balance of all loans that received coverage during the period.

	Six Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
Total new insurance written (NIW) (1)	$ 23,135		$ 22,686	
Credit quality (FICO):				
>=740	$ 16,090	69.5	$ 14,823	65.3
680-739	6,301	27.2	7,322	32.3
620-679	741	3.2	537	2.4
<620	3	0.0	4	0.0
Total	$ 23,135	100.0	$ 22,686	100.0
Loan-to-value (LTV):				
95.01% and above	$ 1,556	6.7	$ 1,154	5.1
90.01% to 95.00%	12,474	53.9	12,898	56.9
85.01% to 90.00%	6,671	28.8	6,288	27.7
85.01% and below	2,434	10.5	2,346	10.3
Total	$ 23,135	100.0	$ 22,686	100.0
Monthly vs. single:				
Monthly	$ 21,680	93.7	$ 21,976	96.9
Single	1,455	6.3	710	3.1
Total	$ 23,135	100.0	$ 22,686	100.0
Purchase vs. refinance:				

Purchase	$	22,755	98.4	$	22,264	98.1
Refinance		380	1.6		422	1.9
Total	$	23,135	100.0	$	22,686	100.0

(1) Represents the original principal balance of all loans that received coverage during the period.

Net Premiums Earned.

The following tables set forth our mortgage segment's net premiums earned by major line of business:

	Three Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
U.S. primary mortgage insurance	$ 209	68.1	$ 194	66.0
U.S. credit risk transfer (CRT) and other	51	16.6	54	18.4
International mortgage insurance/ reinsurance	47	15.3	46	15.6
Total	$ 307	100.0	$ 294	100.0

2024 Second Quarter versus 2023 Period. Net premiums earned for the 2024 second quarter were 4.4% higher than in the 2023 second quarter. The increase in net premiums earned in the 2024 second quarter primarily reflected a lower level of Bellemeade premiums ceded, due in part to the termination of certain Bellemeade agreements in the 2023 fourth quarter.

	Six Months Ended June 30,			
	2024		2023	
	Amount	%	Amount	%
U.S. primary mortgage insurance	$ 415	67.8	$ 390	66.1
U.S. credit risk transfer (CRT) and other	107	17.5	107	18.1
International mortgage insurance/ reinsurance	90	14.7	93	15.8
Total	$ 612	100.0	$ 590	100.0

Six Months Ended June 30, 2024 versus 2023 Period . For the six months ended June 30, 2024, net premiums earned were 3.7% higher than in the 2023 period. The increase in net premiums earned in the 2024 period primarily reflected a lower level of Bellemeade premiums ceded, due in part to the termination of certain Bellemeade agreements in the 2023 fourth quarter.

Other Underwriting Income (Loss).

Other underwriting income, which is primarily related to GSE credit risk-sharing transactions, was $2 million for the 2024 second quarter, compared to $3 million for the 2023 second quarter.

Losses and Loss Adjustment Expenses.

The table below shows the components of the mortgage segment's loss ratio:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Current year	18.3 %	22.7 %	19.8 %	23.7 %
Prior period reserve development	(26.9)%	(27.2)%	(25.6)%	(25.6)%
Loss ratio	(8.6)%	(4.5)%	(5.8)%	(1.9)%

Current Year Loss Ratio.

2024 Second Quarter versus 2023 Period. The mortgage segment's current year loss ratio was 4.4 points lower in the 2024 second quarter than in the 2023 second quarter. The lower current year loss ratio for the 2024 second quarter reflected a decrease in estimated claim rates, partially offset by slightly higher new delinquencies.

Six Months Ended June 30, 2024 versus 2023 Period . The mortgage segment's current year loss ratio was 3.9 points lower for the six months ended June 30, 2024 than for the 2023 period. The lower current year loss ratio for the 2024 period reflected a decrease in estimated claim rates, partially offset by slightly higher new delinquencies.

Prior Period Reserve Development.

The mortgage segment's net favorable development was $82 million, or 26.9 points, for the 2024 second quarter, compared to $80 million, or 27.2 points, for the 2023 second quarter, and $156 million, or 25.6 points, for the six months ended June 30, 2024, compared to $151 million, or 25.6 points, for the 2023 period. See note 5, "Reserve for Losses and Loss Adjustment Expenses," to our consolidated financial statements for information about the mortgage segment's prior year reserve development.

Underwriting Expenses.

2024 Second Quarter versus 2023 Period. The underwriting expense ratio for the mortgage segment was 16.0% in the 2024 second quarter, compared to 19.5% in the 2023 second quarter. The decrease was primarily due to a higher level of ceding and profit commissions on U.S. primary business, along with a higher level of net premiums earned.

Six Months Ended June 30, 2024 versus 2023 period . The underwriting expense ratio for the mortgage segment was 16.8% for the six months ended June 30, 2024, compared to 19.4% for the 2023 period. The decrease was primarily due to a higher level of ceding and profit commissions on U.S. primary business, along with a higher level of net premiums earned.

Corporate

The Company's corporate results include net investment income, net realized gains or losses (which includes realized and unrealized changes in the fair value of equity securities and assets accounted for using the fair value option, realized and unrealized gains or losses on derivative instruments, changes in the allowance for credit losses on financial assets and gains or losses realized from the acquisition or disposition of subsidiaries), equity in net income or loss of investments accounted for using the equity method, other income or loss, corporate expenses, transaction costs and other, amortization of intangible assets, interest expense, net foreign exchange gains or losses, income taxes, income from operating affiliates and items related to our non-cumulative preferred shares.

Net Investment Income.

The components of net investment income were derived from the following sources:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Fixed maturities	$ 306	$ 214	$ 586	$ 402
Short-term investments	35	15	64	29
Equity securities	10	6	18	10
Other (1)	35	25	68	38
Gross investment income	386	260	736	479
Investment expenses (2)	(22)	(18)	(45)	(38)
Net investment income	$ 364	$ 242	$ 691	$ 441

(1) Amounts include dividends and other distributions on investment funds, term loan investments, funds held balances, cash balances and other items.

(2) Investment expenses were approximately 0.26% of average invested assets for the 2024 second quarter, consistent with 0.26% for the 2023 second quarter, and 0.27% for the six months ended June 30, 2024, compared to 0.26% for the 2023 period.

The higher level of net investment income for the 2024 periods was primarily related to higher yields available in the financial market. The pre-tax investment income yield, calculated based on amortized cost and on an annualized basis, was 4.39% for the 2024 second quarter, compared to 3.50% for the 2023 second quarter, and 4.36% for the six months ended June 30, 2024, compared to 3.33% for the 2023 period. Net cash flow from operating activities contributed $3.1 billion for the six months ended June 30, 2024, which has grown our invested asset base and contributed to the increase in net investment income.

Corporate Expenses.

Corporate expenses were $23 million for the 2024 second quarter, compared to $20 million for the 2023 second quarter, and $69 million for the six months ended June 30, 2024, compared to $49 million for the 2023 period. Such amounts primarily represent certain holding company costs necessary to support our worldwide operations and costs associated with operating as a publicly traded company. The increase in corporate expenses was primarily due to higher incentive compensation costs.

Transaction Costs and Other.

Transaction costs and other for the 2024 second quarter was $18 million, compared to $1 million for the 2023 second quarter, and $25 million for the six months ended June 30, 2024, compared to $2 million for the 2023 period. The amounts in both periods primarily related to our acquisition activity.

Other Income or Losses.

Other income for the 2024 second quarter was $8 million, compared to $3 million for the 2023 second quarter, and $22 million for the six months ended June 30, 2024, compared to $14 million for the 2023 period. Amounts in both periods primarily reflect changes in the cash surrender value of our investment in corporate-owned life insurance.

Amortization of Intangible Assets.

Amortization of intangible assets for the 2024 second quarter was $27 million, compared to $24 million for the 2023 second quarter, and $48 million for the six months ended June 30, 2024, compared to $47 million for the 2023 period. Amounts in both periods primarily attributed to amortization of finite-lived intangible assets.

Interest Expense.

Interest expense was $35 million for the 2024 second quarter, compared to $33 million for the 2023 second quarter, and $69 million for the six months ended June 30, 2024, compared to $65 million for the 2023 period. Interest expense primarily reflects amounts related to our outstanding senior notes.

Net Realized Gains or Losses.

Net realized gains for the 2024 second quarter were $122 million, compared to net realized losses of $123 million for the 2023 second quarter. Net realized gains were $189 million for the six months ended June 30, 2024, compared to net realized losses of $106 million for the 2023 period. Amounts in both periods reflected sales of investments as well as the impact of financial market movements on the Company's equity securities and investments accounted for under the fair value option method. Net realized gains for the 2024 second quarter also include benefits related to both the sale of, and acquisition of subsidiaries. Currently, our portfolio is actively managed to maximize total return within certain guidelines. The effect of financial market movements on the investment portfolio will directly impact net realized gains or losses as the portfolio is adjusted and rebalanced. Net realized gains or losses from the sale of fixed maturities primarily results from our decisions to reduce credit exposure, to change duration targets, to rebalance our portfolios or due to relative value determinations.

Net realized gains or losses also include realized and unrealized changes in the fair value of equity securities and assets accounted for using the fair value option, realized and unrealized gains or losses on derivative instruments, changes in the allowance for credit losses on financial assets and gains or losses realized from the acquisition or disposition of subsidiaries See note 7, "Investment Information—Net Realized Gains (Losses)" and note 7, "Investment Information—Allowance for Expected Credit Losses," to our consolidated financial statements for additional information.

Equity in Net Income or Losses of Investment Funds Accounted for Using the Equity Method.

Equity in net income of investment funds accounted for using the equity method was $167 million in the 2024 second quarter, compared to $69 million for the 2023 second quarter, and $266 million for the six months ended June 30, 2024, compared to $117 million for the 2023 period. Such investments are generally recorded on a one to three month lag based on the availability of reports from the investment funds. Investment funds accounted for using the equity method totaled $5.0 billion at June 30, 2024, compared to $4.6 billion at December 31, 2023. See note 7, "Investment Information—Investments Accounted For Using the Equity Method," to our consolidated financial statements for additional information.

Net Foreign Exchange Gains or Losses.

Net foreign exchange gains for the 2024 second quarter were $1 million, compared to losses of $5 million for the 2023 second quarter. Net foreign exchange gains for the six months ended June 30, 2024 were $32 million, compared to losses of $23 million for the 2023 period. Amounts in both periods were primarily unrealized and resulted from the effects of revaluing our net insurance liabilities required to be settled in foreign currencies at each balance sheet date.

Income Tax Expense.

Our income tax provision on income or loss before income taxes, including income or loss from operating affiliates, resulted in an expense of 7.1% for the 2024 second quarter, compared to an expense of 9.2% for the 2023 second quarter, and an expense of 7.7% for the six months ended June 30, 2024, compared to an expense of 8.6% for the 2023 period. See note 13, "Income Taxes" to our consolidated financial statements for additional information.

Income or Losses from Operating Affiliates.

Income from operating affiliates for 2024 second quarter was $45 million, compared to income of $22 million for the 2023 second quarter, and income of $100 million for the six months ended June 30, 2024, compared to income of $61 million for the 2023 period. See note 7, "Investment Information—Investments in Operating Affiliates," to our consolidated financial statements for additional information.

CRITICAL ACCOUNTING POLICIES, ESTIMATES AND RECENT ACCOUNTING PRONOUNCEMENTS

Critical accounting policies, estimates and recent accounting pronouncements are discussed in Management's Discussion and Analysis of Financial Condition and Results of Operations contained in our 2023 Form 10-K, updated where applicable in the notes accompanying our consolidated financial statements, including note 1, "Basis of Presentation and Recent Accounting Pronouncements."

FINANCIAL CONDITION

Investable Assets Held by Arch

At June 30, 2024, approximately $23.3 billion, or 62%, of total investable assets held by Arch were internally managed, compared to $21.9 billion, or 63%, at December 31, 2023. See note 7, "Investment Information" to our consolidated financial statements for additional information.

	June 30, 2024	December 31, 2023
Average effective duration (in years)	2.83	2.91
Average S&P/Moody's credit ratings (1)	AA-/Aa3	AA-/Aa3

(1) Average credit ratings on our investment portfolio on securities with ratings assigned by S&P and Moody's.

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The following table provides the credit quality distribution of our fixed maturities. For individual fixed maturities, S&P ratings are used. In the absence of an S&P rating, ratings from Moody's are used, followed by ratings from Fitch Ratings.

		Estimated Fair Value	% of Total
June 30, 2024			
U.S. government and gov't agencies (1)	$	6,041	23.1
AAA		4,599	17.6
AA		2,507	9.6
A		4,854	18.5
BBB		6,144	23.5
BB		979	3.7
B		521	2.0
Lower than B		29	0.1
Not rated		501	1.9
Total	$	26,175	100.0
December 31, 2023			
U.S. government and gov't agencies (1)	$	6,493	26.8
AAA		4,305	17.8
AA		2,165	8.9
A		4,629	19.1
BBB		5,058	20.9
BB		698	2.9
B		389	1.6
Lower than B		15	0.1
Not rated		484	2.0
Total	$	24,236	100.0

(1) Includes U.S. government-sponsored agency residential mortgage-backed securities and agency commercial mortgage-backed securities.

The following table provides information on the severity of the unrealized loss position as a percentage of amortized cost for all fixed maturities which were in an unrealized loss position:

Severity of gross unrealized losses:		Estimated Fair Value		Gross Unrealized Losses	% of Total Gross Unrealized Losses
June 30, 2024					
0-10%	$	14,648	$	(375)	47.1
10-20%		2,204		(355)	44.6
20-30%		165		(48)	6.0
Greater than 30%		33		(18)	2.3
Total	$	17,050	$	(796)	100.0
December 31, 2023					
0-10%	$	10,696	$	(410)	49.7
10-20%		2,282		(367)	44.5
20-30%		116		(35)	4.2
Greater than 30%		26		(13)	1.6
Total	$	13,120	$	(825)	100.0

The following table summarizes our top ten exposures to fixed income corporate issuers by fair value at June 30, 2024, excluding guaranteed amounts and covered bonds:

		Estimated Fair Value	Credit Rating (1)
JPMorgan Chase & Co.	$	373	A-/A1
Morgan Stanley		341	A-/A1
Bank of America Corporation		296	A-/A1
The Goldman Sachs Group, Inc.		276	A-/A2
Citigroup Inc.		242	BBB+/A3
Blue Owl Capital Inc.		208	BBB-/Baa3
Ford Motor Company		203	BBB-/Ba1
Blackstone Inc.		180	BBB/Baa3
Hyundai Motor Company		178	BBB+/A3
General Motors Company		135	BBB/Baa2
Total	$	2,432	

(1) Average credit ratings as assigned by S&P and Moody's, respectively.

The following table provides information on our structured securities, which includes residential mortgage-backed securities ("RMBS"), commercial mortgage-backed securities ("CMBS") and asset-backed securities ("ABS"):

	Agencies		Investment Grade		Below Investment Grade		Total
June 30, 2024							
RMBS	$	736	$	450	$	—	$ 1,186
CMBS		7		1,079		74	1,160
ABS		—		2,654		146	2,800
Total	$	743	$	4,183	$	220	$ 5,146
December 31, 2023							
RMBS	$	658	$	445	$	—	$ 1,103
CMBS		7		1,126		80	1,213
ABS		—		2,143		107	2,250
Total	$	665	$	3,714	$	187	$ 4,566

The following table summarizes our equity securities, which include investments in exchange traded funds:

	June 30, 2024	December 31, 2023
Equities (1)	$ 979	$ 739
Exchange traded funds		
Fixed income (2)	228	285
Equity and other (3)	197	169
Total	$ 1,404	$ 1,193

(1) Primarily in technology, consumer non-cyclical, communications, financial and industrial sectors at June 30, 2024.

(2) Primarily in corporate exposures at June 30, 2024.

(3) Primarily in financials, consumer staples, industrials and energy sectors at June 30, 2024.

For details on our other investments and other investable assets, see note 7, "Investment Information—Other Investments" to our consolidated financial statements.

For details on our investments accounted for using the equity method, see note 7, "Investment Information—Investments Accounted For Using the Equity Method," to our consolidated financial statements.

Our investment strategy allows for the use of derivative instruments. We utilize various derivative instruments such as futures contracts to enhance investment performance, replicate investment positions or manage market exposures and duration risk that would be allowed under our investment guidelines if implemented in other ways. See note 9, "Derivative Instruments," to our consolidated financial statements for additional disclosures related to derivatives.

Accounting guidance regarding fair value measurements addresses how companies should measure fair value when they are required to use a fair value measure for recognition or disclosure purposes under GAAP and provides a common definition of fair value to be used throughout GAAP. See note 8, "Fair Value," to our consolidated financial statements for a summary of our financial assets and liabilities measured at fair value, segregated by level in the fair value hierarchy.

Reinsurance

The effects of reinsurance on written and earned premiums and losses and loss adjustment expenses ("LAE") with unaffiliated reinsurers were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2024	2023	2024	2023
Premiums written:				
Direct	$ 2,521	$ 2,373	$ 5,007	$ 4,731
Assumed	2,861	2,472	6,308	4,894
Ceded	(1,601)	(1,417)	(3,449)	(2,773)
Net	$ 3,781	$ 3,428	$ 7,866	$ 6,852
Premiums earned:				
Direct	$ 2,417	$ 2,229	$ 4,758	$ 4,383
Assumed	2,483	1,817	4,858	3,591
Ceded	(1,335)	(1,081)	(2,629)	(2,126)
Net	$ 3,565	$ 2,965	$ 6,987	$ 5,848
Losses and LAE:				
Direct	$ 1,200	$ 1,161	$ 2,599	$ 2,232
Assumed	1,196	920	2,460	1,917
Ceded	(569)	(590)	(1,504)	(1,187)
Net	$ 1,827	$ 1,491	$ 3,555	$ 2,962

See note 6, "Allowance for Expected Credit Losses," to our consolidated financial statements for information about our reinsurance recoverables and related allowance for credit losses.

Bellemeade Re

We have entered into aggregate excess of loss mortgage reinsurance agreements with various special purpose reinsurance companies domiciled in Bermuda (the "Bellemeade Agreements"). For the respective coverage periods, we will retain the first layer of the respective aggregate losses and the special purpose reinsurance companies will provide second layer coverage up to the outstanding coverage amount. We will then retain losses in excess of the outstanding coverage limit. The aggregate excess of loss reinsurance coverage generally decreases over a ten-year period as the underlying covered mortgages amortize, unless provisional call options embedded within certain of the Bellemeade Agreements are executed or if pre-defined delinquency triggering events occur.

The following table summarizes the respective coverages and retentions at June 30, 2024:

Bellemeade Entities (Issue Date)	Initial Coverage at Issuance	Current Coverage	Remaining Retention, Net
2021-3 Ltd. (1)	639	499	135
2022-1 Ltd. (2)	317	250	142
2022-2 Ltd. (3)	327	327	203
2023-1 Ltd. (4)	233	233	181
Total	$ 1,516	$ 1,309	$ 661

(1) Issued in September 2021, covering in-force policies issued between April 1, 2021 and June 30, 2021. $508 million was directly funded by Bellemeade Re 2021-3 Ltd. via insurance-linked notes, with an additional $131 million capacity provided directly to Arch MI U.S. by a separate panel of reinsurers.

(2) Issued in January 2022, covering in-force policies issued between July 1, 2021 and November 30, 2021. $284 million was directly funded by Bellemeade Re 2022-1 Ltd. via insurance-linked notes, with an additional $33 million capacity provided directly to Arch MI U.S. by a separate panel of reinsurers.

(3) Issued in September 2022, covering in-force policies issued between November 1, 2021 and June 30, 2022. $201 million was directly funded by Bellemeade Re 2022-2 Ltd. via insurance-linked notes, with an additional $126 million capacity provided directly to Arch MI U.S. by a separate panel of reinsurers.

(4) Issued in October 2023, covering in-force policies issued between January 1, 2023 and September 30, 2023. $186 million was directly funded by Bellemeade Re 2023-1 Ltd. via insurance-linked notes, with an additional $47 million capacity provided directly to Arch MI U.S. by a separate panel of reinsurers.

Reserve for Losses and Loss Adjustment Expenses

We establish reserve for losses and loss adjustment expenses (“Loss Reserves”) which represent estimates involving actuarial and statistical projections, at a given point in time, of our expectations of the ultimate settlement and administration costs of losses incurred. Estimating Loss Reserves is inherently difficult. We utilize actuarial models as well as available historical insurance industry loss ratio experience and loss development patterns to assist in the establishment of Loss Reserves. Actual losses and loss adjustment expenses paid will deviate, perhaps substantially, from the reserve estimates reflected in our financial statements.

At June 30, 2024 and December 31, 2023, our Loss Reserves, net of unpaid losses and loss adjustment expenses recoverable, by type and by operating segment were as follows:

	June 30, 2024	December 31, 2023
Insurance segment:		
Case reserves	$ 2,728	$ 2,730
IBNR reserves	6,123	5,626
Total net reserves	8,851	8,356
Reinsurance segment:		
Case reserves	2,520	2,447
Additional case reserves	628	484
IBNR reserves	4,871	4,260
Total net reserves	8,019	7,191
Mortgage segment:		
Case reserves	337	323
IBNR reserves	176	192
Total net reserves	513	515
Total:		
Case reserves	5,585	5,500
Additional case reserves	628	484
IBNR reserves	11,170	10,078
Total net reserves	$ 17,383	$ 16,062

At June 30, 2024 and December 31, 2023, the insurance segment’s Loss Reserves by major line of business, net of unpaid losses and loss adjustment expenses recoverable, were as follows:

	June 30, 2024	December 31, 2023
Insurance segment:		
Professional lines	$ 2,576	$ 2,451
Construction and national accounts	1,741	1,693
Excess and surplus casualty	1,050	975
Programs	1,011	929
Property, energy, marine and aviation	950	836
Travel, accident and health	151	144
Warranty and lenders solutions	55	65
Other	1,317	1,263
Total net reserves	$ 8,851	$ 8,356

At June 30, 2024 and December 31, 2023, the reinsurance segment’s Loss Reserves by major line of business, net of unpaid losses and loss adjustment expenses recoverable, were as follows:

	June 30, 2024	December 31, 2023
Reinsurance segment:		
Casualty	$ 2,900	$ 2,725
Other specialty	2,503	2,125
Property excluding property catastrophe	1,408	1,243
Property catastrophe	651	585
Marine and aviation	426	359
Other	131	154
Total net reserves	$ 8,019	$ 7,191

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At June 30, 2024 and December 31, 2023, the mortgage segment's Loss Reserves by major line of business, net of unpaid losses and loss adjustment expenses recoverable, were as follows:

	June 30, 2024	December 31, 2023
Mortgage segment:		
U.S. primary mortgage insurance (1)	$ 330	$ 324
U.S. credit risk transfer (CRT) and other	96	100
International mortgage insurance/ reinsurance	87	91
Total net reserves	$ 513	$ 515

(1) At June 30, 2024, 40.0% of total net reserves represents policy years 2014 and prior and the remainder from later policy years. At December 31, 2023, 31.0% of total net reserves represent policy years 2014 and prior and the remainder from later policy years.

Mortgage Operations Supplemental Information

On June 3, 2024, we completed the acquisition of RMIC Companies, Inc., and its wholly-owned subsidiaries ("RMIC") that, together, comprise the run-off mortgage insurance business of Old Republic International Corporation. The acquired business had been in runoff since 2011 and represented $3.6 billion of insurance in force at June 30, 2024.

The mortgage segment's insurance in force ("IIF") and risk in force ("RIF") were as follows at June 30, 2024 and December 31, 2023:

	June 30, 2024		December 31, 2023	
	Amount	%	Amount	%
Insurance In Force (IIF) (1):				
U.S. primary mortgage insurance	$ 292,512	57.0	$ 290,764	57.1
U.S. credit risk transfer (CRT) and other	151,437	29.5	149,098	29.3
International mortgage insurance/reinsurance	68,986	13.4	69,473	13.6
Total	$ 512,935	100.0	$ 509,335	100.0
Risk In Force (RIF) (2):				
U.S. primary mortgage insurance	$ 76,351	84.6	$ 75,527	84.6
U.S. credit risk transfer (CRT) and other	6,206	6.9	6,156	6.9
International mortgage insurance/reinsurance	7,666	8.5	7,562	8.5
Total	$ 90,223	100.0	$ 89,245	100.0

(1) Represents the aggregate dollar amount of each insured mortgage loan's current principal balance. Such amounts are shown before external reinsurance.

(2) The aggregate dollar amount of each insured mortgage loan's current principal balance multiplied by the insurance coverage percentage specified in the policy for insurance policies issued and after contract limits and/or loss ratio caps for risk-sharing or reinsurance. Such amounts are shown before external reinsurance.

The IIF and RIF for our U.S. primary mortgage insurance business by policy year were as follows at June 30, 2024:

	IIF		RIF		Delinquency
	Amount	%	Amount	%	Rate (1)
Policy year:					
2014 and prior	$ 16,018	5.5	$ 4,072	5.3	6.49 %
2015	3,938	1.3	1,027	1.3	1.94 %
2016	6,589	2.3	1,759	2.3	2.40 %
2017	6,563	2.2	1,753	2.3	2.96 %
2018	7,814	2.7	2,030	2.7	3.66 %
2019	14,214	4.9	3,716	4.9	2.38 %
2020	45,090	15.4	11,998	15.7	1.17 %
2021	69,367	23.7	18,182	23.8	1.15 %
2022	60,873	20.8	16,015	21.0	1.04 %
2023	39,449	13.5	10,146	13.3	0.56 %
2024	22,597	7.7	5,653	7.4	0.08 %
Total	$ 292,512	100.0	$ 76,351	100.0	1.82 %

(1) Represents the ending percentage of loans in default.

The IIF and RIF for our U.S. primary mortgage insurance business by policy year were as follows at December 31, 2023:

	IIF		RIF		Delinquency
	Amount	%	Amount	%	Rate (1)
Policy year:					
2014 and prior	$ 13,301	4.6	$ 3,387	4.5	6.01 %
2015	4,691	1.6	1,244	1.6	1.98 %
2016	7,525	2.6	2,025	2.7	2.50 %
2017	7,600	2.6	2,023	2.7	3.13 %
2018	8,512	2.9	2,207	2.9	4.04 %
2019	15,767	5.4	4,074	5.4	2.40 %
2020	51,349	17.7	13,357	17.7	1.17 %
2021	76,667	26.4	19,812	26.2	1.12 %
2022	63,899	22.0	16,755	22.2	0.89 %
2023	41,453	14.3	10,643	14.1	0.26 %
Total	$ 290,764	100.0	$ 75,527	100.0	1.74 %

(1) Represents the ending percentage of loans in default.

The following tables provide supplemental disclosures on risk in force for our U.S. primary mortgage insurance business at June 30, 2024 and December 31, 2023:

	June 30, 2024		December 31, 2023	
	Amount	%	Amount	%
Credit quality (FICO):				
>=740	$ 47,190	61.8	$ 46,796	62.0
680-739	25,053	32.8	24,990	33.1
620-679	3,735	4.9	3,497	4.6
<620	373	0.5	244	0.3
Total	$ 76,351	100.0	$ 75,527	100.0
Weighted average FICO score	747		748	
Loan-to-value (LTV):				
95.01% and above	$ 7,384	9.7	$ 7,067	9.4
90.01% to 95.00%	45,331	59.4	44,669	59.1
85.01% to 90.00%	20,668	27.1	20,490	27.1
85.00% and below	2,968	3.9	3,301	4.4
Total	$ 76,351	100.0	$ 75,527	100.0
Weighted average LTV	93.1 %		93.0 %	
Total RIF, net of external reinsurance	$ 58,920		$ 58,146	

	June 30, 2024		December 31, 2023	
	Amount	%	Amount	%
Total RIF by State:				
California	$ 6,110	8.0	$ 6,162	8.2
Texas	5,803	7.6	5,972	7.9
North Carolina	3,320	4.3	3,248	4.3
Minnesota	3,110	4.1	3,069	4.1
Georgia	3,099	4.1	3,081	4.1
Illinois	3,086	4.0	2,986	4.0
Florida	2,943	3.9	3,007	4.0
Massachusetts	2,891	3.8	2,858	3.8
Michigan	2,852	3.7	2,773	3.7
Virginia	2,596	3.4	2,578	3.4
Other	40,541	53.1	39,793	52.7
Total	$ 76,351	100.0	$ 75,527	100.0

The following table provides supplemental disclosures for our U.S. primary mortgage insurance business related to insured loans and loss metrics:

(U.S. Dollars in thousands, except policy, loan and claim count)	Six Months Ended June 30,	
	2024	2023
Roll-forward of insured loans in default:		
Beginning delinquent number of loans	19,457	20,567
New notices	20,434	18,504
Cures	(21,423)	(20,358)
Paid claims	(571)	(427)
Acquired delinquent loans (1)	2,525	—
Ending delinquent number of loans (2)	20,422	18,286
Ending number of policies in force (2)	1,123,698	1,138,681
Delinquency rate (2)	1.82 %	1.61 %
Losses:		
Number of claims paid	571	427
Total paid claims	$ 18,342	$ 12,900
Average per claim	$ 32.1	$ 30.2
Severity (3)	67.8 %	71.5 %
Average case reserve per default (2)	$ 17.1	$ 23.1

(1) Represents delinquent loans related to the acquisition of RMIC.
(2) Includes first lien primary and pool policies.
(3) Represents total paid claims divided by RIF of loans for which claims were paid.

The risk to capital ratio, which represents total current (non-delinquent) risk in force, net of reinsurance, divided by total statutory capital, for Arch MI U.S. was approximately 7.4 to 1 at June 30, 2024, compared to 7.3 to 1 at December 31, 2023.

Shareholders' Equity and Book Value per Share

The following table presents the calculation of book value per share:

	June 30, 2024	December 31, 2023
Total shareholders' equity available to Arch	$ 20,665	$ 18,353
Less preferred shareholders' equity	830	830
Common shareholders' equity available to Arch	$ 19,835	$ 17,523
Common shares and common share equivalents outstanding, net of treasury shares (1)	376.0	373.3
Book value per share	$ 52.75	$ 46.94

(1) Excludes the effects of 10.9 million and 12.5 million stock options and 0.4 million and 0.4 million restricted stock units outstanding at June 30, 2024 and December 31, 2023, respectively.

LIQUIDITY

Liquidity is a measure of our ability to access sufficient cash flows to meet the short-term and long-term cash requirements of our business operations.

Arch Capital is a holding company whose assets primarily consist of the shares in its subsidiaries. Generally, Arch Capital depends on its available cash resources, liquid investments and dividends or other distributions from its subsidiaries to make payments, including the payment of debt service obligations and operating expenses it may incur and any dividends or liquidation amounts with respect to our preferred and common shares.

For the six months ended June 30, 2024, Arch Capital received dividends of $119 million from Arch Reinsurance Ltd. (“Arch Re Bermuda”), our Bermuda based reinsurer and insurer, which can pay approximately $4.7 billion to Arch Capital during the remainder of 2024 without providing an affidavit to the Bermuda Monetary Authority.

We expect that our liquidity needs, including our anticipated (re)insurance obligations and operating and capital expenditure needs, for the next 12 months and for the foreseeable future thereafter, will be met by funds generated from underwriting activities and investment income, as well as by our balance of cash, short-term investments, proceeds on the sale or maturity of our investments, and our credit facilities.

Cash Flows

The following table summarizes our cash flows from operating, investing and financing activities:

	Six Months Ended June 30, 2024	Six Months Ended June 30, 2023
Total cash provided by (used for):		
Operating activities	$ 3,082	$ 2,114
Investing activities	(2,918)	(2,001)
Financing activities	(28)	(45)
Effects of exchange rate changes on foreign currency cash and restricted cash	(7)	12
Increase (decrease) in cash and restricted cash	$ 129	$ 80

Cash provided by operating activities for the six months ended June 30, 2024 was higher than in the 2023 period. Activity for the six months ended June 30, 2024 primarily reflected a higher level of premiums collected than in the 2023 period.

Cash used for investing activities for the six months ended June 30, 2024 was higher than in the 2023 period. Activity for the six months ended June 30, 2024 reflected higher net purchases than in the 2023 period due in part to the investment of operating cash flows.

Cash used for financing activities for the six months ended June 30, 2024 was lower than in the 2023 period, reflecting common share activity.

CAPITAL RESOURCES

The following table provides an analysis of our capital structure:

	June 30, 2024	December 31, 2023
Senior notes	$ 2,727	$ 2,726
Shareholders’ equity available to Arch:		
Series F non-cumulative preferred shares	$ 330	$ 330
Series G non-cumulative preferred shares	500	500
Common shareholders’ equity	19,835	17,523
Total	$ 20,665	$ 18,353
Total capital available to Arch	$ 23,392	$ 21,079
Debt to total capital (%)	11.7	12.9
Preferred to total capital (%)	3.5	3.9
Debt and preferred to total capital (%)	15.2	16.9

Arch MI U.S. is required to maintain compliance with the GSEs requirements, known as the Private Mortgage Insurer Eligibility Requirements or “PMIERs.” The financial requirements require an eligible mortgage insurer’s available assets, which generally include only the most liquid assets of an insurer, to meet or exceed “minimum required assets” as of each quarter end. Minimum required assets are calculated from PMIERs tables with several risk dimensions (including origination year, original loan-to-value and original credit score of performing loans, and the delinquency status of non-performing loans) and are subject to a minimum amount. Arch MI U.S. satisfied the PMIERs’ financial requirements with an estimated PMIER sufficiency ratio of 196% at June 30, 2024, compared to 213% at December 31, 2023.

Arch Capital, through its subsidiaries, provides financial support to certain of its insurance subsidiaries and affiliates, through certain reinsurance arrangements beneficial to the ratings of such subsidiaries. Historically, our insurance, reinsurance and mortgage insurance subsidiaries have entered into separate reinsurance arrangements with Arch Re Bermuda covering individual lines of business.

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GUARANTOR INFORMATION

The below table provides a description of our senior notes payable at June 30, 2024:

Issuer/Due	Interest (Fixed)	Principal Amount	Carrying Amount
Arch Capital:			
May 1, 2034	7.350 %	$ 300	$ 298
June 30, 2050	3.635 %	1,000	989
Arch-U.S.:			
Nov. 1, 2043 (1)	5.144 %	500	495
Arch Finance:			
Dec. 15, 2026 (1)	4.011 %	500	499
Dec. 15, 2046 (1)	5.031 %	450	446
Total		$ 2,750	$ 2,727

(1) Fully and unconditionally guaranteed by Arch Capital.

Our senior notes were issued by Arch Capital, Arch Capital Group (U.S.) Inc. ("Arch-U.S.") and Arch Capital Finance LLC ("Arch Finance"). Arch-U.S. is a wholly-owned subsidiary of Arch Capital and Arch Finance is a wholly-owned finance subsidiary of Arch-U.S. Our 2034 senior notes and 2050 senior notes issued by Arch Capital are unsecured and unsubordinated obligations of Arch Capital and ranked equally with all of its existing and future unsecured and unsubordinated indebtedness. The 2043 senior notes issued by Arch-U.S. are unsecured and unsubordinated obligations of Arch-U.S. and Arch Capital and rank equally and ratably with the other unsecured and unsubordinated indebtedness of Arch-U.S. and Arch Capital. The 2026 senior notes and 2046 senior notes issued by Arch Finance are unsecured and unsubordinated obligations of Arch Finance and Arch Capital and rank equally and ratably with the other unsecured and unsubordinated indebtedness of Arch Finance and Arch Capital.

Arch-U.S. and Arch Finance depend on their available cash resources, liquid investments and dividends or other distributions from their subsidiaries or affiliates to make payments, including the payment of debt service obligations and operating expenses they may incur.

The following tables present condensed financial information for Arch Capital (parent guarantor) and Arch-U.S. (subsidiary issuer):

	June 30, 2024	
	Arch Capital	Arch-U.S.
Assets		
Total investments	$ 16	$ 250
Cash	20	5
Investment in operating affiliates	4	—
Due from subsidiaries and affiliates	11	—
Other assets	56	60
Total assets	$ 107	$ 315
Liabilities		
Senior notes	1,287	495
Due to subsidiaries and affiliates	5	1,008
Other liabilities	30	50
Total liabilities	$ 1,322	$ 1,553
Non-cumulative preferred shares	$ 830	—

	December 31, 2023	
	Arch Capital	Arch-U.S.
Assets		
Total investments	$ 17	$ 145
Cash	9	5
Investment in operating affiliates	4	—
Due from subsidiaries and affiliates	—	—
Other assets	58	56
Total assets	$ 88	$ 206
Liabilities		
Senior notes	1,287	495
Due to subsidiaries and affiliates	—	993
Other liabilities	38	42
Total liabilities	$ 1,325	$ 1,530
Non-cumulative preferred shares	$ 830	—

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	Six Months Ended June 30, 2024		Year Ended December 31, 2023	
	Arch Capital	Arch-U.S.	Arch Capital	Arch-U.S.
Revenues				
Net investment income	$ 1	$ 4	$ 2	$ 4
Net realized gains (losses)	(4)	—	—	—
Equity in net income (loss) of investments accounted for using the equity method	—	(2)	—	(2)
Total revenues	(3)	2	2	2
Expenses				
Corporate expenses	67	5	93	9
Interest expense	29	13	59	26
Interest expense (intercompany)	—	25	—	51
Total expenses	96	43	152	86
Income (loss) before income taxes and income (loss) from operating affiliates	(99)	(41)	(150)	(84)
Income tax (expense) benefit	—	6	41	19
Income (loss) from operating affiliates	(1)	—	(1)	—
Net income available to Arch	(100)	(35)	(110)	(65)
Preferred dividends	(20)	—	(40)	—
Net income (loss) available to Arch common shareholders	$ (120)	$ (35)	$ (150)	$ (65)

CATASTROPHIC AND SEVERE ECONOMIC EVENTS

We have large aggregate exposures to natural and man-made catastrophic events, pandemic events like COVID-19 and severe economic events. Natural catastrophes can be caused by various events, including hurricanes, floods, windstorms, earthquakes, hailstorms, tornadoes, explosions, severe winter weather, fires, droughts and other natural disasters. Man-made catastrophic events may include acts of war, acts of terrorism and political instability. Catastrophes can also cause losses in non-property business such as mortgage insurance, workers' compensation or general liability. In addition to the nature of property business, we believe that economic and geographic trends affecting insured property, including inflation, property value appreciation and geographic concentration, tend to generally increase the size of losses from catastrophic events over time.

Our models employ both proprietary and vendor-based systems and include cross-line correlations for property, marine, offshore energy, aviation, workers compensation and personal accident. We seek to limit the probable maximum pre-tax loss to a specific level for severe catastrophic events. Currently, we seek to limit our 1-in-250 year return period net probable maximum loss from a severe catastrophic event in any geographic zone to approximately 25% of tangible shareholders' equity available to Arch (total shareholders' equity available to Arch less goodwill and intangible assets). We reserve the right to change this threshold at any time.

Based on in-force exposure estimated as of July 1, 2024, our modeled peak zone catastrophe exposure was a windstorm affecting the Florida Tri-County regions, with a net probable maximum pre-tax loss of $1.6 billion, or 8% of tangible shareholders' equity available to Arch, followed by windstorms affecting the Northeastern U.S. regions and the Gulf of Mexico with net probable maximum pre-tax losses of $1.4 billion and $1.3 billion, respectively. Our exposures to other perils, such as U.S. earthquake and international events, were less than the exposures arising from U.S. windstorms and hurricanes. As of July 1, 2024, our modeled peak zone earthquake exposure (San Francisco earthquake) represented approximately 58% of our peak zone catastrophe exposure, and our modeled peak zone international exposure (Germany windstorm) was substantially less than both our peak zone windstorm and earthquake exposures.

We also have significant exposure to losses due to mortgage defaults resulting from severe economic events in the future. For our U.S. mortgage insurance business, we have developed a proprietary risk model ("Realistic Disaster Scenario" or "RDS") that simulates the maximum loss resulting from a severe economic downturn impacting the housing market. The RDS models the collective impact of adverse conditions for key economic indicators, the most significant of which is a decline in home prices. The RDS model projects paths of future home prices, unemployment rates, income levels and interest rates and assumes correlation across states and geographic regions. The resulting future performance of our in-force portfolio is then estimated under the economic stress scenario, reflecting loan and borrower information.

Currently, we seek to limit our modeled RDS loss from a severe economic event to approximately 25% of tangible shareholders' equity available to Arch. We reserve the right to change this threshold at any time. Based on in-force exposure estimated as of July 1, 2024, our modeled RDS loss was approximately $1.3 billion, or 6% of tangible shareholders' equity available to Arch.

Net probable maximum loss estimates are net of expected reinsurance recoveries, before income tax and before excess reinsurance reinstatement premiums. RDS loss estimates are net of expected reinsurance recoveries and before income tax. Catastrophe loss estimates are reflective of the zone indicated and not the entire portfolio. Since hurricanes and windstorms can affect more than one zone and make multiple landfalls, our catastrophe loss estimates include clash estimates from other zones. Our catastrophe loss estimates and RDS loss estimates do not represent our maximum exposures and it is highly likely that our actual incurred losses would vary materially from the modeled estimates. There can be no assurances that we will not suffer pre-tax losses greater than

25% of our tangible shareholders’ equity from one or more catastrophic events or severe economic events due to several factors. These factors include the inherent uncertainties in estimating the frequency and severity of such events and the margin of error in making such determinations resulting from potential inaccuracies and inadequacies in the data provided by clients and brokers, the modeling techniques and the application of such techniques or as a result of a decision to change the percentage of shareholders' equity exposed to a single catastrophic event or severe economic event. In addition, actual losses may increase if our reinsurers fail to meet their obligations to us or the reinsurance protections purchased by us are exhausted or are otherwise unavailable. See “Risk Factors—Risks Relating to Our Industry” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Catastrophic Events and Severe Economic Events” in our 2023 Form 10-K.

MARKET SENSITIVE INSTRUMENTS AND RISK MANAGEMENT

In accordance with the SEC’s Financial Reporting Release No. 48, we performed a sensitivity analysis to determine the effects that market risk exposures could have on the future earnings, fair values or cash flows of our financial instruments as of June 30, 2024. Market risk represents the risk of changes in the fair value of a financial instrument and is comprised of several components, including liquidity, basis and price risks.

An analysis of material changes in market risk exposures at June 30, 2024 that affect the quantitative and qualitative disclosures presented in our 2023 Form 10-K (see section captioned “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Market Sensitive Instruments and Risk Management”) were as follows:

Investment Market Risk

Fixed Income Securities. We invest in interest rate sensitive securities, primarily debt securities. We consider the effect of interest rate movements on the fair value of our fixed maturities, short-term investments and certain of our other investments, equity securities and investment funds accounted for using the equity method which invest in fixed income securities (collectively, “Fixed Income Securities”) and the corresponding change in unrealized appreciation. As interest rates rise, the fair value of our Fixed Income Securities falls, and the converse is also true. Based on historical observations, there is a low probability that all interest rate yield curves would shift in the same direction at the same time. Furthermore, at times interest rate movements in certain credit sectors exhibit a much lower correlation to changes in U.S. Treasury yields. Accordingly, the actual effect of interest rate movements may differ materially from the amounts set forth in the following tables.

The following table summarizes the effect that an immediate, parallel shift in the interest rate yield curve would have had on our Fixed Income Securities:

(U.S. dollars in billions)	Interest Rate Shift in Basis Points				
	-100	**-50**	**—**	**+50**	**+100**
June 30, 2024					
Total fair value	$ 36.6	$ 36.0	$ 35.5	$ 35.0	$ 34.5
Change from base	2.9 %	1.4 %		(1.4)%	(2.8)%
Change in unrealized value	$ 1.0	$ 0.5		$ (0.5)	$ (1.0)
December 31, 2023					
Total fair value	$ 33.6	$ 33.1	$ 32.7	$ 32.2	$ 31.7
Change from base	3.0 %	1.5 %		(1.4)%	(2.8)%
Change in unrealized value	$ 1.0	$ 0.5		$ (0.5)	$ (0.9)

In addition, we consider the effect of credit spread movements on the market value of our Fixed Income Securities and the corresponding change in unrealized value. As credit spreads widen, the fair value of our Fixed Income Securities falls, and the converse is also true. In periods where the spreads on our Fixed Income Securities are much higher than their historical average due to short-term market dislocations, a parallel shift in credit spread levels would result in a much more pronounced change in unrealized value.

The following table summarizes the effect that an immediate, parallel shift in credit spreads in a static interest rate environment would have had on our Fixed Income Securities:

(U.S. dollars in billions)	Credit Spread Shift in Percentage Points				
	-100	-50	—	+50	+100
June 30, 2024					
Total fair value	$ 36.8	$ 36.2	$ 35.5	$ 34.9	$ 34.3
Change from base	3.5 %	1.8 %		(1.8)%	(3.5)%
Change in unrealized value	$ 1.2	$ 0.6		$ (0.6)	$ (1.2)
December 31, 2023					
Total fair value	$ 33.8	$ 33.2	$ 32.7	$ 32.1	$ 31.5
Change from base	3.4 %	1.7 %		(1.7)%	(3.4)%
Change in unrealized value	$ 1.1	$ 0.6		$ (0.6)	$ (1.1)

Another method that attempts to measure portfolio risk is Value-at-Risk ("VaR"). VaR measures the worst expected loss under normal market conditions over a specific time interval at a given confidence level. The 1-year 95th percentile parametric VaR reported herein estimates that 95% of the time, the portfolio loss in a one-year horizon would be less than or equal to the calculated number, stated as a percentage of the measured portfolio's initial value. The VaR is a variance-covariance based estimate, based on linear sensitivities of a portfolio to a broad set of systematic market risk factors and idiosyncratic risk factors mapped to the portfolio exposures. The relationships between the risk factors are estimated using historical data, and the most recent data points are generally given more weight. As of June 30, 2024, our portfolio's 95th percentile VaR was estimated to be 6.5%, compared to an estimated 7.8% at December 31, 2023. In periods where the volatility of the risk factors mapped to our portfolio's exposures is higher due to market conditions, the resulting VaR is higher than in other periods.

Equity Securities. At June 30, 2024 and December 31, 2023, the fair value of our investments in equity securities and certain investments accounted for using the equity method with underlying equity strategies totaled $1.2 billion and $1.0 billion, respectively. These investments are exposed to price risk, which is the potential loss arising from decreases in fair value. An immediate hypothetical 10% decline in the value of each position would reduce the fair value of such investments by approximately $125 million and $101 million at June 30, 2024 and December 31, 2023, respectively, and would have decreased book value per share by approximately $0.33 and $0.27, respectively. An immediate hypothetical 10% increase in the value of each position would increase the fair value of such investments by approximately $125 million and $101 million at June 30, 2024 and December 31, 2023, respectively, and would have increased book value per share by approximately $0.33 and $0.27, respectively.

Investment-Related Derivatives. At June 30, 2024, the notional value of all derivative instruments (excluding foreign currency forward contracts which are included in the foreign currency exchange risk analysis below) was $3.8 billion, compared to $4.2 billion at December 31, 2023. If the underlying exposure of each investment-related derivative held at June 30, 2024 depreciated by 100 basis points, it would have resulted in a reduction in net income of approximately $38 million, and a decrease in book value per share of approximately $0.10 per share, compared to $42 million and $0.11 per share, respectively, on investment-related derivatives held at December 31, 2023. If the underlying exposure of each investment-related derivative held at June 30, 2024 appreciated by 100 basis points, it would have resulted in an increase in net income of approximately $38 million, and an increase in book value per share of approximately $0.10 per share, compared to $42 million and $0.11 per share, respectively, on investment-related derivatives held at December 31, 2023. See note 9, "Derivative Instruments," to our consolidated financial statements for additional disclosures concerning derivatives.

For further discussion on investment activity, please refer to "Financial Condition—Investable Assets."

Foreign Currency Exchange Risk

Foreign currency rate risk is the potential change in value, income and cash flow arising from adverse changes in foreign currency exchange rates. Through our subsidiaries and branches located in various foreign countries, we conduct our insurance and reinsurance operations in a variety of local currencies other than the U.S. Dollar. We generally hold investments in foreign currencies which are intended to mitigate our exposure to foreign currency fluctuations in our net insurance liabilities. We may also utilize foreign currency forward contracts and currency options as part of our investment strategy. See note 9, "Derivative Instruments," to our consolidated financial statements for additional information.

The following table provides a summary of our net foreign currency exchange exposures, as well as foreign currency derivatives in place to manage these exposures:

	June 30, 2024	December 31, 2023
Net assets (liabilities), denominated in foreign currencies, excluding shareholders' equity and derivatives	$ (387)	$ (300)
Shareholders' equity denominated in foreign currencies (1)	1,141	1,158
Net foreign currency forward contracts outstanding (2)	269	246
Net exposures denominated in foreign currencies	$ 1,023	$ 1,104
Pre-tax impact of a hypothetical 10% appreciation of the U.S. Dollar against foreign currencies:		
Shareholders' equity	$ (102)	$ (110)
Book value per share	$ (0.27)	$ (0.30)
Pre-tax impact of a hypothetical 10% decline of the U.S. Dollar against foreign currencies:		
Shareholders' equity	$ 102	$ 110
Book value per share	$ 0.27	$ 0.30

(1) Represents capital contributions held in the foreign currencies of our operating units.

(2) Represents the net notional value of outstanding foreign currency forward contracts.

Although we generally attempt to match the currency of our projected liabilities with investments in the same currencies, from time to time we may elect to over or underweight one or more currencies, which could increase our exposure to foreign currency fluctuations and increase the volatility of our shareholders' equity. Historical observations indicate a low probability that all foreign currency exchange rates would shift against the U.S. Dollar in the same direction and at the same time and, accordingly, the actual effect of foreign currency rate movements may differ materially from the amounts set forth above. For further discussion on foreign exchange activity, please refer to "Results of Operations."

Effects of Inflation

General economic inflation has increased in recent quarters and may continue to remain at elevated levels for an extended period of time. The potential also exists, after a catastrophe loss or pandemic events like COVID-19, for the development of inflationary pressures in a local economy. This may have a material effect on the adequacy of our reserves for losses and loss adjustment expenses, especially in longer-tailed lines of business, and on the market value of our investment portfolio through rising interest rates. The anticipated effects of inflation are considered in our pricing models, reserving processes and exposure management, across all lines of business and types of loss including natural catastrophe events. The actual effects of inflation on our results cannot be accurately known until claims are ultimately settled and will vary by the specific type of inflation affecting each line of business.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Reference is made to the information appearing above under the subheading "Market Sensitive Instruments and Risk Management" under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operations," which information is hereby incorporated by reference.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

In connection with the filing of this Form 10-Q, our management, including the Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the Company's disclosure controls and procedures, as of the end of the period covered by this report, for the purposes set forth in the applicable rules under the Securities and Exchange Act of 1934, as amended (the "Exchange Act"). Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of the end of the period covered by this report. Disclosure controls and procedures are the controls and other procedures designed to ensure that information required to be disclosed in the reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Our management does not expect that our disclosure controls or our internal controls will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. As a result of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons or by collusion of two or more people. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. As a result of the inherent limitations in a cost-effective control system, misstatement due to error or fraud may occur and not be detected. Accordingly, our disclosure controls and procedures are designed to provide reasonable, not absolute, assurance that the disclosure controls and procedures are met.

Changes in Internal Control Over Financial Reporting

There have been no changes in internal control over financial reporting that occurred during the quarter ended June 30, 2024 that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We, in common with the insurance industry in general, are subject to litigation and arbitration in the normal course of our business. As of June 30, 2024, we were not a party to any litigation or arbitration which is expected by management to have a material adverse effect on our results of operations and financial condition and liquidity.

ITEM 1A. RISK FACTORS

There were no material changes from the risk factors previously disclosed in our Annual Report on Form 10-K for the year ended December 31, 2023.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Issuer's Repurchases of Equity Securities

The following table summarizes our purchases of common shares for the 2024 second quarter:

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet be Purchased Under the Plan or Programs ($000's) (2)
4/1/2024-4/30/2024	2,791	$ 92.74	—	$ 1,000,000
5/1/2024-5/31/2024	17,048	96.90	—	$ 1,000,000
6/1/2024-6/30/2024	—	—	—	$ 1,000,000
Total	19,839	$ 96.31	—	

(1) This column represents (in whole shares) open market share repurchases, including an aggregate of 2,791, 17,048 and nil shares repurchased by Arch Capital during April, May and June, respectively, other than through publicly announced plans or programs. We repurchased these shares from employees in order to facilitate the payment of withholding taxes on restricted shares granted and the exercise of stock appreciation rights, in each case at their fair value as determined by reference to the closing price of our common shares on the day the restricted shares vested or the stock appreciation rights were exercised.

(2) This column represents the remaining approximate dollar amount available at the end of each applicable period under Arch Capital's $1.0 billion share repurchase authorization, authorized by the Board of Directors of ACGL on December 19, 2022. Repurchases may be effected from time to time in open market or privately negotiated transactions through December 31, 2024.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

During the three months ended June 30, 2024, none of the Company's directors or officers (as defined in Rule 16a-1(f) of the Securities Exchange Act of 1934) adopted or terminated a Rule 10b5-1 trading arrangement or non-Rule 10b5-1 trading arrangement (as such terms are defined in Item 408 of Regulation S-K of the Securities Act of 1933).

ITEM 6. EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Original Number	Date Filed	Filed Herewith
2.1	Master Transaction Agreement, dated as of April 5, 2024, by and between Allianz Global Risks US Insurance Company and Arch Capital Group Ltd .*	8-K	10.1	April 5, 2024	
2.2	Amendment No. 1 to Master Transaction Agreement, dated as of August 1, 2024, by and among Arch Capital Group Ltd., Allianz Global Risks US Insurance Company, and, solely for purposes of Section 5.25 and Article X thereof, Arch Capital Group (U.S.) Inc.	8-K	2.2	August 1, 2024	
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				X
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				X
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				X
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				X
101.INS	XBRL Instance Document				
101.SCH	XBRL Taxonomy Extension Schema Document				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document				
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)				

* Certain provisions, exhibits and schedules have been omitted, and the Company agrees to furnish supplementally to the Securities and Exchange Commission a copy of any omitted items upon request.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

	ARCH CAPITAL GROUP LTD.
	(REGISTRANT)
	/s/ Marc Grandisson
Date: August 6, 2024	Marc Grandisson
	Chief Executive Officer (Principal Executive Officer)
	/s/ François Morin
Date: August 6, 2024	François Morin
	Executive Vice President, Chief Financial Officer (Principal Financial and Accounting Officer) and Treasurer

Exhibit 31.1

Certification
of Chief Executive Officer
Pursuant to Section 302 of the
Sarbanes-Oxley Act of 2002

I, Marc Grandisson, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Arch Capital Group Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in the report;
4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date:	August 6, 2024
By:	/s/ Marc Grandisson
Name:	Marc Grandisson
Title:	Chief Executive Officer

Exhibit 31.2

Certification

of Chief Financial Officer

Pursuant to Section 302 of the

Sarbanes-Oxley Act of 2002

I, François Morin, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Arch Capital Group Ltd.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in the report;
4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date:	August 6, 2024
By:	/s/ François Morin
Name:	François Morin
Title:	Executive Vice President, Chief Financial Officer and Treasurer

Exhibit 32.1

Certification Pursuant to Chapter 63, Title 18 United States Code §1350

As Adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Quarterly Report of Arch Capital Group Ltd. (the “Company”) on Form 10-Q for the period ending June 30, 2024 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), Marc Grandisson, as Chief Executive Officer of the Company, certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) the Report fully complies with the requirements of section 13(a) of the Securities Exchange Act of 1934; and

(2) the information contained in such report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date:	August 6, 2024
By:	/s/ Marc Grandisson
Name:	Marc Grandisson
Title:	Chief Executive Officer

A signed original of this written statement required by Section 906 or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Arch Capital Group Ltd. and will be retained by Arch Capital Group Ltd. and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

Certification Pursuant to Chapter 63, Title 18 United States Code §1350

As Adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Quarterly Report of Arch Capital Group Ltd. (the “Company”) on Form 10-Q for the period ending June 30, 2024 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), François Morin, as Executive Vice President, Chief Financial Officer and Treasurer of the Company, certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) the Report fully complies with the requirements of section 13(a) of the Securities Exchange Act of 1934; and

(2) the information contained in such report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date:	August 6, 2024
By:	/s/ François Morin
Name:	François Morin
Title:	Executive Vice President, Chief Financial Officer and Treasurer

A signed original of this written statement required by Section 906 or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Arch Capital Group Ltd. and will be retained by Arch Capital Group Ltd. and furnished to the Securities and Exchange Commission or its staff upon request.